

Legal Restrictions Regarding Extraction of Construction Materials and Energy Resources, and Land Disposal of Solid Wastes, State of Indiana, USA

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Indiana, located in the Great Lakes area, USA, consists of Pleistocene glacial deposits in the north and Paleozoic sedimentary rocks in the south. Construction materials are obtained from glacial-fluvial gravels, or carbonates of Ordovician-Mississippian age. Coal is mined from Pennsylvanian rocks in southwestern Indiana. Solid waste disposal is more easily accomplished in glacial till plains (north) than in most bedrock areas (south). Carbonate terranes are particularly prone to ground water contamination by sanitary landfills.

Zoning ordinances prevail in most Indiana counties, even rural, agricultural ones. Areas zoned as agriculture can be used for mineral extraction or solid waste disposal if a special exception is obtained. Permits requiring engineering reports and approval by state agencies, are required for gravel extraction, rock quarries, coal mines and solid waste disposal. Extensive reclamation is involved for coal mines and sanitary landfills, with less for pits and quarries for aggregate extraction.

Zoning ordinances ensure that land use is consistent and provide separation of residential areas from quarry, mining and landfill activities. Effects of blasting, dust, noise and traffic are considered when zoning exceptions are proposed. Urban expansion tends to increase conflicts between residential and extractive activities. Extractive and disposal activities are greatly impacted, as the general public is intolerable to these needs, disregarding societal dependency on natural materials.

In the presentation a series of projects is considered, including gravel pits, rock quarries, coal strip mines and sanitary landfills. Zoning restraints and citizen concerns are addressed using examples.