

Catastrophic Mortality, Large Animal Disposal, Pit

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Catastrophic Mortality, Large Animal Disposal, Pit is a method of disposing dead animals by placing the carcasses in successive layers in an excavated pit. The carcasses are spread, compacted, and covered daily with a thin layer of soil that is excavated from the pit. When the pit is full, a final cover of soil material at least 2 feet thick is placed over the burial pit.

The interpretation is applicable to both heavily populated and sparsely populated areas. While some general observations may be made, onsite evaluation is required before the final site is selected. Improper site selection, design, or installation may cause contamination of ground water, seepage, and contamination of stream systems from surface drainage or floodwater. Potential contamination may be reduced or eliminated by installing systems designed to overcome or reduce the effects of the limiting soil property. The rating is for soils in their present condition and does not consider present land use.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 or 7 feet). However, because pits may be as deep as 15 feet or more, geologic investigations are needed to determine the potential for pollution of ground water as well as to determine the design needed. These investigations, which are generally arranged by the pit developer, include the examination of stratification, rock formations, and geologic conditions that might lead to the conducting of leachates to aquifers, wells, watercourses, and other water sources. The presence of hard, nonrippable bedrock, bedrock crevices, or highly permeable strata in or immediately underlying the proposed pit bottom is undesirable because of the difficulty in excavation and the potential pollution of underground water.

Properties that influence the risk of pollution, ease of excavation, trafficability, and revegetation are major considerations. Soils that flood or have a water table within the depth of excavation present a potential pollution hazard and are difficult to excavate. Slope is an important consideration because it affects the work involved in road construction, the performance of the roads, and the control of surface water around the pit. It may also cause difficulty in constructing pits for which the pit bottom must be kept level and oriented to follow the contour.

The ease with which the pit is dug and with which a soil can be used as daily and final covers is based largely on texture and consistence of the soil. The texture and consistence of a soil determine the degree of workability of the soil both when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and difficult to place as a uniformly thick cover over a layer of carcasses. The uppermost part of the final cover should be soil material that is favorable for the growth of plants. It should not contain excess sodium or salt and should not be too acid. In comparison with other horizons, the A horizon in most soils has the best workability and the highest content of organic matter. Thus, for a Large Animal Disposal, Pit operation it

may be desirable to stockpile the surface layer for use in the final blanketing of the filled pit area.

How to Obtain Interpretations

Soil interpretation maps can be generated for areas up to 10,000 acres at the Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) by selecting Catastrophic Mortality, Large Animal Disposal, Pit under Waste Management in the Suitability and Limitation of Use section of Soil data Explorer after selecting the Area of Interest (AOI) and overlaying the soil map.

Soil interpretations for GIS applications can be downloaded from the Soil Data Mart at <http://soildatamart.nrcs.usda.gov/>.