

Description of Outdoor Lighting and Road Category Infrastructure in the Geographical Information System (GIS)

1. General Information.
 - 1.1. The subject of research in the streets of Tbilisi is electronic passportization of lighting system in GIS_ program.
 - 1.2. Positioning data in X,Y - .shp format, which is managed by means of GIS program, in .dwg or .dxf format. WGS 1984 Coordination System UTM Projection.
2. The following information will be included in the GIS system:
 - 2.1. Road type (asphalt, concrete, grinding road, and etc.).
 - 2.2. The road width.
 - 2.3. Existence of the sidewalk (yes/no).
 - 2.4. Number of external lighting poles.
 - 2.5. Numerology of the poles (marking).
 - 2.6. Height of the poles from the ground level (meter).
 - 2.7. Type of pole (metal/reinforced concrete).
 - 2.8. Length of console (meters).
 - 2.9. Corner of console declination.
 - 2.10. Distance from the poles to the river bank (meter).
 - 2.11. Distance between the poles (meters).
 - 2.12. Height of luminare hanging from the ground level (meter).
 - 2.13. Number of lighting devices of outer lightning.
 - 2.14. Number of switching points.
 - 2.15. Numerology of the switching points (marking).
3. The coordinates for placement of poles, switching points and supply wires in the Geographical Information System should be taken by GPS.
4. The research object must be above-ground.
5. The project work should include as geo information (collecting of X,Y points) as well as geo informative (characteristics of the research object) material.
6. The final product should represent - .shp extension file, which is managed by means of GIS program.
7. The project task should not be linked to the aerial photo shoot.

Outdoor lighting standardization of streets, avenues and internal quarters throughout Tbilisi

1. For the lighting determine the categories of streets, avenues, internal quarter roads and motor roads of c. Tbilisi according to European standards (according to EN 13201 norm demands), register by the categories awarded and be mapped in GIS (Geographical Information System).
2. Make photometric designing and create the appropriate lighting efficiency standard according to the street categories mapped in GIS, by EN 13201 norms and requirements and be mapped in the GIS system.
3. Designing of lighting facility equipment should be fulfilled individually on the streets and roads using the accredited programs (DIALUX, CALCOLUX and other similar programs).
4. Based on the norms required for the lighting efficiency mapped in GIS, make calculation to achieve the received standards according to the needed total lumen amount and mapped streets.