
INVESTIGATION OF ON-SITE WASTEWATER TREATMENT SYSTEM SUITABILITY FOR FLOODPLAINS (POSTER)

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Gallatin is the fastest growing county in Montana, hence land with high groundwater, including property within the floodplain, is under increasing pressure for development. Homes and businesses without access to municipal wastewater service are required to have a permitted on-site wastewater treatment system (OWTS) that can remove solids, nutrients and pathogens from waste before releasing the effluent into the environment. Failing OWTS can create public health risks. While drain fields for septic systems can be adapted to high groundwater by installing them in a “sand mound,” limited literature indicates sand mounds cannot withstand flood events. The project goal is to determine whether sand mound systems or other OWTS have been proven to withstand flooding and hence would be appropriate technology for floodplain installation. Online and database literature searches were conducted regarding local health department regulations and policies regarding OWTS. Phone calls were also made to various health departments in the western part of the United States. There are articles from the EPA, the University of Wisconsin – Madison and the Nevada Division of Environmental Protection stating that sand mounds should not be placed in floodplains. There are some OWTS that have potential to safely work within the floodplain, which are being investigated further. A failing or inadequate system can cause a variety of environmental and public health risks. Gallatin County is quickly growing, and it is imperative that the septic systems in floodplains will not adversely affect public health because of flood events.