



JACKSON COUNTY PUBLIC WORKS DEPARTMENT

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April 18th, 2018

Robert Allen Construction Inc.
1637 NE Woodland Shores Circle
Lee's Summit, Mo. 64086

RE: Wastewater System Failure Inquiry

Dear Mr. Allen,

I have reviewed your letter of inquiry and also become confused with some of the disturbing numbers provided. Are these quoted failure percentages verified statistics? Is there any available documentation to support these claims and if so, from where, by who, for what duration of time. Was a description of suspected cause offered & are we talking about premature failures or the eventual system termination as expected from long term use?

Wastewater System Failures in general are attributed to various developments or occurrences such as direct damage from traffic over the area or parking on an active absorption field, tank infiltration, encroachment of unrelated construction activity (outbuildings, garages, swimming pools etc.) neglect of proper maintenance, abuse like the disposal of harsh compounds or chemicals and even the common abuse of excessive water usage.

Natural contributors possibly effecting a disposal system performance might be ground water (seasonal & apparent), surface water runoff, underlying restrictive layers, and poor soil permeability. All these categories of which can be avoided or defeated with professional design methods and proper installation inspection which is the standard regulated procedure within Jackson County.

The primary demise for the typical disposal systems is through the ongoing service it was intended. Historically, a usage failure develops over decades of continual use before reaching optimum soil saturation and resulting in total failure. Such an evolution takes many years to develop and will illustrate signs of progressive fatigue. For specific example, out of the 133 wastewater permits issued by Jackson County last year, 127 were

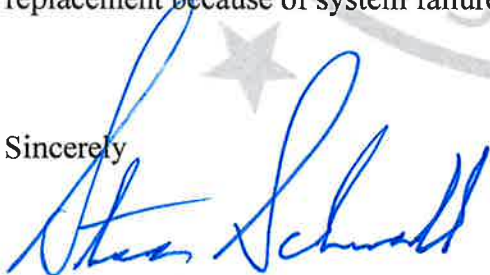
for new construction and 6 were for replacement systems. This tally does not include the corporate limits of Kansas City & Independence which regulate their own jurisdictions with permits and inspections but out of the 6 replacements completed in Jackson County jurisdiction last year, not all were due to failure. Three of these projects were actually relocations necessary because of conflict created by property divisions and setbacks requirements. The remaining three were legitimate component or usage failures. Each failed system was well aged.

As you know, two of the unincorporated subdivisions you mentioned Windsor Estates and Lawnwood are excellent existing examples of long term use and system longevity. Both developments begin in the late 90's and possess an assortment of disposal system types due to ranging soil classes and underlying subsurface conditions. Both developments (approaching 100 lots combined) utilize everything from conventional absorption trenches where permissible to non-discharging polishing ponds when necessary. Lots offering the biggest challenges with high ground water, surface drainage or shallow permeability are currently being served with surface level mounds or elevated low pressure distribution. Many of these Phase 1 lots are now approaching 20 years of continual use with a zero% total failure rate documented. Other examples of large unincorporated subdivisions with similar results would be Easley Estates, Timber Meadows, Stonehaus or Windmill Ridge.

All On-site Wastewater Disposal Systems will require routine maintenance or periodic repair especially with mechanical components at some time. Necessary repairs or responsible maintenance should not and cannot be statistically confused with system failure.

I hope this information clarifies most of your concerns regarding Wastewater Failure in general. Jackson County overall has highly regulated requirements for wastewater disposal and on average two to three percent of permits issued annually are dedicated to replacement because of system failure of any sort.

Sincerely



Steve Schnell
Wastewater Specialist
Jackson County Public Works