Alternate Project Delivery in Horizontal Construction

Design & Construction is Intended to be an Integrated Process

“Celebrating Quality & Value”

Michael J. Ladino, Esq. – Valley Metro Rail, Inc.

Kenneth A. Reedy, P.E. – City of Glendale

John E. Carlson, DBIA – Sundt Construction, Inc.
What Created the Need for Alternate Procurement Delivery Methods?

- Dissatisfaction with Design-Bid-Build
- Need for faster delivery of projects
- Compliance with project budget
- Selecting the most qualified team, not low bidder
- Increased quality and value
- Desire to work in a team atmosphere
- Frustration with errors & omissions, change orders, claims, warranty issues, etc.
**What is CMAR?**
(Also known as CM/GC)

**“Defining” Characteristics:**

- Simultaneous Selection with Design Consultants
- Selection Based upon Qualifications
- Separate Contracts for Design & Construction
- CMAR Holds Trade Contracts/ Performance Risk

**“Typical” Characteristics:**

- Collaborative Team Effort
- Preconstruction Services
- Fast-Track & Overlap Design & Construction
Construction Manager at Risk (Lump Sum or GMP)

- Architect/Engineer (Qualifications Based Selection)
  - Design services with active CMAR participation
  - Some construction administration/participation

- CMAR (Qualifications Based Selection)
  - Preconstruction and construction phase services
  - Management of bid process and trade subcontractors
  - “Open book” culture & requirement
Design-Build

(Lump Sum or GMP)

- Design and construction
- Management of design services
- Management of bid process and trade subcontracts
- “Open book” or lump sum

Design Builder (Qualifications Based Selection or Best Value)
Typical CMAR

Design

Construction

Design Team

Occupancy

CMAR

Design – Bid – Build

Design

Bid

Construction

Occupancy
Selection Committee Composition - AZ Statute

Selection team:

- Minimum of 3 not more than 7
- One licensed contractor, Sr Management
- One registered architect or engineer

Diversity required for transparency
Qualifications Based Selection (QBS)

- Demonstrated competence

- Qualifications
  - Experience
  - Personnel
  - Performance
  - Project Issues and Solutions
  - Management, budget, schedule, safety

Qualifications criteria and associated weighting are defined by the Owner
Owner Responsibilities

- Pre-work with selection committee
- Pre-work with project stakeholders
- Develop scoring and weighting criteria based upon project needs
- **Cannot request or consider fees, price, man-hours** or any other cost information in the selection or order of preference
- Indicate relative weight of criteria in RFQ
Owner Responsibilities

- Evaluate Statements of Qualifications in accordance with criteria and weighting approved by Owner
- Enter negotiations with highest qualified firm
- Construction shall not commence without a fixed price or GMP agreement on construction
- Scoring must be made available to the competing teams upon request after execution of the contract (transparency)
Qualifications Based Selection

“When multiple prices are on the table, the owner is not in control; the price is.”

ACEC
Qualifications Based Selection

"QBS means that the owner gets a qualified, competent team known to have the qualifications for a specific project and the taxpayer receives a quality Project."

City of Phoenix
CMAR Glendale perspective

By

Kenneth A Reedy, P.E.
Why Use CMAR?

- Develops partnerships
- Creates a working relationship
- Allows Contractor and Design firm to understand the options better
- Keeps the focus on cost, quality and problem solving
- Avoids conflicting agendas
- Prevents change orders
- Reduces potential for errors and omissions
- Reduces the timeline for the project while improving the information for decision making
Glendale Projects $200mil

- Coyote Hockey Arena
- Fleet Maintenance Facility
- Transportation street improvements
- Waterlines
- Water Treatment Plant
- Recreation Facility
- Major League Baseball Spring Training Facility
- Parking lots for Superbowl
- Parking Garage
- Downtown streetscape
- Citywide bus bays
VALLEY METRO RAIL, INC.
PERSPECTIVE

Michael J. Ladino, Esq.
Metro’s Lessons Learned

- Pure QBS for preconstruction phase not always understood by Federal funding agencies

- No fundamental differences when applied to either horizontal and vertical construction
# Sample Selection Criteria

## Evaluation Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) General Information</td>
<td>50</td>
</tr>
<tr>
<td>2) Experience and Qualifications of the CMAR and Systems</td>
<td>500</td>
</tr>
<tr>
<td>3) Contractor Understanding of the project and approach to performing the required services</td>
<td>350</td>
</tr>
<tr>
<td>4) Overall evaluation of the firm/team and its ability to provide the required services</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total Points** 1,000
Owner Advantages of APDM

- Simultaneous team selection – Engineer and Contractor
- Open book – eliminates hidden agendas
- Greater savings opportunities
- Better planning
- Designing to contractor’s strengths
- Improves quality and value
- Shorter project schedules
Owner Advantages of APDM

- Continuity through preconstruction and construction phases
- Ability to “design to cost model”
- Attracts higher quality constructors
- Prequalification of subcontractors
- Bid process managed by constructor
- Industry is geared to relationships
Construction Manager At Risk

Opportunity or Threat?

- Creates “win-win-win” environment
- Not suitable for every owner, designer, builder or legal department
  - Requires different culture and people
  - Requires different procurement methods
  - Requires different processes
  - Requires different contracts
- Focus on quality and value – not low bid
  - Construction is not a commodity
Construction Manager At Risk

Opportunity or Threat?

Enlightenment through Preconstruction Services

• Team structure – strategy for success
• Develop “Cost Model - Then Design”
• Ability to introduce technology; ie., BIM
• VE solutions/Life cycle cost studies
• Phasing/sequencing plans
• Timing of the price (Lump Sum or GMP)
• Establishment of contingencies/allowances
Team Cost Management (Design)

- Validate Owner’s Budget through Cost Model
- Proactive Budget Management during Design
- Create Allowances for Unidentified Items
  - “Fill in the Holes”
- Create Escalation Account
- Development Contingency Accounts
  - Design
  - CMAR
  - Owner
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Integrated Project Delivery calls for significant collaboration early on in the project between the three major stakeholders — owner, designer and builder — where most value is created through the planning of efficiencies. 20. **FOUR Integrated Project Delivery (IPD)**

IPD eliminates volumes of waste and promotes productivity by allowing for data sharing directly between the design and construction teams. 25. **SIX Construction Management-at-Risk (CM-at-Risk)**

The builder provides cost-estimating that matches the design and construction to the project budget. 26. **CONCLUSION**: Traditionally, builders bid on jobs based on designs already set in stone, and public owners selected the lowest responsive bidder, not the most qualified builder. The Lean Project Delivery System (LPDS) was first introduced by Glenn Ballard in 2000. LPDS is a philosophy, but also a delivery system in which the project team help customers to decide what they want, not only realize decisions and perform activities. Ballard described LPDS also as “project-based production system” because it is a temporary production system. In contrast to traditional project delivery systems, LPDS questions what needs to be done and who is responsible for the task at the very beginning of the project. Therefore, the following points are key characteristics of LPDS:  

1. **Project Horizontal Construction**: DCAMM currently has separate AutoCAD layering standards for site/civil drawings. These layers are listed within the drawing named “DCAMM-SITE-CIVIL-LAYERS.dwg”.  
2. **Construction Operations**: Building Information Exchange (COBie) is an information exchange specification for the life-cycle capture and delivery of information needed by facility managers. COBie data can be viewed in design, construction, and maintenance software as well as in simple spreadsheets. COBie is sometimes referred to as “the COBie spreadsheet.”