Presentation for:

Progressive Design-Build Discussion

February 4, 2011
Project Delivery Options

- **Design-Bid-Build**
- **Construction Management at Risk**
- **Lump Sum Design-Build**
- **“Progressive” Design-Build**
Research and Findings
Design-Build Institute of America
Delivery Methods Market Share

- "Traditional" Design-Bid-Build
- Construction Management at Risk
- Design-Build
Research and Findings
Water Design-Build Council Owner Survey

- Single Point Accountability
- Having the Builder Involved in the Design Process
- Speed of Delivery
- Price Certainty
- Construction Quality
- Fewer Change Orders and Claims
- Lower Costs
Progressive Design-Build Procurement Model

*Most often used when…*

- Owner desires a single point of responsibility
- Rapid project delivery important
- Early transfer of financial risk is important
- Owner selection based on qualifications
- Owner wants greater control of design
- Owner wants greater collaboration

<table>
<thead>
<tr>
<th>Plan Project</th>
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**Agree on GMP** — based on collaborative scope and design; pricing may be verified by third party.
Progressive Design-Build Procurement Model

Advantages
- Single point of responsibility
- Eliminates design related change orders
- Shortest delivery schedule
- Reduced claims
- Ability to work to a budget and guarantee cost early with minimal investment
- Owner has second right of refusal

Disadvantages
- Must select designer and contractor as a team
- All Owner issues addressed prior to price development
- Cost savings accrue to Owner
- Greatest collaboration

Agree on GMP – based on collaborative scope and design; pricing may be verified by third party
Typical Owner Questions

- What is included in a typical Phase I engagement?
- How does an Owner know they are getting the best price?
- What happens if the Owner and Design-Build cannot agree on the GMP?
- Where has this been done?

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Agree on GMP —

*based on collaborative scope and design; pricing may be verified by third party*
Questions and Answers
Research and Findings

Key Measures of Project Success

- Opportunity for Owner Collaboration (especially during construction)
- Project Schedule
- Cost Control (more control = fewer changes, better value)
- Quality (including design intent, innovation, installed quality)
Research and Findings

Key Measures of Project Success

Collaboration
Schedule
Cost Control
Quality
Project Delivery Method Decision
Process
1) Identify Owner Objectives
2) Identify Project Drivers
3) Prioritize
4) Select Delivery Method that Best Satisfies Your Owner Objectives and Project Drivers

Owner Objectives
• Cost
• Schedule
• Quality
• Owner Resources
• Risk Allocation
• Selection Criteria
• Other

Project Drivers

Delivery Method Characteristics

Delivery Methods
1) Design-Bid-Build
2) Construction Management at Risk
3) Design-Build
Starting Point: Traditional Design- *Bid*-Build Procurement

**Most often used when...**

- Owner selection based on "lowest cost"
- Schedule is not a high priority
- Owner is willing and capable of managing the project
- Owner wants to select architect, engineer and contractor separately and directly

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- **Procure Engineering / Design Consultant**: selection based on qualifications, technical approach
- **Bid Construction Project**: selection based on price (with exceptions)
- **Startup**
Starting Point: Traditional Design- *Bid*-Build Procurement

Advantages
- Widely used and understood
- Cost control through fixed price
- Competitive bidding easily defendable
- Owner can select architect, engineer and contractor

Disadvantages
- Longest project duration…..typically
- High investment before cost are known
- Increased Owner time investment & risk
- Cost savings accrued to contractor
- May be confrontational and litigious
- Selection does not consider qualifications

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Startup
Project Delivery Options

- **Design-Bid-Build (DBB)**

- **Construction Management at Risk (CM@Risk)**

- **Lump Sum Design-Build (LS)**

- **“Progressive” Design-Build (GMP)**

TRADITIONAL DELIVERY

ALTERNATIVE DELIVERY
Construction Management at Risk (CM@Risk)

**Most often used when...**
- Owner selection based on “qualifications“ or “qualifications and price”
- Schedule is a high priority
- Early transfer of financial risk is important
- Projects are large and or complex and require technical support
- Owner desires construction input during design

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<th>Operations</th>
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- Design engineer selected traditionally
- Issue RFP for CM@ Risk selection typically based on quals and fee%
- GMP Defined Prior to Construction
Construction Management at Risk (CM@Risk)

**Advantages**
- Qualified technical/managerial support
- Shortened delivery schedule
- Ability to work to a budget and guarantee cost early
- Early construction input lowers cost and improves design
- Cost savings accrue to Owner
- Reduced claims

**Disadvantages**
- Owner remains directly involved in design related claims
- Guaranteed price includes contingencies
- Fewer qualified firms in marketplace

Plan Project | Develop Design Concept | Verify Design/Oversee Const. | Operations
---|---|---|---
Design and Engineering | SDCs |
Support During Design |
Construction | Warranty

Design engineer selected traditionally

Issue RFP for CM@ Risk selection typically based on quals and fee%

GMP Defined Prior to Construction
Project Delivery Options

**TRADITIONAL DELIVERY**

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**ALTERNATIVE DELIVERY**

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Diagram showing the different delivery options with the roles of Owner, Designer, Builder, and CM (Construction Manager) or Design/Builder.
**Typical Two-Phase Lump Sum (LS) Design-Build Procurement Model**

**Most often used when…**
- Owner desires a single point of responsibility
- Rapid project delivery important
- Early transfer of financial risk is important
- Owner desires construction input during design
- Owner selection based on qualifications

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*Select short list and Issue RFP defines performance criteria*
*Select from short-listed teams selection based on “best value” (technical + price)*
# Typical Two-Phase Lump Sum (LS) Design-Build Procurement Model

**Advantages**
- Single point of responsibility
- Eliminates design related change orders
- Shortest delivery schedule
- Ability to work to a budget and guarantee cost early
- Integrated design and construction lowers cost and improves quality
- Reduced claims

**Disadvantages**
- Must select designer and contractor as a team
- "Fox watching the hen house" perception
- Owner perception that control of design is lost
- Design can be driven by special interest or capabilities
- Cost savings accrued to design builder

## Plan Project
- **Design Concept/RFP**
  - Solicit qualified teams
  - short list qualifications based on capability, capacity, experience, references

## Review Quals
- **Proposal Period**
  - RFP Clarifications
  - Select short list and issue RFP
  - defines performance criteria

## Proposal Period
- **Preliminary Design**
  - Select from short-listed teams
  - selection based on “best value” (technical + price)

## Verify Design
- **Project Support**
  - Design, Build, Startup
  - Warranty

## Operations
Project Delivery Options

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Research and Findings
Research and Findings

- Construction Industry Institute
- Design-Build Institute of America
- Water Design-Build Council
- Charles Pankow Foundation