

أجندة طالب الدراسات العليا



أسم الطالب : حمزة طاهر طعمة

التخصص : هندسة الجيوماتيك

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أسماء لجنة المناقشة :-

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عنوان البحث للرسالة:

"EVALUATION THE ROUTE ALIGNMENT FOR AL-SHATRA ROAD USING LAND SURVEYING INSTRUMENTS"

" تقيم محاذاة المسار لطريق الشطرة باستخدام أجهزة المسح الأرضي "

عنوان البحث المستل:

"Earthwork Balance for Grade Line"

تقدير المناقشة: امتياز



ABSTRACT:

مستخلص البحث:

The process of planning and implementation of any linear projects such as roads, railways, airport runways and taxiways, is a complex process and needs designing within the engineering standards and safety, due to the many variables that must be taken into consideration for achieving the best route. Geometric design of road is most important variables that depend on many factors such as traffic volume, design speed, lanes width, shoulders, sidewalks, longitudinal section, cross section and superelevation. Road survey affects significantly the cost of the project, where the accuracy and credibility of the data obtained from the survey work will depend on the computation of the volume of earthwork (cut and fill).

In this study, the civil 3d software was used to enter the design data for the road such as (design speed, super elevation and curvature radius for horizontal alignment) according to ASSTO 2001 system. The values of (100km / h, 490 m and 4%) for (design speed, curvature radius and super elevation) respectively were used in this research.

To balance the earthworks along the routes, a model of grade line depending on best-fit line equation with least squares method was developed in this rasrech. The results obtained show the balancing of cut and fill volumes.

The survey works of the road route were divided into three main phases carried out for selecting layout of a new route of the road, which cover (Reconnaissance survey, preliminary survey and final topographic survey). In reconnaissance survey, satellite images and maps were used, as well as a specialized committee from the municipality of Shatra was formed for field survey and stand on the main points the route passes. All non-visible features were determined on satellite images and maps.

Because of the many problems that were revealed by the Commission, a second route for the road has been proposed in addition to the route in the master plan 2010.

The preliminary survey were carried out along the selected routes by reconnaissance survey. Preliminary survey was based on a digital elevation model to get the amounts of (cut and fill) approximately which gives an initial picture of the quantities of each routes before

starting the final topographic survey. Global Mapper software was used to transfer data from the digital model to civil 3d software to calculate quantities.

Final topographic survey used high-resolution instrument GPS (TOPCON-GR3) for field survey of the routes. To start a well distributed ground control points along the routes were used as reference points by using static observation method.

Longitudinal sections and planmatic maps were shown as sheets for each of 600 m, a scale of 1: 2000. As well as drawing cross-sections along the routes and calculating cut and fill quantities using CIVIL 3D SOFTWARE.

