

Lecture 37

Software for Civil Estimating (Part 2)

Estimation & Costing

Agenda

- 1. Specialized Estimation Software
- 2. On-Screen Takeoff
- 3. BIM and 5D Estimation
- 4. Workflow of Digital Estimation
- 5. Summary

Specialized Estimation Software

Beyond Excel, specialized software manages complex projects, integrating estimating, planning, and accounting.

- **PlanSwift / Bluebeam:** Excellent for 2D on-screen takeoff. Allows estimators to click and drag over PDF drawings to calculate areas and perimeters instantly.
- **Candy (CCS):** Industry standard for detailed resource-based estimating, rate analysis, and project control.
- **CostX:** Supports both 2D and 3D takeoff.

Building Information Modeling (BIM) goes beyond 3D geometries.

5D BIM

3D: Spatial Geometry (X, Y, Z)

4D: Time (Scheduling, MS Project/Primavera)

5D: Cost (Estimation)

In 5D BIM, every 3D object in the model (e.g., a wall) contains data about its material and cost. If the architect lengthens the wall in the software, the total project cost updates **automatically**.

Summary

Specialized software like PlanSwift and Candy streamline complex estimating.

5D BIM links the 3D model directly to time and cost.

This brings high efficiency, accuracy, and agility to civil engineering works.

Workflow of 5D BIM Estimation

