AUTOCAD CIVIL 3D ESSENTIAL TRAINING-ROAD AND HIGHWAY PROJECT

Objectives

 After completing this training, you will be able to:

- ✓ Clean-up the survey data.
- ✓ Generated 3D digital terrain model of the existing ground surface.
- ✓ Explore the quick alignment generation tool together with proposed profile layout.
- ✓ Super elevation and alignment geometry design based on local standard.
- ✓ Generating cross-section details and earthwork volume calculation and balancing are crucial in any road and highway project.

Pre-requisites

This guide is designed for new users of AutoCAD Civil 3D.

It is recommended that you have a working knowledge of:

• Microsoft® Windows® 7, Microsoft® Windows® 8, or Microsoft® Windows® 10.

TRAINING PROGRAMME DAY 1

Chapter 1: Introduction to AutoCAD Civil 3D

- Interface and Commands
- Generating Template
- Template Installation Guide

Chapter 2: Clean-up the Survey Drawings

- Working with Layers
- Execute clean-up Commands
- Importing Cleaned Survey Data into AutoCAD Civil 3D Template.

Chapter 3: Creating Existing / Original Ground Surface

- Creating OGL Surface from AutoCAD TEXTS
- Creating OGL Surface from AutoCAD POINTS
- Creating OGL Surface from AutoCAD LINES / POLYLINES / CONTOURS

Chapter 4: Surface Analysis

- Contour Labelling
- Elevation Analysis
- Slope Arrow Analysis

Chapter 5: Road and Highway – Alignment Design

• Creating & Editing Horizontal Alignment
• Alignment Labeling : Control Plan
• Alignment Labellng : Fixed Interval Pegging Points

Chapter 6: Road and Highway – Super elevation Design

• Generating Super elevation

Chapter 7: Road and Highway – Profile Design

• Creating Existing Ground Profile
• Creating & Editing Proposed Road Profile

Chapter 8: Road and Highway – Assembly Design

• Creating Typical Cross-Section of a simple road

Chapter 9: Road and Highway – Corridor Design

• Creating Proposed Corridor

Chapter 10: Road and Highway – Sample Lines

• Creating Sample Lines

Chapter 11: Road and Highway – Volume Calculation

• Earthwork Volume – TIN Volume Method
• Earthwork Volume – Cross-Section / Average End- Area Method
• Earthwork Balancing

Chapter 12: Road and Highway – Cross Section Detailing

• Creating Multiple Cross-Section

Chapter 13: Road and Highway – Imagery Integration

• Embedding Google Earth and BING Map images Into the model