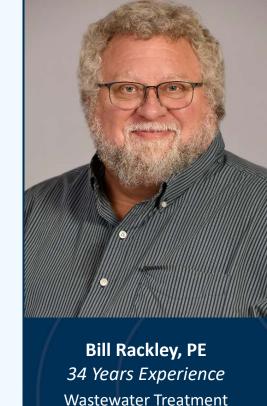


Pandemic: The Construction Variant

November 12, 2021





Plant Design and Construction

Agenda



Construction Contracting Issues



Producing a Successful Project



UNCERTAIN RISK



700 of general contractors

believe the labor shortage will be their biggest hurdle this year.

Source: Associated General Contractors of America

Construction Contracting Issues - Labor

- Labor Shortages: According to the Associated General Contractors of America (AGC), 81% of Construction Firms have trouble filling both salary and hourly positions.
- Unskilled or Untrained Labor: There has been a skilled labor shortage in Texas for at least a decade and in some disciplines much longer. The Pandemic just made it worse. The available labor is new to the construction industry.
- **Safety:** Labor shortages produce inexperienced workers; 34.9% of new workers are injured their first year on the job. More injuries, higher insurance premiums.



AGC 2020 Construction Outlook Survey

If your Construction Firm is experiencing STAFFING challenges, how would you describe the impact on your project?

•	Costs have been higher than we anticipated	44%
•	We have put higher prices into our bids	41%
•	Projects have taken longer than we anticipated	40%
•	We have put longer completion times into our bids or contracts	23%
•	No Impact	17 %
•	Completion times and costs have been lower than anticipated	2%



AGC 2020 Construction Outlook Survey

What are your biggest concerns for 2020?

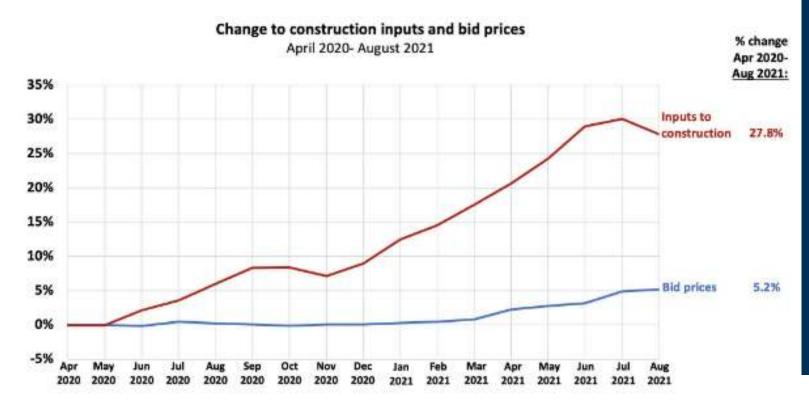
•	Worker Quality	
•	Worker Shortages	72 %
•	Rising Labor Costs	57%
•	Subcontractor Availability or Quality	44%
•	Safety	39%
•	Increased Competition for Projects	35%
•	Inadequate Construction Training (unskilled labor)	33%
•	Material Costs	31%



Construction Contracting Issues - Materials

- Material Shortages: Everything from the supply of raw materials to make the products to the manufacturing of the products has reduced in volume and with uncertain production times.
- Unreliable Supply Chain: Includes both late or uncertain delivery times and pricing. Material and Equipment pricing is no longer being guaranteed putting the Contractor at risk during the bid process. Delivery times have at least doubled from a typical 12 weeks to 24 weeks. Overseas equipment can be several weeks longer.

AGC 2021 Construction Inflation Alert

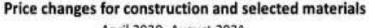


Source: Bureau of Labor Statistics, producer price indexes (PPIs) for new nonresidential building construction (bid prices) and inputs to construction, not seasonally adjusted

Materials bought for a project in August of 2021 that was bid in May 2020 would cost 27.8% more than at the time of bid.

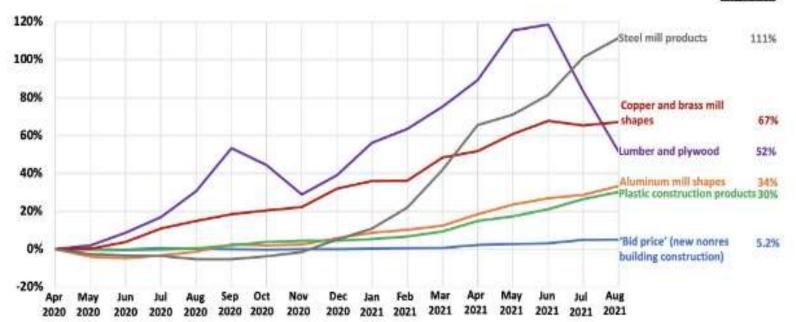


AGC 2021 Construction Inflation Alert



April 2020- August 2021

% change Apr 2020-Aug 2021:



Source: Bureau of Labor Statistics, producer price indexes (PPIs) for new nonresidential building construction (bid prices), gypsum products, wood, metal products, and plastic products, not seasonally adjusted

Diesel Fuel
Producer Price
Index has
increased 80%
between March
2020 to March
2021. Bid
prices only
increased 5.2%



What Happened?

Everyothequase and falso attalfact bip is he page Other factories ratatived intalsing. the matter diag to? shortages for construction equipment, smart tools and communication devices.

Production has increased but containers, ships, port space, and trucking have all bottlenecked slowing deliveries.



It Has Happened Before

In 2004 the Producer Price Index (PPI) jumped from 3.6% annually in January to 10% annually in October and did not return to 3.2% until October 2006. A similar situation occurred between August 2007 and September 2008 as well as December 2009 to early 2012. More recently material costs increased significantly between November 2017 through November 2018.



WHAT CAN I DO TO GET RELIABLE CONTRACTORS TO BID MY PROJECTS?



Producing a Successful Project

- Establish Relationship with Contractors or Contractor Associations. Government agencies have an obligation to the public to obtain fair, equitable and best pricing on projects. Learning the current condition of the labor and material markets so bid documents are written to obtain the best, most reliable pricing and schedule is a benefit to the public.
- Start with Realistic Expectations: There has been a skilled labor shortage in Texas for at least a decade. The Pandemic just made it worse. The available labor is new to the construction industry.

What can
Agencies or
Owners do to
produce a
project that
Contractors
want to bid and
construct?



Producing a Successful Project

 Price-Adjustment Clauses: Consider price-adjustment clauses to guard against swings in fuel, materials and equipment prices. If prices go up the project can still succeed. If prices go down, it will benefit the project even more.

Contract Language Sources:

- ConsensusDocs
- Engineering Joint Contract Documents
 Committee
- Other Agencies

What can
Agencies or
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produce a
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construct ?



Producing a Successful Project

- Owner Purchase of Equipment: Owner equipment preselection and purchase will accelerate equipment deliver.
- Flexible Schedules: Allowing much longer construction schedules provides the contractor flexibility to mobilize after materials can be delivered. Extended schedules also helps the contractor manage the labor force.

What can
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Easy Questions?

