PRO
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PRO SUCCESS STORY: Ari on Fourth

Project Name: Ari on Fourth (Tucson, AZ)
Project Owner: Opus Development Company, L.L.C.
Architect: Opus AE Group, L.L.C.
Structural Engineer: Opus AE Group, L.L.C.
Prime Contractor: Opus Design Build, L.L.C.
Concrete Contractor: Ceco Concrete Construction, L.L.C.

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Comments from Richard Chazal, Director at Opus's Phoenix office

- As its website explains, Ari on Fourth is more than an apartment; it's a home. To build this home – a 13-story multi-family apartment complex with 323 units and nearly 5,000 square feet of retail space – Opus Development Company, L.L.C., Opus AE Group, L.L.C., Opus Design Build, L.L.C., and Ceco Concrete Construction, L.L.C. collaborated early and often.

After the $130-million project received city approval in 2018, the design team, contractors, and project owners got to work. According to Richard Chazal, Director at Opus's Phoenix office, early designs included complex constructability issues in the basement foundation design due to the subterranean parking layout and basement shape. Ceco was brought in early in the design process and worked directly with the design-build Contractor to help redesign the basement foundations, improving construction productivity and reducing the schedule and associated costs. Utilizing this collaborative spirit, the foundation redesign defined scope break point between subcontractors and removed unnecessary remobilizations. This not only reduced costs but also mitigated project inefficiencies.

Overall, the collaborative design improvements enhanced concrete constructability compared to the initial design, which benefited both the owner and contractor. The schedule was particularly important on this project due to the critical completion date associated with apartments expected to house students and was achieved. The opening took place in August 2024, before the school semester beginning.

Chazal said the design team grew from Ceco's valuable input and will apply this knowledge to future designs.

Comments from Project Stakeholders

The Importance of Early Involvement of a Concrete Subcontractor in the Design-Build Process

Engaging Ceco early in the design-build process brought significant value to complex concrete structures. This strategy mitigated risks, optimized the schedule, and ensured a smoother construction process. Below are several reasons why this involvement was critical:

1. **Incorporating a "Buy" Number Before GMP and Contract Execution:**
   Early engagement of the concrete contractor before the Guaranteed Maximum Price (GMP) and contract execution allows the project team to incorporate a firm estimate into the overall budget. The concrete scope represented the largest subcontract on the project (25% of the subcontracted work), making it essential to secure a contract agreement ahead of finalizing the overall construction contract. This proactive step reduced the risk of exposure and helped the owner manage financial uncertainties.

2. **Accounting for Contingencies:**
   Ceco brought valuable insights from their experience with similar projects. Their data indicated that reinforcing quantity needed to be $400,000 higher. With data the owner established a contingency for rebar and post-tension cable additions during shop drawing development before the construction contract was signed, reducing the likelihood of unexpected cost during the build and ensuring certainty of budget for the owners.

3. **Mitigating Material Cost Escalation:**
   Early involvement allowed the concrete contractor to lock in purchase orders ahead of shop drawings. This early action mitigated cost escalation which can happen during multiple pricing phases in volatile markets. By securing materials early at stable prices, we ensured the project stayed within budget.

4. **Benefiting the Construction Schedule:**
   By working with the concrete contractor early, the owner obtained a full construction plan, including pour sequences, which the owner integrated into the contract schedule. This advanced planning allowed the owner to lock in one of the longest durations on the project and begin identifying opportunities for acceleration, creating schedule float that could be utilized later.

5. **Establishing Concrete Finish Standards:**
   Collaboration between the design and ownership teams with Ceco provided an opportunity to establish a baseline for exposed concrete finishes. Early consensus on these aesthetic details avoided unnecessary cost where aesthetics were not important, potential disputes, rework during the construction phase.