Fundamentals of Road Construction

Lecturer :   **Marcin Bilski, BEng, PhD**

Division of Road Engineering
Institute of Civil Engineering
room 324B (building A2)
marcin.bilski@put.poznan.pl
marcin.bilski.pracownik.put.poznan.pl

Project 3

The subject of the project lecture:

**Horizontal alignment
(inserting horizontal curves)**

What to do:

1. Using an Excel spreadsheet, calculate, adopt, and verify the parameters of the horizontal curve (radius and transverse slope on the curve)

2. Using an Excel spreadsheet, calculate, adopt, and verify the parameters of the transition curve (clothoid) of the horizontal curve (parameter „a")

3. Enter the designed curves in AutoCAD Civil 3D

How to do:

Contents of the descriptive part of the project

Technical description

Subject of the project

The subject of the project is a design of a section of the two way public road characterise by: one roadway, two traffic lines, road class „L" (a local road), outside built-up areas. The roadway is not limited by a curbs.

Horizontal alignment

describe in this point: how many horizontal curves, which radius of horizontal curves, how many straight sections of the design road, length the straight sections

Geometric elements of the horizontal alignment **(presented in the table):**

- **coordinates of the start, end, and vertex points of the horizontal alignment of the designed road,**

- **distances between the start, end, and vertex points,**

- **value of the deflection angle of the horizontal alignment of the designed road,**

- **tortuosity of section of the design road,**

- **adopted the parameters of horizontal curves.**

THANK YOU FOR YOUR ATTENTION