Flexible and rigid pavement structural design Training program

Introduction

This course will provide the information necessary to deal with pavement challenges. Participants will examine implications of soils and pavement materials, roadway drainage, and practical techniques for field evaluation of pavement conditions. In addition to reviewing causes of pavement, we will discuss pavement maintenance and rehabilitation techniques such as patching, crack sealing, thin surface restoration techniques, overlays, and other innovative methods and materials. Your learning will be further enhanced through case study presentations, real-life examples, and question and answer periods.

Objectives

- Improve pavement life-cycle
- Understand pavement defects, their causes, and solutions
- Use maintenance and rehabilitation methods to extend the useful life of pavements
- Relate pavement design theory to practice

Who Should Attend?

Road construction engineers working in road construction, construction supervision of road projects.

Methodology

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration

Contents

Day (1):

- Introduction
- The fundamental of concrete technology.
- Fundamental of steel structures
- Basic concept of concrete and steel design.
- Effect of different loads on the building.
- Earthquake , wind load effect
- Ballast load for control buildings
- Loads affect pipe rack, static equipment and tanks foundations.
- Comparison Between different structure systems.
- Principal, limitations for different codes in concrete (ACI, BS codes).
- Define the appraise, select and define step in structure rojects
- Main features for LRFD in concrete ant steel.
- Codes of practice for design, evolution from allowable stress to LRFD and limit state design.
- Codes and standards Philosophy

Day (2):

- Principal of structure analysis method
- Structural analysis method
- Using staad pro or sap in structure analysis
- Finite element method
- Plasticity method
- Push over analysis
- Principal of concrete design and precaution
- Different slab types
- Design of slab, beam and columns
- Basis of design steel tanks ring beam
- Pipeline support design
- Design of foundation under machines
- Precaution in foundation design
- Checklist to review the design
- Selection of suitable structural systems for multistory building

Day (3):

- Selection of steel structural systems
- Rigidly connected frames
- Plane trusses
- Space trusses
- Design of tension members
- Design of compression members.
- Design of Beams

Day 4:

- Design of Beam-Columns
- Case study for design crane track girder
- Bolted connections design
- Welded connections design
- Fabrication and erection of steel connection

Day 5:

- Base plate design
- Anchor bolt design
- New methods for connecting steel to Concrete.