JEFFERSON COUNTY COLORADO | Public Health

Memorandum

To: OW Practitioners

From: Craig Sanders, Environmental Program Manager (303) 271-5759 csanders@jeffco.us

Date: April 26, 2018

Re: Major changes in 2018 OWTS Regulations for Jefferson County

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On March 20, the Jefferson County Board of Health approved the final changes to the OWTS regulations that will go into effect on May 4, 2018.

A copy of the regulations is available at https://www.jeffco.us/DocumentCenter/View/1673. Hard copies will be available for purchase within the next couple of weeks.

Although most of the new regulations are similar to the 2014 version, there are some significant differences/changes of which you should be aware. Of course, you should also familiarize yourself with the entire regulation, but here are some of the more significant changes that will impact your designs.

PG 24 There is now no minimum lot size for additions to an existing dwelling, provided the new OWTS meets all current regulations. This means that all well-OWTS setbacks must be 200 feet or a HLT system must be provided. Therefore, when designing an OWTS for an addition to an existing dwelling, be sure to contact the Department first to see what conditions will apply to your design.

PG 37 Experimental systems are now referred to as 'product development permits' and are governed by Section 8. As before, the Board of Health must approve such as system, but now the state health department must approve the proposal before it goes to the Board. Therefore, you should allow an additional 30-60 days to allow this review to take place at the state level prior to submitting it to the Board. There are also additional design requirements spelled out in this section.

PG 47 Although the methods for determining the LTAR have not changed much, soils with more than 35% rock >2mm (which used to be considered Soil Type '0' in the previous regulations) now require additional analysis to determine the appropriate design criteria, which is set forth in the new TABLE C-2 on Page 106.

PG 53 There is now a clearer distinction made between an accessory building and an accessory dwelling unit (ADU).

An accessory *building* is a structure that is for the personal use of the owner or their guests, such as barn, home office, or sleeping rooms above a garage. The primary distinction is that an accessory building cannot have a kitchen and cannot be used as a separate dwelling unit. In general, wastewater from accessory buildings will be considered to be included in the 75 gal/person/day design flow used for the main dwelling on the property and no additional wastewater flow needs to be added to the design.

An ADU (which includes a kitchen) is considered to be a separate living unit and additional wastewater flow must be added to the design based on the number of bedrooms in that unit. Remember that the wastewater flow from 3-bedroom main house and a 2-bedroom ADU is NOT the same as a 5-bedroom single family dwelling since you do not use the 1 person per bedroom reduction from Table 12-1 that would normally apply:

5 BEDROOM SFD
3 bdrm x 2 persons/bdrm = 6 persons
2 bdrm x 1 person/bdrm = 2 persons
8 persons x 75 gpd = 600 GPD

3 BEDROOM SFD + 2 BEDROOM ADU
3 bdrm x 2 persons/bdrm = 6 persons
2 bdrm x 2 person/bdrm = 4 persons
10 persons x 75 gpd = 750 GPD

Basically, think of them as two separate dwellings and design accordingly. Please be sure that your clients understand the distinction so that you can provide the correct design. They should also contact Planning and Zoning to verify which types of buildings are allowed on their properties.

PG 57 There is a new requirement in 13.1.C.1 concerning tank lids. Now, the lid at ground surface must either be secured with special headed screws or bolts, OR it must weigh at least 59 pounds so as not be accessible by children. Check with your tank / riser providers to make sure that they meet this new requirement. It should either be included in the cut-sheet for the tank or added to your design. Note that some plastic tank lids can be weighed by adding cement to the underside of the lid – see your supplier for more information.

PG 64 Section 14.12 requires that a cleanout be provided whenever a change in horizontal direction exceeds 45 degrees, unless a cleanout already exists within 40 feet upstream of this directional change.

PG 66 Section 14.17 now requires a dose counter to be installed for all pressure dosed and HLT systems. If dosing is provided by a pump, an electronic dose counter (including time of pump run and number of cycles) at the control box is sufficient. If dosing is provided by a siphon, a mechanical type cycle counter is required – see your suppliers for this information. NOTE: although recommended, when dosing is not used in conjunction with either an HLT system or pressurized distribution, a dose counter is NOT required.

PG 69 (Section 15) There have been changes in the vertical separation distances within an STA. Please see the form at the end of this memo for calculating distances from an infiltrative surface to limiting layer within an STA – there have been several important changes.

PG 70 Tables 15-1 and 15-2 have new size adjustment factors, including a change in the sizing factor for chambers.

PG 72 Per 15.4.A there are additional requirements for calculating pressure distribution that include total dynamic head and flow in GPD. For ease of calculation the Department recommends that designers use a spreadsheet calculator for these computations and include a summary of the results in their design.

PG 72 For pressure distribution, 15.5.B now requires that distribution lines be no more than *two* feet from a sidewall of the bed or *four* feet from each other.

For example, under the old regs, a 12-foot wide bed could be served by 2 parallel distribution lines (3 feet from each sidewall and 6 feet apart). The new regs will require at least 3 distribution lines (no more than 2 feet from each sidewall and no more than 4 feet apart).

PG 72 Per 15.6, trenches may now be placed 4 feet side-wall-to-sidewall instead of the current 6-foot separation.

PG 73 Per 15.11, there are new requirements for inspection ports.

- FOR TRENCHES
  An inspection port located at the *terminal* end of each trench, extended down to the infiltrative surface and at least to grade, and an inspection port for each trench that is connected to the distribution line in that trench. NOTE: if the distribution line in the trench is pressurized, it will already require a flushing assembly to grade so an additional port is not required.

- FOR BEDS.
  An inspection port located in each *corner* of the bed, extended down to the infiltrative surface and at least to grade (4 total per bed) and at least one inspection port for each bed that is connected to the distribution network. NOTE: if the distribution lines in the bed are pressurized, each line will already require a flushing assembly to grade so no additional port is required.

PG 81 There are new pipe specifications for distribution pipe in sand filters as set forth in Table 16-1.

PG 81 There are new sand media specifications on Table 16-2 that apply to different types of sand that may be used in the STA with TL1 effluent.

“Secondary sand media” has a lower application rate (0.8 gal/sq.ft./day vs 1.0 for preferred sand) meaning the STA must be larger *for TL1 systems*. Since you may not know which sand will be available at the time the system is to be installed, you may wish to consider initially sizing the STA for “secondary sand media” then revising the design if the contactor determines that “preferred sand media” is available when the system is ready to be installed. You could also provide designs for both secondary and preferred sand media.

These factors do not apply to HLT systems, in which you will use the LTAR from Tables C-1 and C-2.

PG 83 There are new timed dosed pressure distribution design requirements for recirculating sand filters in 16.5.D.

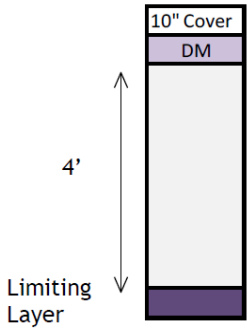
PG 110 Deep-grouting requirements have changed. Now, if an onsite well must be deep-grouted to allow a reduced setback to an offsite STA and such grouting will also allow a setback to the onsite STA, the proposal no longer needs Board of Health approval. HLT would not be required in this case. Your final installation approval letter would need to verify that the grouting was done per your specifications.

Please note that onsite wastewater treatment system for permits that were approved prior to May 4, 2018 can be installed under the old regulations while the permit is active. Designs for permits approved after that date must conform to the new regulations. Also, note that when a permit is renewed, it must also conform to the new regulations, so you may receive requests from your clients for redesigns when their permits are up for renewal.

Vertical Separation and Media Depth; Proposed Guidance for Regulation 43 Revision; June 30, 2017

The intent of this chart is to provide an overview of the vertical isolation requirements above a "Limiting Layer" as defined in Regulation 43. Note that other requirements such as long term acceptance rates and sand media requirements are addressed in other sections of Regulation 43

4' Separation Required



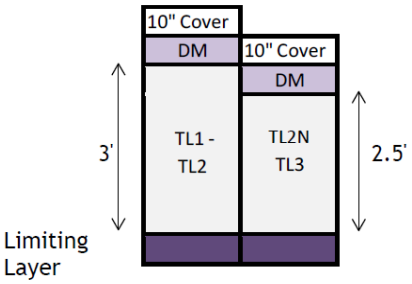
All systems in this category receive effluent via gravity flow

For all OWTS that receive TL1 effluent and utilize gravity flow in soil types 1-5, a 4' separation above a limiting layer is required

For the repair of an existing OWTS, or for the installation of a new OWTS, TL2-TL3N may be applied by gravity flow to the STA only in Soil Types 3A-5, (For designs requesting reductions in STA size or vertical/horizontal separation with the application of TL2 - TL3N effluent, pressure dosing is required as noted in the sections below)

This includes a STA utilizing rock and pipe or proprietary distribution products

2.5' - 3' Separation Required



All systems in this category must receive effluent via pressure distribution

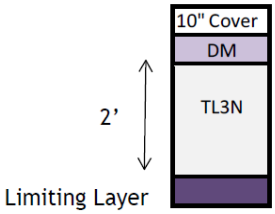
For an OWTS that receives TL1-TL2, a minimum 3' separation above a limiting layer is required. This also includes mound systems with <24" of sand

For all OWTS that receive TL2N-TL3, a minimum 2.5' separation above a limiting layer is required

For all mound systems that provide a minimum of 24" of sand, and receives TL1 - TL3 effluent, a minimum of 2.5' of separation above a limiting layer is required

Includes: Rip/Replace over a soil type "R"; an Unlined Sand Filter; a C.P.D./P.T.P.; or a standard installation using pressure distribution

2' Separation Required



All systems in this category must receive effluent via pressure distribution

For all OWTS that receive TL3N, a minimum 2' separation above a limiting layer is required

Includes: Rip/Replace over a soil type "R"; an Unlined Sand Filter; a C.P.D./P.T.P.; or a standard installation using pressure distribution

LEGEND:

Distribution Media - Chambers - C.P.D./P.T.P.: DM

Limiting Layer:

C.P.D/P.T.P.: Combined Proprietary Distribution/Passive Treatment Products. The bottom of the C.P.D./P.T.P. is defined as the base of the sand that is required by the manufacturer to be placed below the product as per the literature provided to the Division

Limiting Layer: Means a horizon or condition in the soil profile or underlying strata that limits the treatment capability of the soil or severely restricts the movement of fluids. This may include soils with lower high permeability, impervious or fractured bedrock, or a seasonal or current ground water surface