

July 2007





Owner's Concerns with Preconstruction Services

- Construction Manager's Not Proactive Waits for Information to Announce Problems
- Unpredictable Fluctuation of Estimates
- Value Engineering = scope cutting or changes in Finishes, No Value Added or Life Cycle Costs Provided
- Construction Managers Do Not Have Local Market Cost Data
- Construction Managers Do Not Understand the Design Process
- Too Much Reliance on Subcontractor Input, i.e., Do Not Understand Costs
- No Leadership!!!





Preconstruction in Today's Environment

- Clients information and execution moves faster
- A/E teams are challenged to utilize technology to speed information
- CM Preconstruction approach needs to provide new concepts
- Differs from a manufacturing industry environment





What is Precon and How Would You Define the Service?

- Design to Budget Management
 - "Financial Advisor" During the Design and Delivery of Project
 - Provide In-Depth Estimating Capabilities
 - Conceptualize Complete Design ("Bridge" Design-to-Date to Final Design Intent)
 - Define Building Systems in Explicit Scope Definition Narratives
 - Provide Accurate Cost Tracking and Benchmarking

Provide Creative Solutions

- Implement Design to Budget Management Cost System
- In-depth Knowledge of Local Subcontractor Markets
- Escalation and Contingency Controls
- Value Engineering of Assemblies and Materials
- Constructability Reviews with Design Team
- Open Communication with Client and Entire Team





The Value of Preconstruction

- A Proactive Design to Budget Management Plan
- Scope is Defined and Change is Managed
- Value Engineering and Constructability are Employed to Identify Creative Cost Solutions

Results of Preconstruction...

- Communication Methods in Place that Allow Project Team to be Aware of Project Cost and Schedule at all Times
- Design Deliverables are issued to Support the Construction Schedule and Budget
- No Surprises so that Team Moves to Construction with Confidence





Attributes of a Successful Preconstruction Team

- Aggressive Design Management
 - Frequent Meetings and Reviews
 - Clear Client Authority
 - Continuity Through Preconstruction
- Proactive in Discovering Solutions
 - Access to all the Consultants
 - Clear and Aligned Owner Representation
 - Vendor/Market Involvement
- Clear and Continuous Team Communication





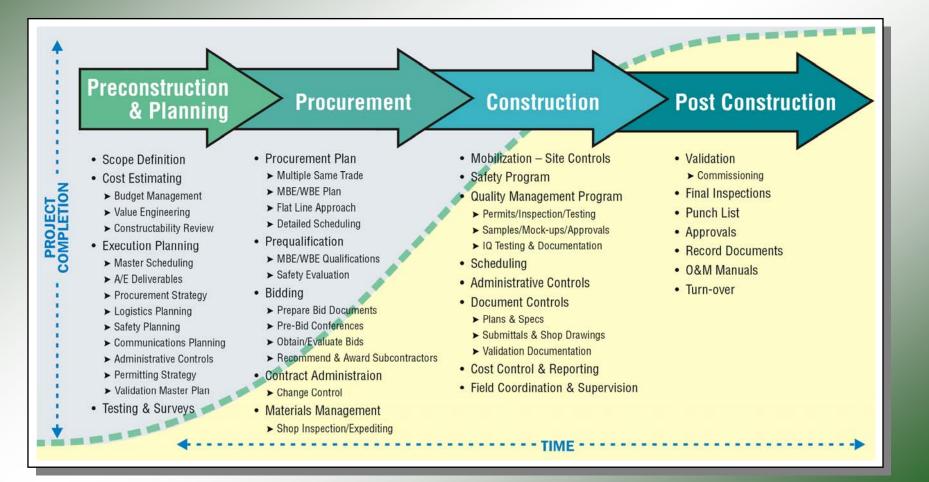
Keys to Successful Projects Design Optimum Project Delivery

- Establish Clear Project Objectives
- Build Project Team in Terms of Objectives
- Create Execution Plan to Achieve Objectives
- Design Procedures to Support Execution Plan
- Create and maintain Win-Win Environment





Scope of Services







Execution Planning Process

Understand Client's Business Objectives; Translate into Project Objectives

Develop Execution Plan to Achieve Project Objectives Establish Procedures That Supports Execution Plan Execute Procedures; Monitor & Modify if Necessary

- Design Management Plan
- Budget Management Plan
- Schedule Management
- Permitting Plan
- Project Communication Plan
- Validation Master Plan

- Procurement Plan
- Field Management Plan
- Quality Management Plan
- Safety Management Plan
- Commissioning Plan

Establish a project specific Execution Plan that serves as a road map to a successful outcome!





Defining and Achieving Objectives

- **Establish Clear Project Objectives**
- **Build Project Team in Terms of Objectives**
- **Develop Execution Plan to Achieve Objectives**
 - Design Management
 - Budget Management Plan
 - Schedule Management
 - Agency Approval Plan
 Safety Management

- Procurement
- Field Management
- Quality Management
- **Design Procedures to Support Execution Plan**
- Create and Maintain an Environment of Open and Frequent Communication with all Team Members





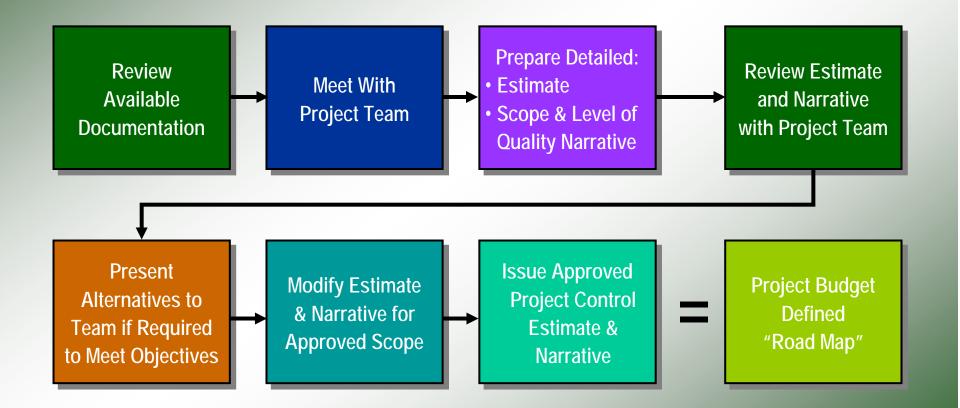
Preconstruction Cost Management

- Review Current Cost Model to Verify Scope/ Intent
- Develop Comprehensive Control Estimate and Narrative as Basis for Budget Management
- Design Phase Estimates
- Budget Control System
- Scheduled Design Reviews/Cost Control and Project Coordination Meetings
- Integrated Value Engineering, Life Cycle Studies and Constructability Inputs
- Design Progress Reviews
- Benchmark Comparisons





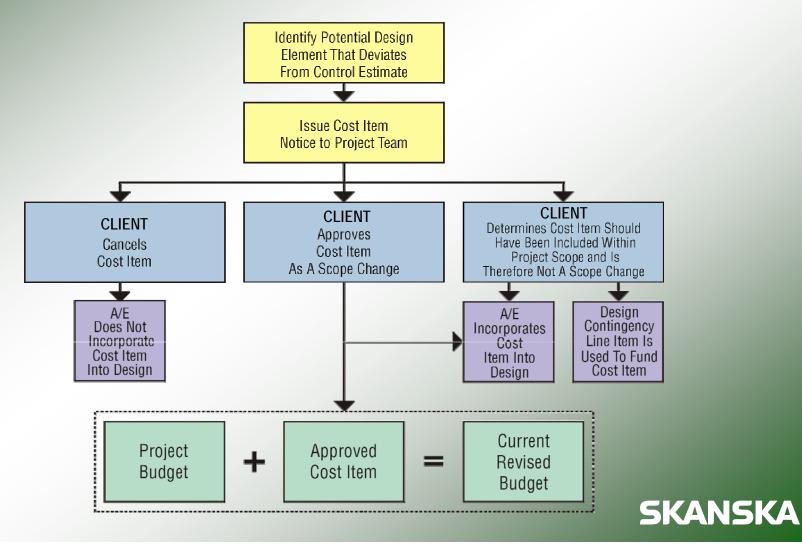
Control Estimate and Narrative Development







Preconstruction Cost Control





Design Input Strategy

- Establish Specific Design Deliverables
- Communicate These Expectations Early
- Participate in All Project Design Meetings
- Provide Schedule and Cost Comparisons Between Options
- Monitor the Design for Cost and Schedule Impact
 - Preconstruction Cost Item System
 - Monthly Project Schedule Updates





Total Integrated Project Scheduling is Imperative!

- Design Deliverables
- Approvals and Permitting
- Procurement, Submittals & Fabrication
- MEP Systems Coordination
- Construction (including area phasing)
- Facilities Interface (Tie-Ins, etc.)
- Start-Up, Commissioning and Certification
- FF&E
- Occupancy

Design is Driven by Deliverable Dates to Support Construction ...All Driven by Your Facility Need Date





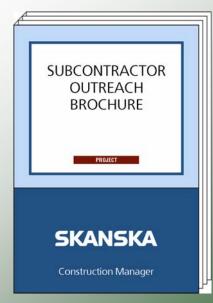
Subcontracting Plan

Design Deliverable/Bid Package Approach

- Coordinated & Complimentary
- Consider the Following:
 - Market Size
 - Location
 - Schedule
- Budget
- Small Business Goals
- Project Goals

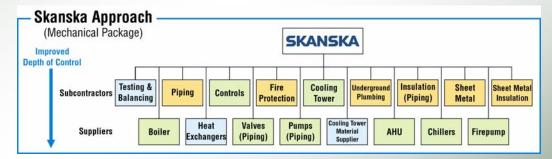
Other Projects at Same Time

- Campus or Site
- State of Florida
- South Florida Area



<u>SKANSKA</u>

Flat Procurement Approach





Applications: Eos Explorer

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| | | Randall's Island | | | | | | Bid due | | 1/1/2007 | 8:00:00 | Normal | | | | |
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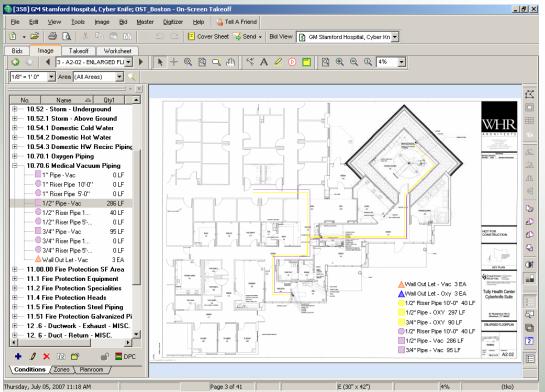
BENEFIT: File Organization and sharing amongst multiple offices.

- Manage All Preconstruction Projects
 - Timberline
 - SPARTA
 - WBS Manager
 - Drawings
 - Standard Folder Structure
- Preview Estimate Information
- Copy and Move Files
- Launch Timberline, WBS Manager, SPARTA
- Accessible via Citrix (Internet based)
 - Allows National Precon Collaboration
- Built in Security and User Management
- Personalize User Settings





Applications: On Screen Takeoff (OST)



- Manage Conditions used for Takeoff
- View and Trace Image on Screen
- Display Quantities immediately
- Print Images

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- Takeoff
- Markup
- Export Takeoff Data to Excel
- Manage Layers
- Control Image Scale
- **Document Review**
 - Overlay Old vs New

BENEFIT: Ability to reconcile takeoff and provide Owners graphical representation of quantities.

