

Preconstruction Talent Development

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Director, Preconstruction



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Relevance

Talent development was always relevant in estimating. What's different now?

Everything

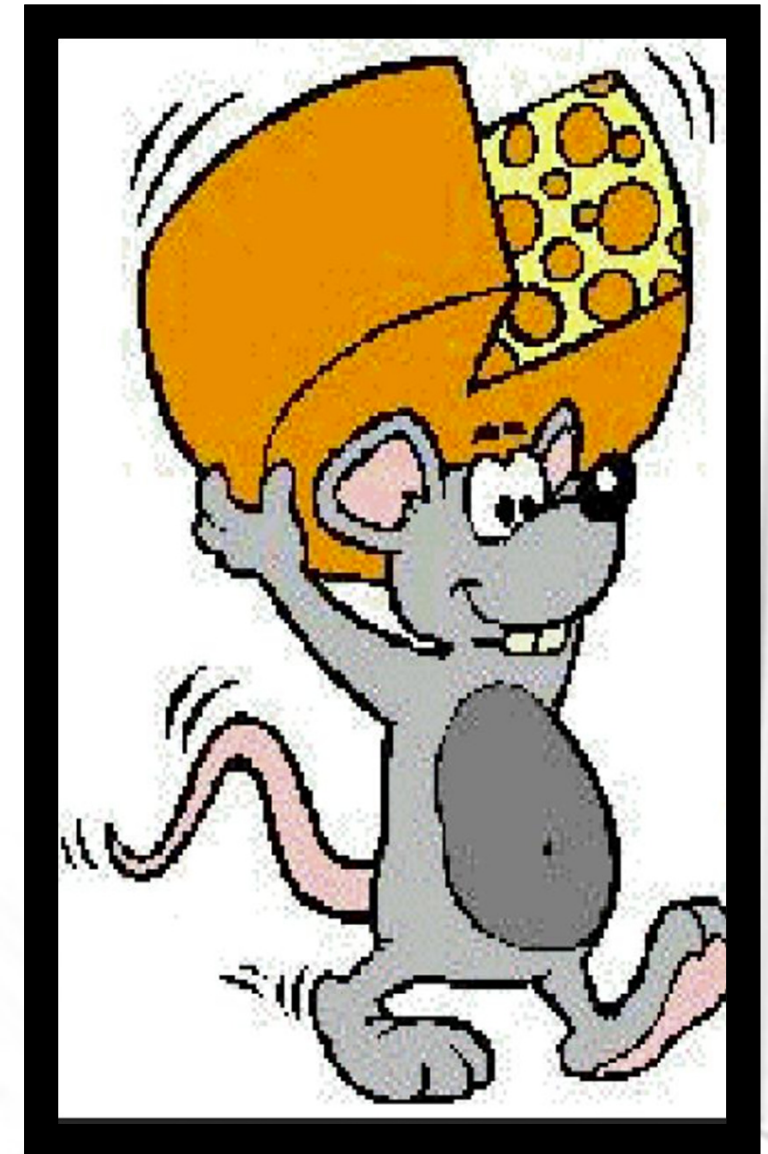
Scope, scale, complexity of Service

Quality of Inputs

Timing of Engagement

Experience of Incoming Staff

Project Delivery



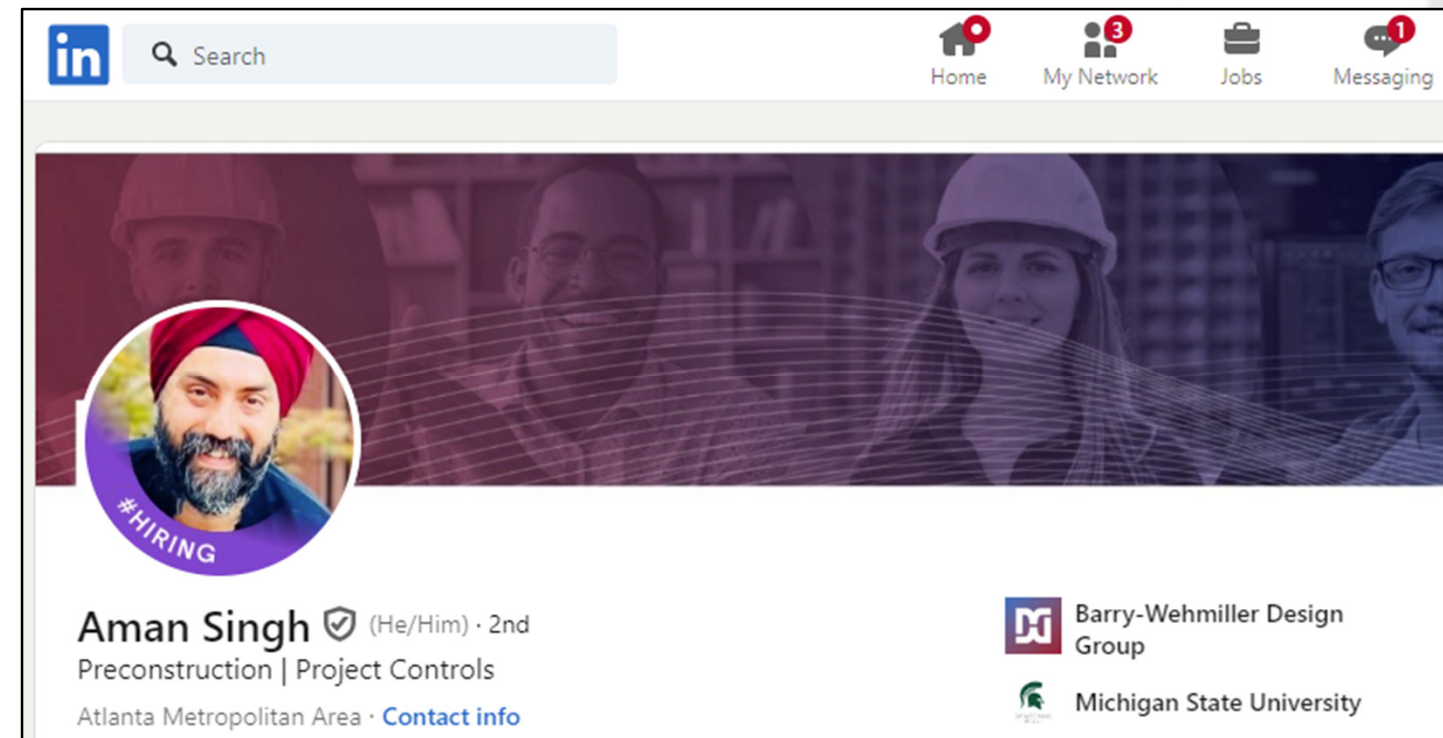
Preconstruction Talent Development

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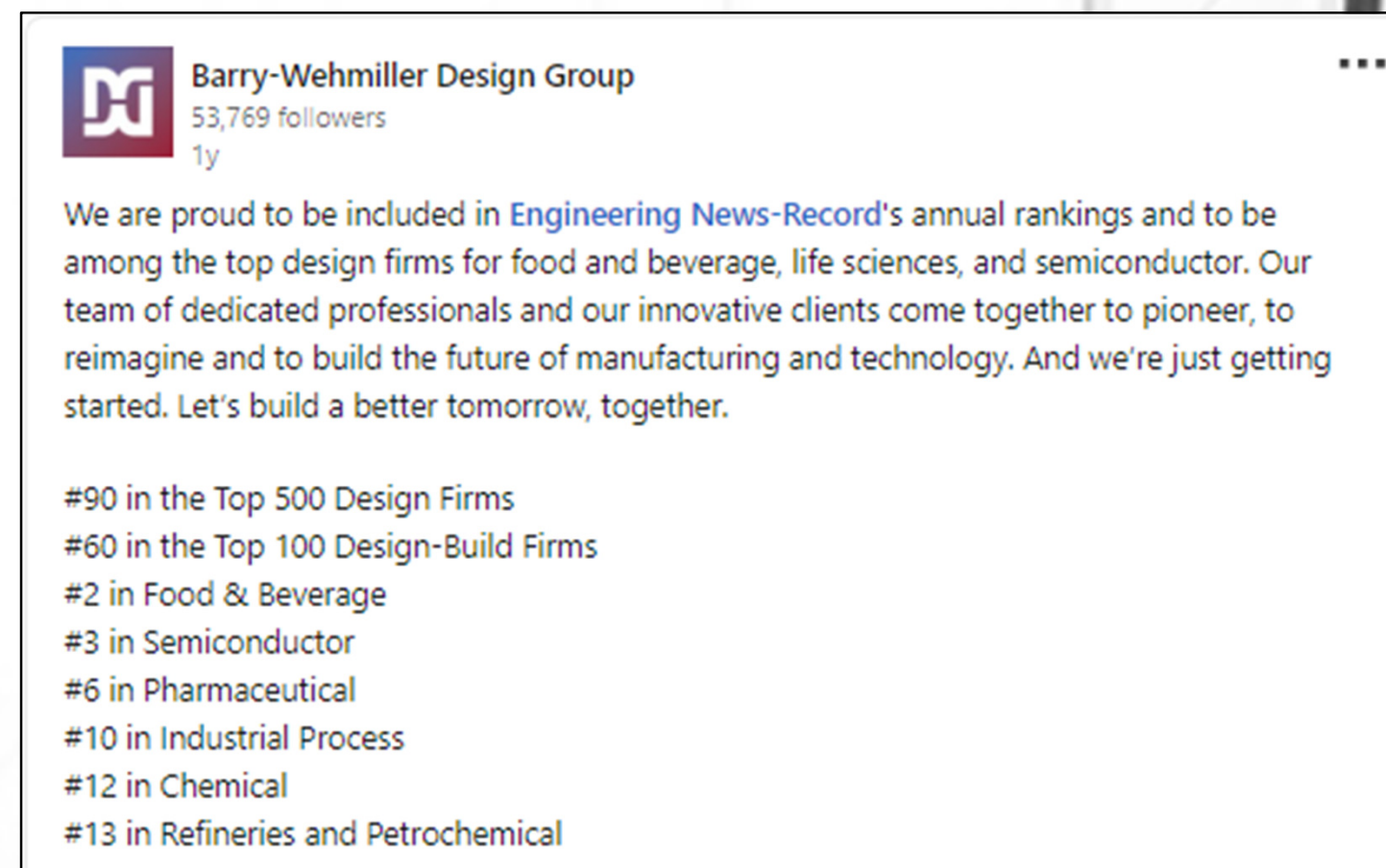
- Director, Preconstruction: Design Group
- 20 Years in the AEC Industry
 - Architect
 - Instructor
 - ENR 200 General Contractor
 - Project Controls, Preconstruction



- ENR 100 Design Firm
- Top 10 in our markets- Industrial Manufacturing



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Agenda



Preconstruction Today



Estimating Vs. Preconstruction

: Skills Needed



Transferable / Coachable Skills



Gap Analysis / How to Adapt



Closing Remarks

Preconstruction Today



Preconstruction Then and Now??



Preconstruction Today

- “Pre-construction is the **first phase of the overall planning, coordination, and control** of a construction job.” *(Gerardi2021)*
- “Preconstruction considerations: **Estimation, Safety, Logistics and Scheduling**.”; “The **preliminary risk analysis** (PRA) during the preconstruction phase is **critical to project success** and profit. *(Schlesier2019)*
- “The relative **involvement** of preconstruction services required is **dependent on the delivery method**” *(Hotter 2019)*
- “Preconstruction **should involve preconstruction managers, estimating, project managers, superintendents** and specialty managers as required by the project. Each of these roles add significant value when they are involved early.
 - Preconstruction managers –Lead the process, leverage their expertise from a wholistic project perspective and ensure every team member stays on task to deliver on the client’s vision
 - Estimating –Provides the real-time estimate detail, cost analysis and cost control for the project
 - Project managers and superintendents –Weigh in on schedule and constructability concerns for the project
 - Specialty managers –Managers with specified roles for quality assurance, engineering systems and 3D modeling add an extra layer of support and expertise for the project team to consider life-cycle costs, long-term durability and early coordination” *(Stanton 2019)*

Preconstruction Today

- Expectations of a preconstruction estimator extends to “**filling in the blanks**, defining the scopes of work, **assessing alternative materials, systems or methods**, and **managing the intent** of the design team and desires of the owner” *(Kuhn 2007)*
- Preconstruction Phase **Schedule Management is one of the key roles** of the preconstruction manager. *(Kuhn 2007)*
- **Preconstruction services may include:** Initial Meeting & Regular Follow-ups, An Overall Evaluation of the Project, Creating an Initial Schematic Design, Initial Budget Estimates, Selecting Materials & Equipment, Value Engineering, Site Analysis, Getting the Proper Approvals, Thorough Review of Design Documents, Set a Preliminary Schedule, Establishing a Final Budget, Procurement Management, Bid Packaging, Safety Considerations. *(Gerardi2021)*

Preconstruction Services May Include...

“Design Related:

- Validate Agency / Consultant Design
- Assist / Input to Agency / Consultant Design
- Design Reviews
- Design Charrettes
- Constructability Reviews
- Operability Reviews
- Regulatory Reviews
- Market Surveys for Design Decisions
- Verify Take-Off Quantities
- Assistance Shaping Scope of Work
- Feasibility Studies
- Encourage Innovation

Cost Related:

- Validate Agency / Consultant Estimates
- Prepare Project Estimates
- Cost Engineering Review
- Early Award of Critical Bid Packages
- Life Cycle Cost Analysis
- Value Analysis / Engineering
- Material Cost Forecasting
- Cost Risk Analysis
- Cash Flow Projections / Cost Control
- Shape the Project Scope to Meet the Budget

Schedule Related:

- Validate Agency / Consultant Schedules
- Prepare Project Schedules
- Develop Sequence of Design Work
- Construction Phasing
- Schedule Risk Analysis / Control

Administrative Related:

- Coordinate Contract Documents
- Coordinate with 3rd Party Stakeholders
- Public Information / Public Relations
- Attend Public Meetings
- Bid-Ability Reviews
- Subcontractor Bid Packaging
- Prequalifying Subcontractors
- Assist in Right-Of Way Acquisition
- Assist in Permitting Actions
- Study Labor Availability / Conditions
- Prepare Sustainability Certification Application
- Follow Environmental Commitments
- Follow Terms of Federal Grant
- Coordinate Site Visits for Subcontractors
- Teamwork/ Partnering Meetings / Sessions”

*(Hotter 2019, as adapted from
Gransberg and Shane 2010)*

Preconstruction Manager

- “Although **many preconstruction managers possess an estimating background, more and more are field operations** staff seeking a career change from onsite project management roles.” *(Kuhn 2007)*
- “Beyond Design-Bid-Build, estimating becomes a process rather than a singular bid day event to be managed. This **extended and enhanced role demands that preconstruction professionals wear many hats beyond that of just "estimator".**” *(Kuhn 2007)*
- “Unlike Design-Bid-Build estimators, **preconstruction managers at early stages of design rely on historical data and experience to quickly develop required alternate approaches** and solutions from similar projects.” *(Kuhn 2007)*

Preconstruction Manager



We will focus on someone who can support the client's overall needs for **planning, coordination, and control** prior to start of construction

Estimating Vs. Preconstruction: Skills Needed



Estimator Should

- Count
- Measure
- Read Drawings
- Understand Specs
- Recognize Complexity
- Understand Means & Methods, Schedule
- Evaluate/Assign Costs
- Somewhat understand contracts
- Maintain Relationships
- Keep up with Market trends
- Have an Affinity with Numbers
- Be Meticulous, Detailed, Specific

Preconstruction Manager Should

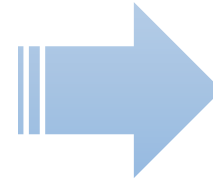
- Understand Numbers/Challenge
- Fill in the Blanks
- Challenge the Plan/Schedule, Means
- Drive Strategy/competition review/ assess risk
- Guide/Promote Partnerships
- Stay Ahead of Market Trends
- Be observant, responsive, able to evaluate risk at a high level
- Develop people/ Mentor Team
- Have a broader understanding of work Generalist approach

Transferable / Coachable Skills



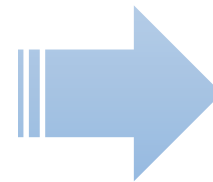
- **Quantity Surveying**

- Count
- Measure
- Read Drawings
- Understand Specs



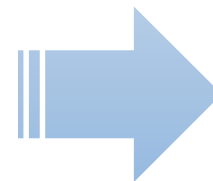
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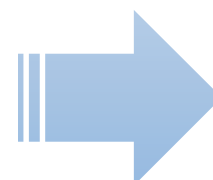
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- **Other Behaviors/Interests**

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- Keep up with Market trends



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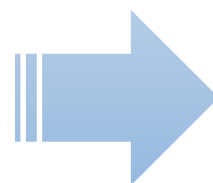
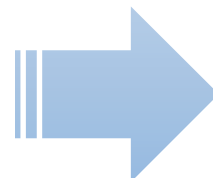
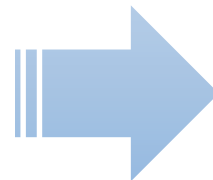
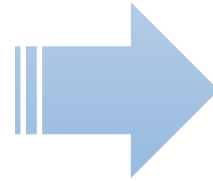
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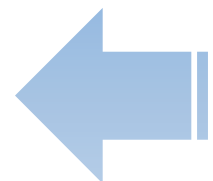
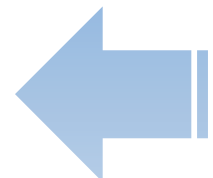
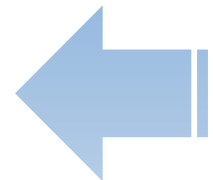
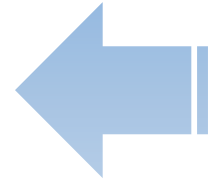
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Gap Analysis / How to Adapt



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- Knowledge/Experience
- Past Data/Information/Instinct
- Big Picture View
- Field Experience/ Knowledge
- Industry Trends Awareness
- Business acumen/ Interest
- Value Alignment- Risk
- Client Communication Skills
- Coach/Mentor/Leader
- Breadth of knowledge
- Team approach/ Long-term view
- •Aware/Inquisitive



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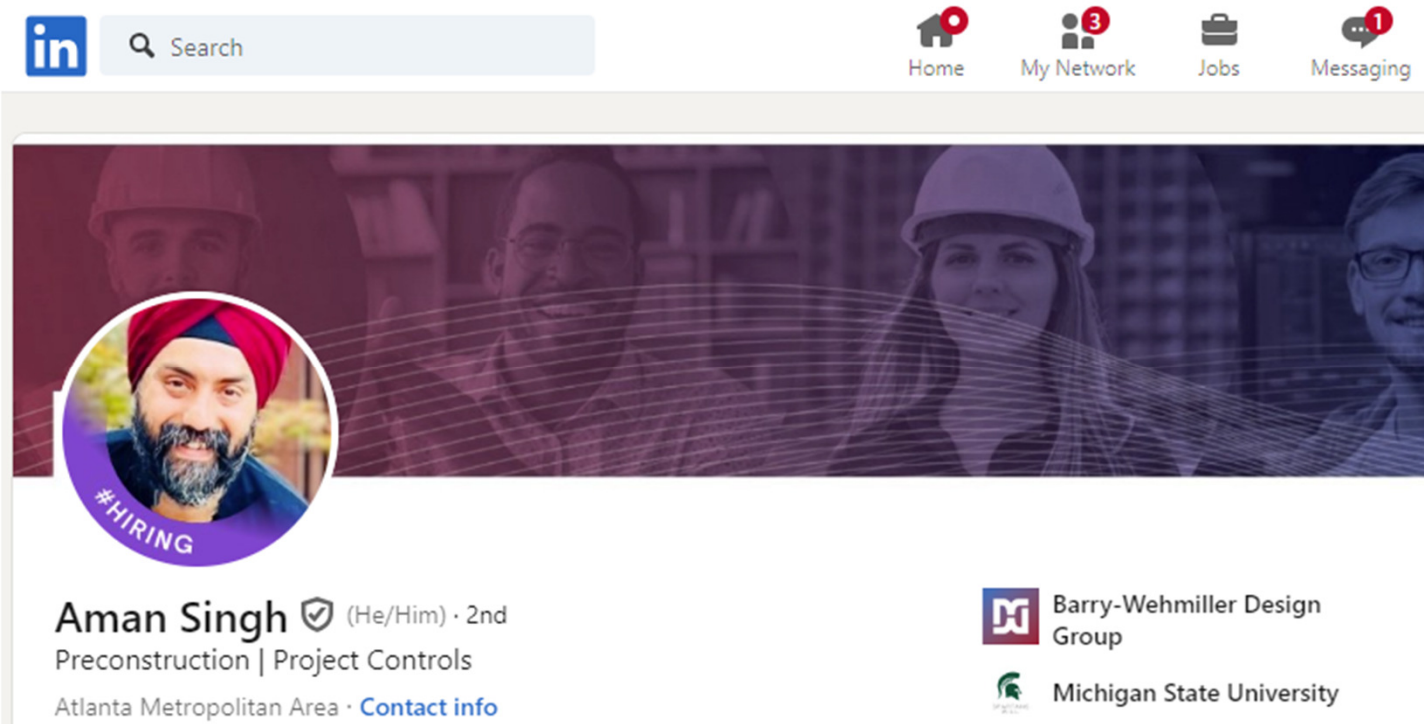
Conclusion: Promote or Hire ??

No One Size Fits All Solution

Time for Introspection...

Do our people have (or can they be coached for) the required skills & Behaviors?





Thank you

- Kuhn, S. "Preconstruction Services: Add Value with More than Just Estimating," Construction Business Owner, February 2007
- Hotter, R. "Simply Preconstruction Estimating, or is it.," ASPE, Estimating Today, Ma/June 2019
- Puerto, Carla L. and others, "A Case for Incorporating Pre-Construction Cost Estimating in Construction Engineering and Management Programs.," ASEE, 123rd Annual Conference and Exposition, 2016
- Stanton, C. "Advanced Preconstruction Services make a Difference," McCownGordonConstruction, November 2019
- Schlesier, B. "Estimating the Cost of Risk at Preconstruction," Tradewinds, December 2019
- Gerardi, J. "What are Pre-Construction Services?," Proest.com, February 2021
- Gansauer, P. "What is Pre-construction and Why is it the Most Important Step in the Construction Process.," Holland Construction Services Blog, February 2019
- Gregory, M. "Preconstruction Defined: A Glossary of Common Terms.," Autodesk Digital Builder Blog, May 2020
- Gransberg., D.D. and Shane., J. S., Construction Manager-at-Risk Project Delivery for Highway Programs, NCHRP Synthesis 402, Transportation Research Board, National Research Council, Washington, DC., 2010