

## THE OPTIMAL LAND GRADING SURFACE FOR A CONSTRUCTION SITE

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**Abstract:** A new mathematical model for solving the problem of land grading has been presented in this research based on two dimensional interpolation models of linear least square (LLS) and inverse distance weight (IDW). The problem to be solved required nonlinear programming optimization. The volume computation by the borrow pits facilitate the solution to overcome the problem of balancing the ratio of cut to fill to any required design value. Several models have been tested and the LLS quadratic model proved to be most efficient.

**Keywords:** Borrow Pits, LLS, IDW, Nonlinear Programming, Constraints