Bridge Design Seminar (HSW Credit) (Scheduled – Classroom)

I. Introduction and Learning Objectives

II. Current Bridge Market
   a. Planning for the Future: HDG Steel Bridges

III. Hot-Dip Galvanizing (HDG) Process

IV. Benefits of HDG Steel Bridges
   a. Corrosion Protection
      i. Barrier protection
      ii. Cathodic Protection
      iii. Zinc Patina
   b. Durability
      i. Abrasion Resistance
      ii. Uniform Protection
      iii. Complete Coverage
   c. Longevity
      i. In Atmosphere
   d. Availability & Versatility
      i. Abundant
      ii. Efficiency
      iii. Safety
   e. Aesthetics
      i. Modern, Natural Appearance
      ii. Duplex Systems
   f. Sustainability
      i. Environmental Advantages
      ii. Economic Advantages
      iii. Cost Parameters

V. HDG Bridge Design
   a. Specification & Design Considerations
   b. Minimizing Warpage & Distortion
   c. Connection Concerns
   d. Inspection & Repair
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VI. Specifications & Design Considerations
   a. Size Limitations
   b. Steel Selection & Girder Design
   c. Dissimilar Metals

VII. Minimizing Warpage & Distortion
   d. Causes of Warpage & Distortion
   e. Best Practices to Avoid Warpage & Distortion

II. Connection Concerns
   a. Overtapping Guidelines
   b. Bearing & Slip Critical Concerns
   c. Hydrogen Embrittlement

VIII. Inspection & Repair
   a. In Plant Inspection
   b. Touch-up & Repair in Plant
   c. Field Inspection: Areas of Concern
   d. Touch-Up & Repair in Field
   e. Touch-Up & Repair Methods

IX. Summary