

# Lecture 2 Blurred Lines

Kevin Lampron, Jr.  
Area Manager, J.F. White Contracting Co.  
Joseph Gill, P.E.  
President, Gill Engineering Associates, Inc.



BSCES SEI BOSTON – 2017 LECTURE SERIES  
Construction Aspects of Structural Engineering – “If You Design It, Can They Build It?”



## Lecture 2 - Blurred Lines

### Presenter's Background

- Kevin Lampron, Jr. - J.F. White Contracting Co.
- Joseph Gill, P.E. - President, Gill Engineering Associates, Inc.



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### DESIGN – BID – BUILD

#### Engineer's Approach

- When Owner is the client ...
  - Safe, efficient design, and on budget, (both design and const.)
  - Buildable
  - No claims, or extra work, or disputes
  - Review shop drawings and other construction submissions
  - Advice on Request for Information and Non-Conformance Reports



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### DESIGN – BID – BUILD

#### Contractor's Approach

- Self perform versus subcontract
- Staffing for the bid
- Approximate investment in preparing a bid
- Win Low Bid – but still make money
  - Evaluate means and methods – cost effective solutions
  - Evaluate schedule – time can be money
  - Evaluate possible contract/design alternatives which will save \$
    - Sequence of the work, combining stages, etc.



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### DESIGN – BID – BUILD

#### Contractor's Approach - continued

- Hire outside Engineer for submissions which require a PE stamp
  - Often supplied by a subcontractor – i.e. demolition or erection
- Value Engineering
- Hire outside Engineer for assistance with problems during construction



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### DESIGN – BUILD (Horizontal Construction)

#### Engineer's Approach

- Some firms do not even participate – risk adverse or manage risk
  - Other firms “all in” – Engineering firms even acquiring construction companies
- Contractor typically the lead – Engineer subcontracts
  - But sometimes the consultant and contractor form a Joint Venture and the engineer participates in profit and loss
- Teaming Agreement – terms under which pre-bid work is conducted
  - No compensation; partial compensation; full compensation



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### DESIGN – BUILD

#### Engineer's Approach - continued

- Compensation can change (increase) if team wins the project
- Look for a “winning” contractor – but typically contractor/engineer team stays together for a while – reduce “overhead”
- Look for the right project – every firm has strengths and weakness same with contractor – every DB job is not the same
- Try to establish/negotiate deliverables
  - Higher level of engineering effort = better design certainty = less risk = lower bid price ... but at a higher initial cost



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### DESIGN – BUILD

#### Engineer's Approach - continued

- Are quantities part of the deliverable – maybe risky for designer if guaranteed
- Added benefit if designer brings an understanding of the owner's expectations, but must be qualified to perform the work
- Owner's Representative is a factor
- Designer needs to be willing to “bend” to contractor's preferred means and methods
- Explanation of ideas and concepts- 3d modeling?



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### DESIGN – BUILD

#### Contractor's Approach

- Construction Team – Go it alone or Joint Venture – Managing Partner? Percentages
- Consultant Selection – Solicit, they come to you, interview
- Input to Design Team Subs – right of refusal or not
- Design Team Resources – sufficient to meet proposal schedule
- Teaming Agreement – Contractor pays
- Stipend from owner
- Managing Pre-bid design effort



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### DESIGN – BUILD

#### Contractor's Approach - continued

- Deliverable expectations
- “Fill in the blanks”
- Points versus Dollars in “Best Value Selection”
- Understand Owners Expectations
- Means and Methods
- Schedule
- Quality Management Plan – Design and Construction



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# 3P



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### ETHICS

- Design-Build – Contractor’s Engineer
  - Review and Approval of some Construction Procedures
    - Demolition
    - Erection
    - Recommendations on Construction Non-Conformance Reports
- Different Roles Different Days
  - What happens when your design build partner has an issue (claim) on a design-bid-build project?
  - How does the owner perceive this?



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# QUESTIONS



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