Title: Treatment of residential gray water for on-site landscape irrigation

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Specialization / Discipline: Environmental Engineering

Description:

Gray water is typically defined as discharge flow from showers, baths, and washing machines. These gray water flows are low concentration, low pathogen flows as compared to discharge flows from toilets. There is significant potential for reusing this water on-site for toilet flushing and irrigation. The implementation of on-site reuse of residential gray water is hampered by a lack of research on the performance of treatment systems. Previous lab studies have shown intermittent sand filters to be a promising treatment technology. This summer research experience will involve both laboratory and field activities. In the laboratory, performance of sand only filter columns and Eljen geotextile sand filter columns will be evaluated by loading them with a synthetic gray water flow. Influent and effluent chemical oxygen demands and biochemical oxygen demands will be monitored. Field research will consist of monitoring the performance of gray water irrigation systems installed at Macon Area Habitat for Humanity homes. The research team will be expected to prepare a manuscript of their research results.

Note: These positions are not for pay.