

Construction & Maintenance of Asphalt Roads

Training program

Introduction:

The road transport network of any country plays a vital role in its economy, and the physical condition of its infrastructure is critical. Without adequate and timely maintenance, highways and rural roads alike inexorably deteriorate, leading to higher vehicle operating costs, increased numbers of accidents, and reduced reliability of transport services. When repair work can no longer be delayed it will often involve extensive rehabilitation, and even reconstruction, costing many times more than simpler maintenance treatment carried out earlier. The need to protect the existing network and keep it in good condition is paramount, often taking precedence over new investment.

Who Should Attend?

State Road Authorities, Construction and Civil Engineers, Local Government, Consultants, Draftspersons, New Graduates, Technicians

Course Objectives:

- Develop and improve the road maintenance management system
- Deploy Routine Maintenance Units (RMU) and Disaster Recovery Units (DRU)
- Contribute to infrastructure improvements and regional development
- Understand soil properties and erosion
- Learn about road maintenance operations
- Conduct routine maintenance
- Know the maintenance operations of pavements and drainage systems

Course Outline:

Introduction

- Ten Commandments of a Good Road

Geometric Design

- Functional systems for rural areas
- Geometry
- Sight distance
- Super elevation (banking)

Soils

- Types of soil
- Visual – Manual identification
- Permeability
- Capillarity
- Desirable properties for aggregates
- Stability
- Compaction
- Soil identification in the field

Understanding Soil Erosion

- Factors Linked to Erosion
- Erosion Control Principles

Camp Road Maintenance

- Road Drainage
- Road Materials
- Alternative Road Surfacing Materials
- Crowning and Grading
- Alternative Road Maintenance Equipment
- Ditches
- Culverts
- Culverts
- Ditch Turnouts
- Geotextiles
- Dust Control

Camp Road Evaluation

- Road Evaluation
- Slope Evaluation
- Access Evaluation
- Final Road Evaluation Summary

Pavement Structures

- Vehicle loads
- Road surfaces
- Paving aggregate roads
- Surface treatments

Routine Maintenance

- Paved Road Surfaces
- Unpaved Road Surfaces
- Trails
- Street Sweeping
- Shoulders and Turnouts

Pavement Maintenance

- Maintenance repair
- Pavement repair alternatives
- Road sections
- Geotextiles

Drainage

- Vehicle loads
- Surface water
- Road crown
- Eliminating depressions
- Drainage ditches

Maintenance of Drainage Systems

- Drainage Systems
- Drainage Facility Installation, Repair & Replacement
- Stream Crossings
- Ditches and Swales
- Watercourses and Streams
- Flood Control Facilities
- Slopes
- Erosion Control
- Slope Stabilization

Traffic Signs

- Signs
- Work zones
- Planning and direction
- Infrastructure management