King County Environmental Health Division Existing Policy and Procedures Technical Memorandum

Effective Date:	June 1st, 2026
Subject:	SAND LINED TRENCH Systems
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Discussed with TAC:	March 25th, 2026

PURPOSE

Many septic systems in King County that are reaching the end of their lifespan are on small or highly encumbered lots. There are also many previously undeveloped lots because a conforming system was not possible with previous technologies. Often, the most feasible system type in these scenarios is sand lined trenches. Sand lined trenches can be utilized to bridge through disturbed or fill soils that may grant the opportunity for lots to have conforming systems that might not otherwise be able to.

PHSKC will utilize the Sand Lined Trench System Recommended Standards and Guidance for Performance, Application, Design, and Operation and Maintenance (DS&G) when reviewing designs for sand lined trench systems in conjunction with the criteria outlined below. This memo will waiver KC BOH 13.52.057, subsection E and allow 18" spacing between driplines when the rest of the criteria outlined is this memo is also met.

GOAL

To protect public health and the environment while improving business efficiencies, reducing on-site sewage system (OSS) costs for property owners, and providing some relief for the current housing crisis.

ALL SAND LINED TRENCH SYSTEMS

- The minimum required infiltrative surface area is determined by dividing the design flow by the hydraulic loading rate of the receiving soil found in Table 13.28-4 of King County Board of Health Title 13 for standard pressure trenches or by utilizing the Drip Design Parameters outlaid in the Subsurface Drip System DS&G while accounting for King County Board of Health Title 13 design flow requirements.
- Sand must extend 6 inches into the native soil or the soil horizon used for determining the hydraulic loading rate.
- Sand must meet ASTM C-33 or Coarse Sand Media specifications and be time dosed accordingly.
- Trenches must be level and follow contours.

SAND LINED SUBSURFACE DRIP TRENCH CONSTRUCTION – BRIDGING TO MORE SUITABLE SOIL

- Subsurface drip must be preceded by a Treatment Level B device. Bacteria level 2 is required when needed to meet treatment level and vertical separation requirements.
- Twenty-four (24) inches of sand media may be placed under the trench in conjunction with a Treatment Level B, Bacterial Level 2 device and adequate vertical separation in the receiving soil type to meet Treatment Level A, Bacteria Level 1.
- Dripline may be spaced with a minimum of 18 inches between driplines.

    a. Except when receiving soil is Type 6, then a minimum of 24 inches between drip lines must be maintained.
    b. Except when on slopes over 20%, then dripline spacing must be increased by 1 foot
- Refer to the Subsurface Drip System DS&G for emitter spacing required for the receiving soil.
- Spacing between the dripline and the sidewalls is 3 inches, minimum.
- Trenches must be spaced with a minimum of 2 feet from sidewall to sidewall.
- Trenches may not exceed 3 feet in width.

SAND LINED SUBSURFACE DRIP TRENCH CONSTRUCTION – TYPE 1 SOIL

- Subsurface drip must be preceded by a Treatment Level B device. Bacteria level 2 is required when needed to meet treatment level and vertical separation requirements.
    a. Twenty-four (24) inches of sand media must be placed under the trench.
        i. When 24 inches of sand media is placed under the trench in conjunction with a Treatment Level B, Bacterial Level 2 device and adequate vertical separation in the receiving soil type the system is expected to meet Treatment Level A, Bacteria Level 1.
    b. Alternatively, 12 inches of sand media may be placed under the trench when pretreatment meets Treatment Level A, Bacterial Level 1 and adequate vertical separation in the receiving soil type is present.
- Dripline may be spaced with a minimum of 18 inches between driplines.
- Refer to the Subsurface Drip System DS&G for emitter spacing required for the receiving soil.
- Dripline must be 6 inches from the outside edges of the trench or bed.
- Trenches must be spaced with a minimum of 4 feet from sidewall to sidewall.
- Trenches may not exceed 3 feet in width.
- Must maintain a minimum of 18 inches of vertical separation if meeting Treatment Level B, Bacterial Level 2.
- Must maintain a minimum of 12 inches of vertical separation if meeting Treatment Level A, Bacteria Level 1.

SAND LINED STANDARD PRESSURE TRENCH CONSTRUCTION – BRIDGING TO MORE SUITABLE SOIL

- Treatment level will be determined based on the amount of sand media placed under the trench, the presence of a pretreatment device, and the amount of vertical separation of the receiving soil present under the trench.
- Trenches must be spaced with a minimum of 4 feet from sidewall to sidewall.
- Trenches may not exceed 3 feet in width.

SAND LINED STANDARD PRESSURE TRENCH CONSTRUCTION – TYPE 1 SOIL

- Twenty-four (24) inches of sand media placed under the trench with adequate vertical separation in the receiving soil type is expected to meet Treatment Level B, Bacteria Level 2.

    a. Alternatively, 12 inches of sand media may be placed under the trench when pretreatment meets Treatment Level B, Bacteria Level 2 and adequate vertical separation in the receiving soil type is present.
    b. A combination of 24 inches of sand media, a pretreatment device meeting Treatment Level B, Bacteria Level 2, and adequate vertical separation in the receiving soil is expected to meet Treatment Level A, Bacteria Level 1.
    c. Note: This does not preclude the use of a Treatment Level B, Bacteria Level 2 device ahead of the disposal component without the use of sand media.
- Trenches must be spaced with a minimum of 4 feet from sidewall to sidewall.
- Trenches may not exceed 3 feet in width.
- Must maintain a minimum of 18 inches of vertical separation if meeting Treatment Level B, Bacterial Level 2.
- Must maintain a minimum of 12 inches of vertical separation if meeting Treatment Level A, Bacteria Level 1.