

GEOTECHNICAL ANALYSIS FOR THE LAND USE UTILIZING GEOGRAPHIC INFORMATION SYSTEM

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The geotechnical analysis proposed for the land use utilizing Geographic Information System has the objective to demonstrate the facilities and some resources offered by the SIG programs for the representation and spatial analysis. More specifically, the use information systems of the physical environment, important for the urban occupation, such as the geotechnical characteristics of the soil and the land declivity, integrated into the urban planning and land use. An application of this study was realized in an area urbanized of the hydrographic basin of Lagoa da Conceição. To make the proposed objective possible, it was necessary not only to study how the software works and its structure but also the conversion of all the maps and information utilized from analogical to digital way. For such work, two processes were used: the digitalization and the vetorization of the scanned maps. As a result of the use of this technology, the possibility of the crossing of graphic information or just the superposing of the maps for visualization is obtained. One of the SIG tools tested in this work was the elaboration of the geotechnical map, using the methodology of superposing the geotechnical and geological maps. On the other hand, the possibility of continuous surfaces interpolation, starting from punctual data, for the elaboration of the declivity map, for example, is presented as one more subsidy for the understanding of the characteristics of the soil, associated to its location in the landscape.