2024

CONSTRUCTION RISK MANAGEMENT

Journal

CLRM

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Editor's Note

For more than a decade, the Construction Lender Risk Management Roundtable has provided a forum for construction investors, lenders, and other stakeholders to share ideas and solutions to help mitigate the unique risks associated with construction projects by promoting relationships among members and helping them stay informed about industry trends.

As we continue to build the community, I've been thinking about the ways that collaborative communities like CLRM have affected my career. In the early days, my professional community was limited to people with similar roles within my company. As my role expanded, my community grew to include other departments and management within the company. We worked together very well, but looking back, I can see that our collaborations were a sort of groupthink, which made us resistant to other, possibly more effective, approaches to the business. As my work community grew to include more and more groups within the company, I saw that the needs and risk appetite of different stakeholders could lead to significantly different approaches to managing risks, but the full extent of diversity across the industry only became apparent when I began to work with industry groups like CLRM that bring leaders together from different companies and even different portions of the industry.

CLRM is the only organization dedicated to bringing construction lenders, investors, and developers together to allow members to encourage collaboration and thought leadership. Together, I think we can reach better decisions. Even when our risk appetite and approach differ, successful outcomes become more likely when we have a better understanding of different points of view.

This year's journal covers a wide array of topics, including a general economic update, discussions on evaluating and underwriting the risks associated with construction projects, workout of troubled projects, foreclosure, receivership procedures, and stored materials. It also delves into C-PACE financing, the adoption of technology in construction practices, strategies for navigating construction contingency, the impact of electrical delays on multifamily construction, understanding mechanic's liens and their priority over deeds of trust in California, vital traits of a construction risk consultants for LIHTC syndicators, and understanding and management of damage from natural disasters/resilience.

In addition to this journal, CLRM sponsors topical calls during the year as well as regional meetings and an annual conference. Over the next year, we'll continue to work to keep our community up to date on industry trends and welcome your feedback regarding critical topics. If you are not already a member of our community, you can email us at CLRMinfo@partneresi.com to request to be included in future notifications about upcoming events.

Sincerely,

Bill Tryon

Table of Contents

1 Gain Perspective

2 2023 Sets the Stage for a Challenging 2024 in Construction Lending

4 Construction Loan Underwriting – A Regional Banking Perspective

7 Minimizing Lender Risk in Construction Projects for Small Business Owners

9 2024 Construction Industry Trends to Watch

11 C-PACE: A Flexible Construction Financing Solution for Commercial Real Estate Projects - Benefiting Lenders, Owners, and Developers

13 Navigating Construction Contingency in 2024

17 Safeguarding Success: Vital Traits of a Construction Risk Management Consultant for LIHTC Syndicators

20 When Early Works Give Mechanics Liens Priority in California

22 Electrical Delays Causing a Disconnect for Multifamily Projects

24 You’ve Made the Decision to Foreclose. What’s Next?

28 Receivership 101: Real Estate / The Basics

31 Projects in Trouble: The Value of Cost-to-Complete Reports

34 A Guide to Demystify Construction Liens

37 Managing Stored Materials and Risk in Construction Contracts: Evolving Standards in a Changing Market

42 Don’t Get Lapped! The Slow Adoption of Technology in the Construction Industry

44 Assessing Climate-Related Risks and Adopting Property Resilience Measures

47 About CLRM and Getting Involved

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Gain Perspective

Risk management and leadership is about constantly expanding one's perspective to address evolving challenges. And no doubt, the construction finance business is ever evolving! In 2024, while we await interest rate cuts to loosen up the market, we are faced with continuously rising construction costs, ongoing labor shortages, and rising insurance costs, among other challenges. As a leader navigating a dynamic construction market, there's no better place to turn for perspective than your peers. That is what CLRM is all about.

CLRM was created around the idea that construction risk management professionals are better off when they share ideas and learn from each other. The CLRM network, now a thriving community over 1,000 members strong, affords a broad range of perspectives on construction finance challenges old and new, such as:

- Delivering project success in a tight market
- Upholding risk management best practices when times are good or bad
- Course correcting and preserving value when projects go sideways
- Building and training strong teams
- Influencing within your organization
- And so much more.

The CLRM dialogue is continuous with monthly calls on timely topics, regional networking events around the country, and a national event each spring.

If you are a construction risk management professional in need of a sounding board, join CLRM! Come and meet other like-minded professionals – *bring* your perspective, *broaden* your perspective, and meet the challenges of today's dynamic market. ▪

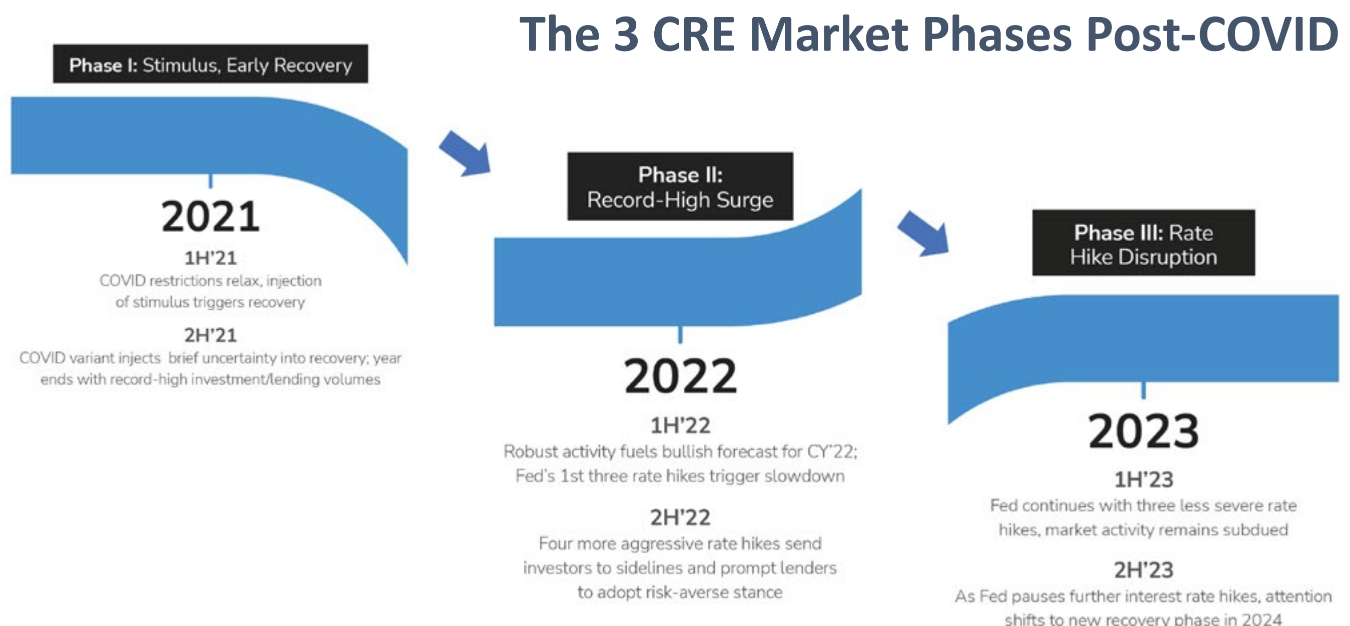
2023 Sets the Stage for a Challenging 2024 in Construction Lending

Dianne Crocker
Principal Analyst | LightBox

Commercial real estate lending was lackluster in 2023 as the Fed adopted a 'higher for longer' stance on interest rates, and construction lending proved even more challenging. The good news for an industry sector that is sensitive to interest rates came in December with the Federal Reserve's long-awaited announcement that the interest rate hikes of the past two years were in the rearview mirror and cuts would likely begin in 2024. If that happens, the slowdown in lending that characterized much of late 2022 and 2023 could reverse. Cautious optimism is the current mindset as all eyes are on the Fed for news of the first rate cut. Until then, all types of commercial real estate lending are likely to remain subdued and selective in an uncertain market. This article reflects on the commercial real estate market post-COVID and explores what we can expect in the remainder of 2024, including where investors and developers are likely to focus their attention during the market's recovery.

A Look Back

The accompanying graphic highlights the three phases of the commercial real estate market post-COVID. After Phase 1 when restrictions relaxed, the market rebound quickly with an assist from federal props, triggering Phase 2, characterized by the record-high lending of late 2021 and 2022. By mid-2023, however, the start of an 11-interest rate hike cycle brought the Phase 3 slowdown as lenders and investors retreated to the sidelines. The market now stands poised for the first round of interest rate cuts, expected by midyear, after which investors and lenders are likely to cautiously move capital back onto the playing field by the second half of 2024.



Differences by Asset Class

When lending begins to move again, certain asset classes and geographies will be more appealing to investors and developers.

Industrial: Construction Down, Rents Poised to Rebound

After being the belle of the ball in commercial real estate, industrial still sits firmly at the top but with some notable recent trends. New construction starts were down by a dramatic 75% in Q3 2023 from the peak just one year prior. This slowdown could set the stage for a new round of rent acceleration in this sector. Metros attractive to developers include Miami, Long Island, and other port cities.

Multifamily: Falling Rents, Strong Demand Hubs

Like industrial, multifamily rents are falling in some areas and construction starts are down which could boost rent growth long term. The strong labor market and housing affordability issues continue to favor multifamily construction. Metros in the crosshairs of developers and investors tend to be those with positive population growth and healthy economic activity like Austin, Miami, Nashville, and other Sunbelt metros.

Retail: A Story of Resilience

Retail, a sector that took a hit during the pandemic, presented a surprise to the upside post-COVID. Strong consumer spending and limited new construction drove vacancies in many areas to multi-decade lows (with the exception of malls). Brick and mortar retail is no longer being cast as a casualty of e-commerce. Well-publicized bankruptcies of big box stores like Bed Bath & Beyond are being quickly filled by other chain retailers and creative reinvention concepts. Hot spots for retail development will likely be with open-air projects, grocery, and other necessity-based retail centers, especially in growth metros like Nashville, Charleston, and Memphis.

Office: The Have's and Have Not's

Hybrid work practices post-COVID have pushed office vacancies to historic highs and average lease sizes are shrinking. Office owners are struggling with maturing loans at higher rates, coupled with increasing operating costs and smaller tenant bases. The new office construction pipeline is shrinking, and by year-end 2023 stood at less than half of its 2020 peak. Not all is 'doom and gloom,' however. Class A office in desirable metros is still in high demand. Struggling properties will be ripe for reuse and redevelopment in the coming years. As distress rises, there will be strong buying opportunities, and new office construction, some of which is already pre-leased, is breaking ground in strong metros like Dallas, Houston, and Miami.

A Cloudy Forecast

As the market bids farewell to the weakest year for commercial real estate borrowing and lending in roughly a decade, there is hope that stems from a pivot to a lower interest rate environment. The timing of rate cuts, however, remains to be seen and there is no shortage of other challenges complicating the forecast. The continuous rise in construction costs and labor shortages will challenge new construction lending, particularly for speculative commercial projects. Rising insurance premiums in high-risk areas also need to be factored into construction decisions. JLL[1] estimates that material costs are set to increase by as much as 6% this year and wages by 5%. Market challenges are causing some ongoing projects to be delayed, put on hold, or even cancelled outright. While it's reasonable to expect interest rate cuts to begin by mid-year, the Fed will be circumspect with its policy and it will take time for the market to feel any notable relief so at least for the near-term, construction lenders will continue to be selective and cautious. Newmark[2] estimates that Q4 2023 construction lending was 46% below its 2017-2019 historical average, but that there remains an appetite by lenders to originate, particularly on projects in markets with defensible projections of healthy tenant demand and rent growth. The latest Architectural Billings Index[3] shows flat-to-down activity year on year, although early signs are emerging that contractor confidence is rebounding. As rates begin to slowly come down and market clarity emerges, best-case scenario is that there will be an increased appetite for construction lending, but developers can expect to face tighter lender underwriting, more due diligence, intense scrutiny on assumptions of future market conditions, and higher equity expectations. ▪

[1] https://www.us.jll.com/en/newsroom/us-and-canada-construction-industry-poised-for-growth

[2] https://www.nmrk.com/storage-nmrk/uploads/documents/4Q23-Newmark-State-of-the-U.S.-Capital-Markets_FINAL_EXTERNAL.pdf

[3] https://www.aia.org/resource-center/abi-january-2024-business-conditions-remain-soft-architecture-firms-start-year

Construction Loan Underwriting – A Regional Banking Perspective

Alex Jurgenson

Vice President, Commercial Underwriter | Western Alliance Bank

The path to an on-time and on-budget project depends heavily on the project team. An experienced general contractor (GC), architect, and key engineers will make (almost) any development team look good during the project; however, even the best development team cannot make up for an inexperienced GC, architect, and key engineers. Poor communication and inexperience in the project team can lead to significant project delays and cost overruns. Stalled projects and/or over-budget projects can lead to loan downgrades. Federally regulated regional banks suffer when they downgrade construction loans because it is very costly to carry on their balance sheet, and they can face tremendous credit risk. In this article, general references to "lenders" are meant from a regional federally regulated banking perspective.

Underwriting the Project Team

Below are some key items and questions that lenders consider when underwriting the project team:

- A list of similar projects completed or currently under construction by the developer, GC, and architect with additional details including asset type, owner, project manager, superintendent, contract amount, contract type (GMP, Fixed-Price, Cost-Plus), completion date, and percentage of self-performed work.
- Does both the GC and developer have the capacity to dedicate time and resources to the subject project if they have a significant number of projects under construction? This is very important for lenders to understand given the inherent optimism of developers who may tend to over-promise and under-deliver.
- Has the GC built other projects near the location of the subject project? This will inform the lender as to whether the GC has connections and experience with subcontractors in the market. If not the GC, then does the architect, civil engineer, or other key professional(s) have local experience on similar projects?
- Does the GC have ownership interest in the project? If so, the contract bid amount should be under more scrutiny and proven out with actual subcontractor bids. A higher buyout percentage should potentially be proven before closing on the construction loan; however, if the GC will be self-performing a lot of the work, lenders will want to mitigate this risk with strong guarantors committing to a completion guaranty and repayment guaranty.
- Can the GC provide audited financial statements for the past three fiscal years, and do the financial statements show the GC's ability to 1) maintain positive working capital, and 2) maintain cash balances to cover overbillings (work contracted, but not completed)? Have they been consistently profitable and do that have a strong net worth? Replacing a GC can be very painful during a project but is necessary in some circumstances. Evaluating the financial strength of the GC helps lenders get comfortable that the GC has enough financial strength to deliver the project and other contracted projects they have in progress.
- Resumes for the project manager and superintendent should be provided to evidence that the key individuals working for the GC were involved in some of the projects shown in the GC's work completed history that is similar to the subject project. GC's will sometimes even change the superintendent and project manager after the borrower/owner has signed the contract. It is important to keep an open line of communication between lender, owner, developer, and the GC to understand these changes, or better yet, contract provisions that allow the owner to have say in whether project manager or superintendent is changed.

- How much of the project is bought out or supported by third-party bids? The preference for buyout will vary depending on the complexity of the project, but lenders will want to see this to get comfortable with the contracted dollar amount given by the GC.
- Does the GC contract involve a Stipulated Sum or Guaranteed Maximum Price Contract? Both of these contract types mitigate risks to the owner and lender that the GC will share some of the risk or assume all of the risk of the project going over the contracted amount. Cost-Plus contracts, however, are non-starters for some lenders due to the potential for significant cost overruns that the GC transfers entirely onto the owner and lender.
- Does both the GC and key engineers carry professional liability insurance? Is the coverage level reasonable given the size of the project, and are the deductibles appropriate considering their financial strength? Will each of those parties also either (1) remove their limitation of liability often found in their contracts, or (2) agree in a separate agreement (provided by the lender) to not limit their liability below the insured amount on their professional liability insurance? Lastly, will the architect's contract retain other key engineers and is the architect's professional liability insurance enough to cover engineers retained under their contract? If not, can those other key engineers provide acceptable professional liability coverage? Professional liability insurance can be a pain point for some engineers, which can be a red flag for lenders indicating that the engineer is not willing to stand by their work.
- Lastly, a Construction Plan and Cost Review completed by a third-party construction risk consultant will provide a valuable expert perspective and review of some of these items and questions related to the project team.

Mitigating Credit Risk for a Construction Loan

Despite the importance of the project team, as discussed above, lenders must also consider the following to mitigate their credit risk during construction and navigate the possibility of a downgraded construction loan:

(1) The capital sources of the project, and
(2) What loan conditions are in place to mitigate credit risk.

The source(s) of capital are often the first metric lenders evaluate to mitigate credit risk because without it, not only would the project not be feasible, but the conditions discussed below become meaningless because you can't

structure around lack of sufficient capital sources. Below are four key loan conditions lenders must consider for mitigating their credit risk during construction:

1. Loan Funding Method and Timing

- The most conservative approach that lenders will take is to require all equity to be contributed up front before the lender will advance any of the construction loan proceeds. Some borrowers may try to credit all of their development fees and other project fees towards their equity contribution requirement. It is important then for lenders to understand the payment terms of the underlying development and construction management agreements. Additionally, lenders should include additional terms in their loan agreement to limit how these fees will be credited over time and establish an upper limit of development fees relative to total project costs. Developers and construction managers should earn their fees over the course of the project as they deliver the value they are supposed to provide. Generally, the more the borrower has at risk early in the project, the more they are willing to comply with construction loan requirements.
- A less conservative structure, commonly known as "pari-passu" funding, involves the lender agreeing to advance loan funds step by step, at a rate that is relative to the amount of equity being contributed. The downside of this funding method is simply that

there is more credit risk and execution risk for the lender (especially at higher advance rates); however, this can be partially mitigated by the next loan condition discussed below – recourse.

2. Recourse via Third-Party Guaranties

- ***Principal Guaranty:*** Ideally, lenders will want a full debt repayment guaranty (includes the full principal amount, interest, and other bank fees) during the construction loan from a third party that has the financial capacity and willingness to support the loan transaction under consideration.
- ***Completion Guaranty:*** This type of guaranty allows the lender to require the guarantor(s) to cover any project cost overruns and guarantee the completion of the project to the extent of clear and measurable project milestones.
- ***Replacement Guarantor Conditions and Covenants:*** The guaranty and/or loan agreement should stipulate (1) requirements for any potential replacement guarantor(s), and (2) minimum liquidity and/or net worth covenants that are monitored during construction to firm up the lender's comfort level in the project's capital sources.
- ***Guaranties and Enforcement:*** Types of guaranties and the enforcement of guaranties can vary state to state (especially one-action states), so it's important for a lender to understand the legal implications of the guaranty. There are many complications that can arise with guaranties, but they do provide lenders with a source of capital to inject additional equity into the project or help pay off the loan should it be needed.

3. Liability Mitigation

- This includes an environmental indemnity agreement and a waiver of subrogation for all professional liability insurance policies (or other protection of lender against insurance claims).
- To put it simply – lenders don't want to assume environmental liability and liability from construction defects during and after construction. Lenders may consider an environmental indemnity agreement tailored to the governing law, which should be executed by the guarantors of the construction loan. Additionally, a waiver of subrogation on professional liability insurance (or another form of protection against insurance claims) will protect lenders from liability for construction defects arising from the professional architect or engineers involved in the project.

4. Construction Contingency and Loan Balancing

- Last but not least, it is important for lenders to include terms in the loan agreement that explain how contingency is to be accounted for when the lender is measuring its loan-to-cost (LTC) percentage and what happens if a change order pushes the LTC percentage out of balance / beyond the acceptable threshold.

Lenders may consider these four conditions in conjunction with the strength of the capital sources of the project, as well as the loan amount, loan-to-cost (LTC), and loan-to-value (LTV) ratios. For example, if the transaction has a low LTC and LTV structure, strong source(s) of capital, and a strong project team, the lender may agree to a lower guaranty amount and/or a "pari-passu" funding structure. Thorough underwriting of the project team and sufficient credit risk mitigations, as discussed above, can help lenders navigate a path to a construction loan of sound credit quality. ▪

Minimizing Lender Risk in Construction Projects for Small Business Owners

Shelley Souza
SBA Construction Manager | Dogwood State Bank

As a small business owner, building out your own building rather than buying commercial property can be advantageous for your business. One of the main benefits is the ability to customize your space according to your business needs. This customization can help ensure the best operational outcome for your business!

However, construction projects can involve many moving pieces, leading to a certain level of risk. So, how do you minimize risk and still benefit from all that comes with building your own commercial property for your business?

Stay Organized

From the very beginning of your construction process, it is important to set a plan in place for your project with clearly defined priorities, target deadlines, and expectations.

Throughout the duration of the project, keeping detailed documentation and ensuring that all pay applications are set up with proper documentation will help foster transparency and accountability throughout the process.

Find Experienced Partners

Who you partner with matters! From the lending institution to your architect and general contractor, selecting the right partners is paramount to the success of your construction project. Having a clear understanding of each partner in the process and their capabilities is pivotal in risk mitigation.

When choosing a general contractor, a thorough vetting process is typical. You'll want to assess their understanding of the project scope, evaluate their relevant experience, and look into their track record for hitting timelines and staying within budget.

Once you know who you'll be partnering with and what their areas of expertise are, you can navigate the different aspects of a construction project much easier.

Implement a Comprehensive Quality Control Plan

Once you have secured reliable and experienced partners, the next step in minimizing risk during construction is to put a quality control plan in place. Regular site visits throughout the life of the project can help ensure proper execution of the plan.

To further mitigate risk, it is essential to maintain open communication with every member of the project including the owner, general contractor, team members, and third-party vendors. This proactive approach will help keep the project on track and illuminate any potential risks or necessary precautions that may arise.

Develop a Plan of Contingency

Throughout the duration of a construction process, there can often be unexpected costs, delays, and roadblocks that occur. For example, it is not unusual for changes to the original design or the scope of the project to occur, not to mention potential labor shortages, delays in materials, and more. To mitigate the risks of these unanticipated circumstances, it is crucial to have a contingency plan in place. From the beginning of the construction planning process, plans should be flexible and developed with these variables in mind.

Comply with Legal and Regulatory Requirements

Ensure all stakeholders are informed and in compliance with local, state, and federal regulations, including building codes, safety guidelines, and environmental regulations. Failure to comply with necessary regulations can lead to legal action, fines, and project delays. Because these regulations can differ depending on the area where the construction is taking place, it's important to take the time to understand the project's unique requirements in the initial planning stages. It may be necessary to obtain permits, licenses, and other approvals before beginning any construction activities.

Pre- and Post-Project Reviews

Both before and after construction, all areas of a project that can be tested and reviewed should be! The testing and review process can involve systematically evaluating a project's performance, goals, and objectives. At the close of a project, both successes and failures should be assessed to drive continued process improvement, and implement new strategies that can mitigate risk in future endeavors.

With a well-devised plan in place, you can feel confident that you have mitigated most of the risk involved. Should unforeseen issues come up during the project, weigh your new level of risk and proceed only if there is not going to be a possible loss to the business, the bank, or anyone else involved. If you need help assessing your scope of work at any point in the project, your partners are ready and able to help. ▪

2024 Construction Industry Trends to Watch

Kevin Hanh

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The post-pandemic years have ushered in a new challenge for the construction industry: an ever-evolving landscape of risks. It's critical that lenders and investors keep a watchful eye on trends. While some of the 2020-era difficulties are easing, continued changes in labor dynamics, prolonged supply chain challenges, and rising interest rates persist.

These challenges will require construction lenders and investors to strategically consider the insurance coverage options they — and the projects they're financing — should explore. Partnering with experienced insurance brokers and carriers is key to mitigating risks and lowering costs.

Top 3 Trends to Watch in the Construction Industry in 2024

1. Ongoing Labor Shortages for Skilled Workers

This year, the construction industry will continue to grapple with a persistent challenge — lack of skilled labor.

Here's a daunting fact: the median age of construction workers has risen, and nearly half of all skilled laborers are older than 45,[1] which means more than 40% of skilled laborers will retire in the next decade.[2,3] There are also a number of megaprojects across the United States,[4] spanning from airports to amusement parks, exacerbating the labor shortage problem. However, these large projects aren't just an issue for local contractors; they also absorb resources from superintendents, project managers, and safety personnel.

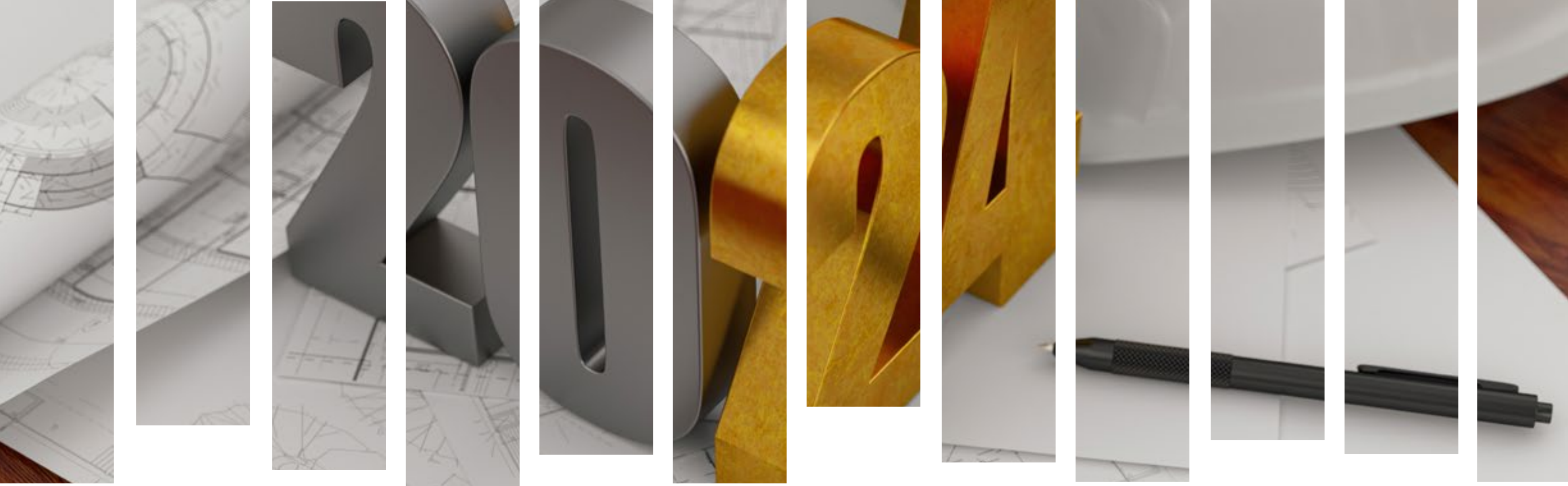
In short, there simply aren't enough capable hands to fill the open construction jobs. This shortage has a direct impact on job safety, project quality, timelines, and budgets.

The labor scarcity also has profound implications for insurance solutions. Consider workers' compensation, for example. According to the Occupational Safety and Health Administration (OSHA),[5] unskilled labor and unsafe job-site environments are primary reasons for workers' compensation claims. These factors increase on-the-job accidents and quality assurance.

A reduced and unskilled workforce also increases the risk of "social inflation,"[6] which refers to the rising cost of insurance claims from litigation expenses and payouts. Carriers are responding with increased prices or limitations on policy terms and conditions.

Solution: There isn't a quick fix to the actual labor shortage, but there are ways to mitigate some of the risks these shortages pose. One way is by leveraging wearable tools like panic buttons, gas and air quality sensors, and smart helmets. These devices allow companies to proactively address and minimize damages because they lessen response time, which creates an overall safer environment. While these strategies may not necessarily reduce premiums immediately, they do aid in reducing a project's overall risk profile, which makes negotiating policy terms and pricing much easier.

[1] https://www.constructiondive.com/news/construction-labor-hiring-trends-2024-outlook-workers/703940/
[2] https://www.insurancebusinessmag.com/us/ib-talk/the-top-3-trends-that-will-impact-the-construction-industry-in-2024-469545.aspx
[3] https://www.forbes.com/sites/forbestechcouncil/2022/08/18/replenishing-the-construction-labor-shortfall/?sh=101f2af547a4
[4] https://www.pcl.com/us/en/insights/us-construction-outlook-megaprojects-will-define-the-industry-in-2024
[5] https://www.osha.gov/sites/default/files/publications/OSHA3886.pdf
[6] https://content.naic.org/cipr-topics/social-inflation#



2. Supply Chain Management and Increased Material Costs

Rising costs and scarcity of materials aren't new challenges, but we can expect this trend to persist throughout 2024, thanks in part to the war between Ukraine and Russia and conflicts in the Middle East. Construction materials are available, but costs are significantly higher than they were just two years ago, and, because of inflation, there's no sign of prices easing soon.

The high price tag on materials adds up to higher overall project costs, which means projects are more expensive to complete and insure. Higher-priced materials are also riskier to insure because the impacts of physical damage, theft, and deterioration are more pronounced.

Solution: Again, technology is a friend in the risk management process. Construction companies who keep real-time track of materials within the supply chain through GPS trackers and RFID tags might see lower premiums over time. Another strategy is to implement stringent quality control measures, such as strengthening quality assurance protocols for suppliers and subcontractors, which can help make risks more attractive to underwriters. Bottom line: the insured must take even greater care to properly store and manage materials across all locations, including on-site areas, dropsites, and during transit. Now, more than ever, lenders and investors must strategically assess their liabilities in every situation and scenario.

3. Higher Interest Rates Impact Non-Publicly Funded Projects

The construction industry experienced notable challenges getting new projects off the ground last year. Higher interest rates increased borrowing costs, delaying many new construction job start dates. At the end of 2023, the industry reached a 10-month low in new project starts,[7] a trend that could continue through 2024. Higher interest rates not only drive up overall project costs but also dampen demand, leading to reduced profitability.

All this has a direct effect on insurance. Higher interest rates can lead to increased borrowing costs for non-publicly funded projects. They can also affect a project's overall viability, making them riskier for insurers. Higher rates, for example, can undermine the financial stability of a project, leading to things like subcontractor defaults and, subsequently, project-killing timeline delays. As a result, carriers are becoming more stringent with their underwriting criteria and raising premiums to compensate for the increased risk exposure.

Solution: While you can't control interest rates, there are ways to proactively plan for the downstream challenges high interest rates can create — like delayed timelines, for example. In this environment, project delays are almost inevitable, so it's crucial to seek out insurance carriers who are able and willing to offer reasonably priced policy extensions, so you can maintain coverage for a project. In addition, it's vital to keep open lines of communication with project owners throughout a project's lifetime. If there are timeline delays, the earlier you can start negotiating policy extensions with your insurance provider, the better chance you'll have at a favorable outcome.

In the face of these trends, construction lenders and investors will have to get creative and seek out tailor-made insurance solutions — but those creative solutions can't be forged alone. Aligning yourself with knowledgeable insurance brokers and risk management professionals who specialize in the construction space will be a key part of protecting your assets and remaining profitable in this unique, ever-shifting market environment. ▪

[7] https://www.construction.com/company-news/construction-starts-hit-10-month-low-declining-15-in-november/

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C-PACE: A Flexible Construction Financing Solution for Commercial Real Estate Projects - Benefiting Lenders, Owners, and Developers

Many in the commercial real estate industry have become aware of Commercial Property Assessed Clean Energy Financing, or "C-PACE," which serves as a cost-efficient financing mechanism for funding energy-efficient new construction developments, substantial rehabilitation projects, and for recapitalizing recently completed projects. The C-PACE program is enabled by a state statute that classifies clean energy upgrades as a public benefit – the same way in which other public benefits, such as new roads, streetlights, and water mains are paid – allowing these measures to be financed with no money down and then repaid as a benefit assessment on the property tax bill.

The term and amortization of the financing match the expected useful life of the improvements, or new construction infrastructure, which is typically 20 to 30 years. As with taxes, the assessment transfers upon the sale of the property, and it can be passed through to tenants where appropriate. While facilitating sustainability efforts, the program reduces property owners' annual costs and provides significantly better financing terms than the available alternatives to fund construction projects – decreasing the projects' overall weighted cost of capital.

While the C-PACE repayment is an assessment collected on the property tax bill, it cannot be accelerated – only the amount currently due on the tax bill can ever be collected or enforced against. C-PACE interest during the construction period is fully capitalized in the assessment amount, removing the opportunity for default during the construction period, and lenders maintain full control in the event of a default or workout.

C-PACE allows for lowered capital costs and reduced operational expenses, which improves the borrowers' cash flow, their ability to service debt, decreases the overall weighted cost of capital, and increases the property's value.

Not only is C-PACE growing in popularity among property owners and developers, but there has also been an increase in willingness for senior lenders to understand how C-PACE can be an attractive source of financing for their borrowers and accretive to their projects.

Project Eligibility

C-PACE is a flexible financing tool that can be used toward measures that impact the energy or water performance of a property. This includes hard, soft, and any associated costs connected to mechanical, electrical, plumbing, building envelope improvements, renewable energy sources, and more. Examples of C-PACE eligible measures include HVAC, heat pumps, LED lighting, facility controls, low-flow water fixtures, insulation, roofing, windows, doors, and solar panels. C-PACE capital can be used for almost all commercial properties, including multifamily, hospitality, office, industrial, and retail buildings, and it can be layered in with other forms of economic development financing, such as historic and new market tax credits. In addition, C-PACE can be used at various stages of a project – pre-, mid-, or post-construction.

C-PACE Gets Deals Done

With the high costs of construction, many new projects are struggling to make their proformas pencil. Combined with lower leverage levels offered by lenders, this leaves a financing gap that is often too large to be filled entirely with equity. Here, C-PACE can be a much more accretive option than mezzanine financing or preferred equity, and can be the key to getting the deal done.

C-PACE Keeps Deals on Track

The ability to use C-PACE for mid-construction and recently completed projects also allows for flexible recapitalization of deals. C-PACE can inject additional funds to projects facing overruns or operating shortfalls. This has been used extensively in recent years, both to float hotels to stabilization through COVID-related shutdowns and to fill gaps in construction cost overruns, to ensure projects reach the finish line.

C-PACE Reduces Lender Exposure

C-PACE can also be used mid-construction or at completion to reduce lenders' existing exposure on projects, freeing up liquidity.

C-PACE for Recapitalization

A notable C-PACE recapitalization project is highlighted below.

English Meadows – Virginia

Nuveen Green Capital provided Aksoylu Properties with $8.7 million in C-PACE financing for the $34.7 million assisted living and memory care facility. C-PACE capital was used to fund lighting, building envelope, HVAC, plumbing, and roofing upgrades for the newly developed, 88-unit, 105-bed facility. Additionally, C-PACE funds were used to establish a working capital reserve and to partially pay down the existing senior construction loan.

Lender Consent for C-PACE

For a myriad of reasons, C-PACE has gained widespread acceptance in the banking community, with over 500 banking institutions working alongside C-PACE lenders to date. Because C-PACE payments take priority over mortgage payments, C-PACE lenders typically seek senior lenders' consent, which is required in most markets.

The market volatility of 2023 helped propel C-PACE even more into the mainstream as it filled needs for many lenders seeking alternative financing. While conditions continue to change for regional banks and other commercial real estate lenders, seasoned C-PACE lenders, such as NGC will continue working flexibly alongside them to offer accretive financing options for owners and developers.

To learn more about C-PACE financing, our 2023 CLRM Journal article titled, "What is C-PACE Financing?" reviews its fundamentals and the various project types that can leverage it.[1] ▪

[1] https://www.construction-lender-risk-management.org/wp-content/uploads/2023/03/CLRM-Journal-2023-Digital.pdf#page=36

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Navigating Construction Contingency in 2024

As we embark on the journey through 2024, there is a collective hope for a return to more predictable times. The past three years have been marked by unprecedented challenges globally, especially in the construction industry. The ramifications of the pandemic, supply shortages, escalating costs, shortages of skilled labor, high interest rates, and rising inflation have been significant. Looking ahead, the goal is for economic stabilization and a flourishing construction market across all sectors—public, private, residential, and commercial. A robust construction market is indispensable for fostering a resilient economy, where the demand for new houses, buildings, and infrastructure fuels ongoing economic growth in our communities.

Challenges and Impact of Increased Contingencies

In response to the tumultuous recent times, many financial institutions, particularly banks and credit unions, have implemented policies requiring increased contingency. Some lenders have insisted on contingency amounts surpassing the previous standard of six to ten percent and reaching levels exceeding twenty to thirty percent. One lender notably raised their contingency to thirty percent on all ground-up construction loans exceeding a million dollars. While the increase in contingency percentages in recent times aims at guarding against cost overruns, supply shortages, change orders, and delays in construction delivery, it's essential to assess whether this approach aligns with the best interests of borrowers. Some banks have adopted a broad-brush approach, which may not serve the specific needs of individual projects. This article seeks to pinpoint significant factors indicating when contingency adjustments are warranted and advocates for best practices to prevent overbuilding budgets or overburdening borrower contingencies.

Before delving into the subject, it is essential to define contingency in the context of a construction budget. On a construction project, a borrower's contingency is an earmarked sum in the project budget designed to cover unforeseen events or circumstances that may arise during construction that may lead to additional costs or changes in the project scope. The purpose of contingency is to offer a financial cushion to address unexpected challenges without significantly derailing the project timeline or budget. It's worth noting that contractors may also have a contingency amount; however, contractor contingencies are intended to

address issues such as pricing shocks and are not accessible to borrowers.

Impact of Contingency Adjustments on Borrowers

Let's consider an SBA 7A loan for a real estate purchase and ground-up construction of a retail franchise. Lending institutions often require a minimum equity or project infusion, with rates typically variable based on WSJ Prime plus a spread, with a term and amortization of 25 years. This example highlights the importance and consequences of adjusting contingency levels. Increasing contingencies directly affects the financial dynamics of the project, leading to potential increases in both the project and the required equity infusions by the bank to accommodate the heightened contingencies. As a result, not only are down payment amount and loan amount affected, but potential increases in debt service or income required to maintain a Debt Service Coverage Ratio (DSCR) of 1.25 percent become evident. This ratio is a common condition in loan covenants for small businesses, emphasizing the need to maintain a specific DSCR of $1.25 of income for each dollar of debt service. Notably, a lender could credit any surplus contingency back to a loan upon completion and re-amortize the loan, changing the payment down to a more tolerable level.

As highlighted by the example below, an increase in contingency can add financial strain to the borrower despite being intended to safeguard borrowers. This heightened contingency necessitates a larger down payment and increased cash flow to support the elevated debt levels. Within industry norms, equity injections—such as down payments— are commonly utilized to ensure borrowers have a vested interest (aka 'skin in the game') in the success of their projects. For the purpose of this discussion, we'll use a 10% equity injection. However, it's important to recognize that lending institutions may adopt varied approaches, particularly with the SBA moving away from mandating specific equity contributions.

Increased contingencies can add significant financial stress on a business, especially for those looking to establish a new location or even their first location. Delays in completing a

Project Breakdown	Retail Franchise *@ 10% Contingency*	Retail Franchise *@ 30% Contingency*
Soft Cost Budget	$59,000	$59,000
Hard Cost Budget	$650,000	$650,000
Land	$250,000	$250,000
Contingency Percentage	10%	30%
Contingency Amount	$65,000	$195,000
Borrower Injection[1] *(Soft Costs, FFE, & Cash)*	$102,400	$115,400
Down Payment	10%	10%
Loan Amount *(90% of Total Project)*	$1,024,000	$1,154,000
Estimated Loan Principal & Interest Payment Per Month[2] *(At 10.75% for 25 Years)*	$9,851.83	$11,102.55
Monthly NOI Required *(to Maintain DSCR of 1.25)*	$12,314.79	$13,878.19
Annual Income Required *(to Maintain DSCR of 1.25)*	$147,777.45	$166,538.25
Total Project Amount	**$1,126,400**	**$1,269,400**

[1] Borrower Injection calculated as 10% of Loan Amount

[2] P&I calculated using SBA's 7A Loan Calculator. https://www.sba7a.loans/sba-7a-loan-calculator-amortization-schedule/

project or obtaining necessary certificates of occupancy—whether complete or temporary, depending on the region—can cause seasonal businesses to miss their intended opening dates, resulting in a loss of revenue during prime operating seasons. This not only prompts a reconsideration of credit, but also has adverse effects on financial projections and stability, stressing small and large businesses alike. Moreover, if construction costs increase, it may disrupt the valuation method, causing discrepancies with market values. Compounding these challenges are factors such as interest-only periods or discrepancies in internal rate of return (IRR) calculations based on previous projections, which can lead to working capital being out of sync with the time required to ramp up the business. These issues can present both short-term and long-term problems, leaving businesses highly vulnerable during construction. A domino effect can occur if too many vital aspects of construction such as costs, construction schedules, critical systems, FFE, permitting, and materials are delayed or interrupted. Borrowers have faced all these challenges since the onset of the COVID-19 pandemic in January 2020. Adding to the complexity, increasing interest rates have intensified the pressure on these loans, potentially leading to early defaults and specialty servicing actions.

Despite the somber picture painted, construction conditions are showing signs of improvement in 2024. Optimistic lenders have been discussing lowering contingency on their construction loans as more projects are finishing almost or on budget, on time, and with fewer delays.

Recommendations for Effective Risk Management

The challenge then arises: How do lenders determine whether, or on which loans, they should lower contingency in 2024? Lenders who opt for a simplistic approach may set a fixed twenty or thirty percent contingency for all construction loans. However, given the fluid nature of contingencies at present, we recommend a data-driven approach. Using construction data to forecast labor or material delays and analyze market factors—such as construction trends, concentration, and demand in specific markets—helps lenders determine the likelihood of cost overruns or schedule delays. This often assists in predicting whether a contingency can be adjusted to mitigate cost overruns and determine additional contingency amounts for a city or region. Using this innovative approach to set contingency requirements appropriately allows lenders to stand out as borrower-friendly while still minimizing their risk exposure.

Experienced SBA lenders are familiar with the persistent challenges of construction loans due to the gradual disbursement of funds as work progresses. As mentioned earlier, construction delays can lead to missed preferred start dates for businesses. This start date, however, often forms the basis of projections in the proforma, and any delay may result in a shortfall of working capital, especially for seasonal businesses reliant on timely revenue generation to carry them through to the next season. It's crucial to anticipate potential cost overruns to determine when the business can begin generating revenue. Delayed revenues may necessitate working capital support, making it paramount for businesses to manage these timing delays effectively for success in their marketplace.

It’s important to reiterate that one of the most important aspects of a prudent lender is to meticulously memorialize the construction loan file as the project progresses. This documentation ensures that discussions related to any unforeseen anomalies and decisions made to support the business are clearly recorded for future reference. Providing borrowers with a voice in their project’s progression is essential, especially as we continue to define aspects such as the projected opening of the business, marketing strategies leading up to revenue generation, and more. The borrower is the best guide on alterations of the project timeline or shifts in how it is managed. Their contributions to this discussion are crucial to ensuring that the project remains on track and that revenue projections continue to support the project's underwriting. Enabling readers to later identify, understand, and follow the trail of events is paramount for loan servicing, liquidation, and in the event that an SBA guaranty is called upon.

Strategies for Construction Cost and Risk Management

This prompts the question: What does the construction cost data say or forecast for 2024? Particularly, based on the earlier discussion, how should lenders protect their borrowers from construction costs and unforeseen events in 2024? During an interview we had with Lawrence P. Spaulding, Jr. an expert and seasoned professional at Partner Engineering and Science, Inc., he shared valuable insights on the topic. With over twenty-seven years of experience in construction risk management, reviewing and evaluating construction costs for large premier properties across diverse global real estate markets, Mr. Spaulding challenged the traditional one-size-fits-all or simplistic approaches adopted by some lenders. When discussing the increase in contingency percentages, he questioned the rationale

behind charging twenty to thirty percent contingency. He recommended that construction lenders assess project risks and understand the scope of each project individually, utilizing preconstruction due diligence and conducting a detailed evaluation of a project based on its own merits. This includes examining the contractor's qualifications—their experience, credit history, and track record of completing projects on time and on budget. Furthermore, the contract plays a critical role in determining allowances and sound subcontractor bids, while avoiding contracts laden with allowances, general bids, and incomplete subcontractor and supplier bids, which could lead to significant cost overruns.

In Mr. Spaulding's recommended approach, construction lenders should review each project on an individual basis, starting with an assessment of the contractor's qualifications and scrutinizing the contract for detailed plans, budgets, and allowances. By understanding the project's scope and assessing risk on a case-by-case basis, lenders can make more informed decisions regarding contingency amounts. This perspective challenges the notion of a broad-brush approach, cautioning that raising contingency may be causing or overlooking more problems than it solves. He likened these generalized practices to having a boat with plenty of life preservers, but the vessel's hull is full of holes. While those life preservers are great in the event of a problem, it is better to start with a sturdy boat and sound hull, minimizing the need to use them. A lot of great tips were offered, which have been summarized into the 2024 top ten construction recommendations list provided.

Construction contingency serves a vital purpose in safeguarding borrowers from market fluctuations during their construction lending period. As markets begin to recover from the COVID-19 pandemic, along with the challenges posed by rising inflation and interest rates, informed decisions regarding construction contingency become paramount. By leveraging data, best practices, and insights provided in this article, lenders can set appropriate contingency levels tailored to the specific risks of each project, thereby alleviating unnecessary stress on borrowers. Effective risk management remains essential in both favorable and challenging times. For those overseeing multiple construction projects or facing with staffing shortages, consider outsourcing preconstruction services, pay application verification, and construction assessments to reputable third-party construction risk mitigation firms. Trusted partnerships can alleviate the burden, offering valuable expertise and support in navigating the complexities of construction projects. ▪

2024 TOP TEN LIST OF CONSTRUCTION RECOMMENDATIONS

1. **Develop the project thoroughly on paper and fully document all disciplines before proceeding to the construction phase.**
2. **Check permitting, ALTA surveys, zoning reports, and geotechnical reports prior to closing.**
3. **Review the scope of the project, including hard costs, plans, contract, and construction schedule.**
4. **Review the amount of soft costs (architect fees, permitting, tap fees, cash injection).**
5. **Ensure the hard cost budget, construction schedule, and contract documents reconcile regarding project scope.**
6. **Scrutinize allowances as they represent the risk of change orders and the most significant risk to contingency.**
7. **Review the Contractor's qualifications (experience, credit, references, subs, and suppliers).**
8. **Identify where the risk or potential issues exist in the project—pinpoint critical areas to build the box.**
9. **Track change orders, cost overruns, each draw, and verify them with a construction progress assessment as construction commences.**
10. **Identify long lead materials that may cause delays or cost overruns, such as electrical switch gearbox, generators, HVAC, roofing, concrete, windows, and any specialty products.**

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Safeguarding Success: Vital Traits of a Construction Risk Management Consultant for LIHTC Syndicators

The world of construction risk management consulting is as varied as the clients it serves, each with distinct requirements and expectations. These consultants provide an essential bridge between developers and lenders, offering insights crucial to a project's success. One client might seek a debt-level overview, while another requires an equity-level report for a high-budget endeavor. Yet, it's the middle ground, where syndicators tread, that warrants a unique approach. This article delves into the critical role that construction risk management consultants play in the Low-Income Housing Tax Credit (LIHTC) syndication landscape, focusing on the nuanced needs of LIHTC syndicators.

A looming doubling of distressed assets in the coming two years is predicted, largely attributed to escalating interest rates and economic uncertainties. As interest rates climb, the ripple effect of amplified spreads intensifies, progressively pushing deals into distress and compelling financiers to repurchase properties. A syndicators' discernment in cherry-picking distressed properties of pragmatic financial sensibility underscores the pivotal need for them to hire experienced construction risk management consultants that can help safeguard their investments.

In the realm of LIHTC syndication, where compliance with regulatory frameworks is paramount, the role of construction risk management consultants cannot be overstated. Partnering with knowledgeable consultants equipped with dedicated pre- and post-close loan service teams that specialize in LIHTC affordable multifamily projects is crucial. These teams offer a comprehensive range of services that encompass various phases of a project's lifecycle, helping to ensure smooth operations and risk mitigation.

Key Needs of LIHTC Syndicators:

1. **Expertise Aligned with LIHTC Specifics:** LIHTC syndicators have specific and detailed needs to ensure the success of their affordable housing projects. They require more than standard construction project managers – they need individuals who possess an elevated level of expertise in both construction and tax credit intricacies. This expertise is vital for navigating the complex regulations and implications of LIHTC programs. Syndicators seek a predictable investment landscape over the project's 15-year tax credit cycle, aiming to shield their sizeable investments from

unexpected surprises. This involves a thorough risk assessment process and the implementation of robust mitigation strategies to safeguard tax credits and equity investments alike.

2. **Insightful Reports and Strategic Guidance:** A core requirement for syndicators is the delivery of comprehensive reports and advisement that provide clear understanding of the project's health and potential challenges. Document and Cost Review (DCR) and Construction Progress Monitoring (CPM) reports must go beyond the norm, featuring detailed descriptions and informed opinions across various project aspects. These reports empower syndicators with actionable insights and solutions to any identified issues, enabling them to make informed decisions. This can include a thorough understanding of the design details of the building envelope, a focus on the placed-in-service date, consultant opinions on completion dates, and a review of the tax credit application. Such attention to these aspects is essential when holding the asset for 15 years, as it mitigates potential unknowns during the hold period and ensures informed decision-making.

3. **Expertise-Centric Teams:** An indispensable aspect of meeting syndicators' needs lies in assembling a project-centered expert team. These consultants should possess an intimate knowledge of the specific project at hand, allowing them to engage in intelligent and meaningful conversations with syndicators. This expertise extends top-to-bottom, critical components in the foundations to roof, as well as inside -to-outside, ensuring the watertightness and long-term durability of the building envelope as well as making sure the internal mechanical systems are tenant appropriate.

4. **Timeliness and Diligence:** Timeliness and due diligence are paramount for syndicators. Consultants must be equipped to provide rapid two-week turnarounds for document reviews, going beyond standard practices to offer a deeper level of scrutiny that satisfies syndicators' demands. This entails a thorough analysis of project drawings and proactive identification of potential construction conflicts.

5. **Adaptability and Consistency:** Adaptability and consistency are qualities that syndicators value highly. Consultants must demonstrate a willingness to adapt to changing project dynamics while maintaining a consistent level of service delivery. This is particularly important as syndicators often join the project at varying stages, necessitating transparent communication regarding the associated costs of adjusting due diligence levels to meet their specific requirements.

6. **Communication Excellence:** Effective communication is a cornerstone in the syndicator-consultant

relationship. Consultants should possess a construction-savvy acumen that enables them to engage in intelligent discussion. This includes promptly notifying syndicators of any emerging issues to facilitate swift corrective actions. Clear and detailed reporting, including opinions, findings, and scope delineations, should leave no stone unturned and provide syndicators with a comprehensive view of the project's status. In addition, maintaining open communication about the needs of all the parties involved is imperative for gaining a comprehensive understanding of the project's continually evolving landscape.

7. **Long-Term Vision:** Long-term planning is vital, with syndicators seeking reserve schedules that span their entire 15-year hold period. Accompanying these schedules, syndicator level reporting aims to ensure alignment with both lender underwriting needs and the demands of equity teams. Successfully navigating this complexity, especially when both debt and equity are involved in the same project, underscores the importance of skilled consultants who understand the necessary level of Due Diligence required for both parties.

8. **Building Envelope Mastery:** A concentrated focus on the building envelope is paramount. Attention to detail, particularly concerning critical components meant to thwart external weather elements attempts to breach the envelope, plays a crucial role in mitigating water infiltration risks, thereby safeguarding the project's long-term viability.

9. **Strategic and Proactive Advisement:** Top consultants can also serve as strategic advisors to help clients succeed and save money. For instance, they can identify if a property falls within an elevated radon zone and recommend preemptive measures such as installing a mitigation system or non-permeable vapor barriers. By proactively addressing these issues, the project can avoid future radon tests and related expenses, in compliance with local state requirements, saving thousands to tens of thousands of dollars in radon assessments over its lifetime. In addition, consultants can suggest innovative Environmental, Social, and Governance (ESG) solutions to enhance the project's resilience and durability, such as incorporating hurricane-certified windows and façade systems designed to withstand severe weather events.

Construction risk management consultants can be the linchpins of both simple and complex LIHTC projects, and as such, facilitate success for the project's syndicator. Meeting the intricate and comprehensive needs of LIHTC syndicators is imperative for establishing trust, protecting investments, and achieving the successful realization of affordable housing projects. By tailoring their expertise to the nuanced needs of syndicators, these professionals provide invaluable insights, ensuring effective risk mitigation and sustainable project outcomes. From transparent reporting to compliance expertise and a focus on open communication, the traits of a skilled construction risk management consultant allow LIHTC syndicators to continue to champion affordable housing initiatives that benefit communities in need. ▪

When Early Works Give Mechanics Liens Priority in California

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For project owners, the phrase "time is of the essence" is much more than construction contract boilerplate, particularly when late delivery means lost revenue and increased loan carry costs. Using a traditional "design-bid-build" (DBB) delivery method can take longer, in terms of the total time required to develop a project, compared to alternative approaches, as contractors are typically not willing to commit to a fixed or guaranteed maximum price (GMP) until the design is sufficiently developed, which can take many months, or even years, on larger projects. Engaging a contractor early under a "cost-plus fee" contract is a potential solution, if the owner is willing and able to commit to open-ended pricing, carefully maintain cost controls, and find a lender willing to finance the project.

Owners seeking to mitigate the risk of delays and accelerate construction (while avoiding open-ended pricing) may engage contractors earlier by entering into "early works" or preconstruction agreements with contractors covering a limited portion of the work (e.g., ordering long-lead equipment, grading, pouring foundations), with a second contract for the remainder of the project to follow, once the design is complete enough for the contractor to submit a firm pricing proposal. The potential savings and efficiency to be realized by engaging a contractor during, or even at the inception of, the design phase also provides greater opportunities for value engineering, identifying constructability issues, and efficient materials selection, which are key objectives of "alternative" delivery methods, such as design-build, progressive design build, and construction manager at risk (CMAR)/construction manager-general contractor (CMGC). The adoption of such delivery methods has grown substantially in recent years, and is projected to continue growing.[1]

However, engaging contractors, design-builders, and construction managers early can complicate financing for a project to the extent any work is performed before a construction loan is secured. Specifically, the priority of a construction loan deed of trust may be jeopardized by subsequently recorded mechanics liens that "relate back" to a contractor's early work on the project.

California contractors have constitutional mechanics lien rights that generally cannot be waived except by using the statutorily prescribed forms (i.e., conditional or unconditional waivers and releases upon progress payment or final payment). From a construction lender standpoint, the limitations on the ability to waive lien rights make assessing the risk that mechanics liens may take priority over its security interest in a property all the more important.

Lien priority attaches upon the "commencement of the work of improvement," which is the point at which "construction has been undertaken by the doing of actual visible work on the land or delivery of construction materials thereto." *(Walker v. Lytton Sav. & Loan Assn.* (1970) 2 Cal.3d 152, 157.)

One narrow exception to this rule is provided under California Civ. Code Section 8454, which provides that a "site improvement" done under a separate contract may be "deemed a separate work of improvement" for lien purposes, meaning that a subsequently recorded deed of trust may take priority over mechanics liens for a later work of improvement performed on that same property.[2]

[1] By 2026, DBB utilization for non-residential projects is expected to shrink to just 14% in major industry segments, with Design-Build and other alternative methods expected to grow to 46% and 40%, respectively, according to FMI's DBIA March 2023 Mid-Cycle Update Report.

[2] "If a site improvement is provided for in a direct contract separate from the direct contract for the remainder of the work of improvement, the site improvement is deemed a separate work of improvement and commencement of the site improvement is not commencement of the remainder of the work of improvement." (Civ. Code, § 8454.)

However, the fact that the work under the first contract may fall within the definition of "site improvement" is not determinative as to whether the work actually qualifies as "a separate work of improvement" under Civ. Code Section 8454. Civ. Code Section 8050 specifically defines "work of improvement" to mean "the entire structure or scheme of improvement as a whole, *and includes site improvement*." Similarly, "Site improvement" is broadly defined to include work that is also expressly included in the definition of "work of improvement." For example, site improvements include "Grading, filling, or otherwise improving the real property" (Civ. Code, § 8042) and works of improvement include "Filling, leveling, or grading of real property." (Civ. Code, § 8050.) With respect to the requirement that site work be performed under a separate contract under Civ. Code Section 8454, later work on a project being performed under a separate contract does not in itself trigger the exception because a single work of improvement may be performed under multiple contracts (e.g., for each phase).

The critical question that should be considered, with respect to lien priority and the application of Civ. Code Section 8454, is whether the site improvement is in fact separate from the later work of improvement, being work that is not specific to "the remainder of the work of improvement." The case of *Macomber v. Bigelow*, 126 Cal. 9 (1899) is instructive on this important distinction. In *Macomber,* subcontractors sought to foreclose on mechanics liens for work performed on an apartment building, which included excavation. One issue before the California Supreme Court was whether the excavation subcontractors were entitled to relief under the statute then in effect relating to liens on general works of improvement (Code of Civil Procedure Section 1183), rather than liens on lot improvements (Section 1191). The Court, in finding that the subcontractor's remedy was properly under Section 1183, held that Section 1191 "applies to grading or other improvement of a lot, done independent of, and not as a necessary part of, the construction of a building." A key takeaway from the *Macomber* decision is that the fact that improvements such as excavation could, in the abstract, qualify as generic site/lot improvements, is not enough to determine whether the work actually constitutes a "site improvement" separate from the main work of improvement. Rather, work such as the excavation work addressed in *Macomber* should be treated as part of the main work of improvement for lien purposes, where it is not performed independent of, but as a necessary part of, the construction of the work of improvement.

Other California cases have reached similar conclusions. (See, e.g., *Western Well Works, Inc. v. California Farms*, (1923) 60 Cal.App. 749 [applying the statute for general works of improvement to a lien for test boring work performed for wells that were never built, because the test bores were specific to, and necessary for the construction of the wells]; *Mendoza v. Central Forest Co.* (1918) 37 Cal.App. 289 [finding grading and similar work on the site to be lienable under the statute for general works of improvement].)

In assessing the risk that mechanics liens may take priority over other security interests, project owners and lenders should consider whether any initial work (performed before other security interests have attached) was really generic site improvement work done under a separate direct contract, or whether it is specific to the construction of the main work of improvement to be financed. As a guiding principle, the more the initial work is project-specific and intended to form part of the planned work of improvement, the greater the risk that mechanics liens recorded by contractors that performed early work on the project could take priority over a deed of trust recorded after the early work commenced. ▪

"The critical question that should be considered, with respect to lien priority and the application of Civ. Code Section 8454, is whether the site improvement is in fact separate from the later work of improvement, being work that is not specific to "the remainder of the work of improvement.""

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Electrical Delays Causing a Disconnect for Multifamily Projects

Since the start of 2023, the construction industry has been navigating volatile circumstances initiated during the pandemic. Issues with labor shortages, material cost increases, material availability, and completion delays have been further stressed by rising interest rates and sparked an industry-wide conversation of the "new norm" and lessons learned. What was once thought to be a pandemic-related complication now seems to be driven by ulterior causes, like electrical delays in multifamily projects.

The electrical gear for multifamily construction currently associated with time delays include transformers, switch gear, circuit breakers, and electrical meters. The most impactful and concerning outcome of the delays is the inability to provide permanent power, climatize buildings, and obtain certificates of occupancy. Until these materials become available, projects may have to halt construction altogether.

The theme seen in the current construction market is a heightened demand for electrical gear across several industry sectors, which has translated to delays in product availability. Manufacturers, unprepared for this unforeseen surge in product demand, have taken a reactive approach to fulfilling orders affecting projects and their construction schedules.

Construction volume has been at historically elevated levels, driven by low interest rates and many incentives across commercial sectors. For instance, the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 aimed to support domestic semiconductor production by providing federal financial assistance to covered entities. This support incentivizes investment in facilities and equipment in the United States for semiconductor fabrication, assembly, testing, or packaging at mature technology nodes.[1]

Through grants and investment tax credits, this act looks to provide strong incentives to construct, upgrade, and expand new and existing facilities to strengthen our supply chain and advance national security.[2] According to a report by CBRE Research, data center construction activity across U.S. primary markets in the first quarter of 2023 have increased by 25 percent year-over-year.[3] In conjunction with Semiconductor Fabrication Facility construction, this

[1] Text: H.R.4346 – 117th Congress (2021-2022), https://www.congress.gov/bill/117th-congress/house-bill/4346/text

[2] Pass the Chips Act of 2022, https://www.semiconductors.org/wp-content/uploads/2022/07/Pass-the-CHIPS-Act-of-2022-Fact-Sheet.pdf

[3] High Demand, Power Availability Delays Lead to Record Data Center Construction (September 14, 2023), CBRE, https://www.cbre.com/insights/briefs/high-demand-power-availability-delays-lead-to-record-data-center-construction

has created a demand on electrical component production that has outpaced supply by a factor of 1.5+, impacting the ability to scale in other construction sectors.

The trending mission of sustainability has also created an increase in demand. Electrical machinery construction, which includes EV battery plants, hit $35.2 billion in 2023. That is about 47% of overall manufacturing construction.[4] In addition, the push to expand electromobility infrastructure, such as battery charging stations, rapid charging stations, and battery exchange stations, has increased consumption of electrical raw materials on a national level.

Labor shortages continue to affect various levels of the supply chain, from collecting and processing raw materials, to production, manufacturing, and transportation. Raw material pricing and availability have also affected production. Copper and aluminum, which are essential in the electrical manufacturing process, have faced supply barriers and increased export prices that are linked to international relationships and geopolitical frictions. Furthermore, reshoring of semiconductor facilities for American manufacturing companies has also created a demand and backlog in the production of electrical equipment.

Is There a Light at the End of the Tunnel?

Best practices to mitigate delays include supply chain expansions, contract negotiations, and proactive procurement. Suppliers like Siemens have brought several hundred million dollars' worth of capacity expansions in 2023 to support their North American Electrical Products customers, with the most dramatic growth in switchboards and multifamily metering.[5] Strategic procurement of electrical components at the vendor and general contractor level are essential in today's multifamily construction environment. Construction contract provisions to mitigate delays and increased costs associated with materials will improve transparency and workflow on-site.

As an industry, we are doing our best to estimate when the Fed will cut rates, where rates will settle, and what production will look like at the end of 2024 and even 2025. In the meantime, we are still navigating complexities that have a direct impact on active construction projects. The path forward is to analyze the current obstacles, like electrical component delays, and actively mitigate risks by enacting proactive approaches and resolutions. Implementing these mitigation tools may or may not be the "new norm." When rates begin to drop and production increases, the commercial real estate industry will be better prepared to navigate these challenges with less impact on the critical path of our projects and many more successful completions. ▪

[4] Sebastian Obando (February 20, 2024), "EV Battery Plant Construction Booms Even as Automakers Hit the Brakes," Construction Dive, https://www.constructiondive.com/news/ev-battery-plant-construction-booms-demand/707853/

[5] North America Electrical Products Leadership Team, "Siemens North America Electrical Products Operational Update," September 25, 2023.

You've Made the Decision to Foreclose. What's Next?

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Since 2020, the construction industry has weathered significant challenges, including cost increases, material delays, and labor shortages. Through it all, we saw little interruption to projects underway given interest rates continued to remain at historic lows and market liquidity curbed potential takeout risks. As we have seen throughout 2023 and into 2024, however, mounting interest rates have created significant struggles at both the Borrower and Lender levels. As delinquency rates continue to rise, it's safe to assume that at least one company in attendance at the CLRM conference is being faced with the decision, or task, of foreclosing on a project currently under construction.

While many firms have a process in place for foreclosing on an asset, they often fail to account for the many intricacies that construction projects, specifically, can bring.

Pre-Foreclosure Due Diligence

Prior to moving forward with the decision to foreclose, there is a certain amount of pre-foreclosure due diligence that is needed in order to understand both where the project currently is, and what moving forward with the project may look like. It cannot be overstated how vital this time will be in preparing for success as the Lender navigates stepping into the ownership role on an active construction site.

1. As a Borrower begins to exhibit signs of distress, start first with evaluating the project's files to ensure they are as complete as possible. This includes not only loan documentation, but perhaps more importantly project documents as well. Do you have the Construction Contract saved along with all executed Change Orders? Do you have contacts for not only the Construction Team, but also the Design Team and any additional Consultants they have brought on? Has the Borrower begun pre-leasing for the asset, and do you have any potential leases they have signed? Outside of that, do you have all of the due diligence completed as part of the loan origination? While likely not as involved as what you will need to prepare for foreclosure, it is a helpful starting point to understand what kind of reports you may need to have refreshed and updated entirely.
2. Following that initial review, you can begin building out a toolkit of reports that helps to understand what kind of decisions the Lender should be prepared for as the Owner of the property versus the Lender:

a. Look to an experienced third-party consultant to provide an accurate evaluation of how far along the project is and what a reasonable Cost-to-Complete might look like. This will aid in understanding if you have adequate loan funds to complete construction, should you choose to go that route.

b. Environmental Assessments and Seismic Reports may also be necessary in cases where you are concerned about potential liability or need a better understanding of scopes of work that should have been completed. For example, on a renovation project which required asbestos remediation, having a refreshed Environmental Report can help a Lender to understand if that scope has been completed.

3. Outside of understanding the current status of the project, it is also highly likely you will want to complete a new appraisal to understand the value of the property. Utilizing the refreshed reports, such as the Cost-to-Complete Analysis, can be crucial in receiving a realistic value, both on an as-is and as-completed basis. These figures will be key in determining whether the business plan originally underwritten is still viable.

Pre-Foreclosure Management

As part of the pre-foreclosure process, each Lender will also need to determine how they plan to manage the construction project moving forward. At a high level, this can be broken down into three main categories:

1. A court-appointed receiver can represent you, as Lender, while the foreclosure process progresses. In some instances, the receiver can also transition into a full-time management role once the Lender takes control of the asset. This can be a strong choice, especially in situations where you are able to provide Receiver recommendations to the Court. It allows the Lender the opportunity to put someone in place immediately who, in many cases, has previous construction experience, lives in the area the project is located, can provide trade partner recommendations, and has an existing relationship with local City officials and departments. That being said, every state has its own receiver process, and it is important to understand what that looks like before proceeding with this option.

2. In a situation where appointing a receiver might not be the best path, the Lender may need to identify a third-party developer that they can partner with moving forward to complete the project.

3. Finally, while this doesn't apply to every Lender, there may also be an internal team or infrastructure where the project can be managed in-house.

Pre-Foreclosure Checklist

Now that you have completed your due diligence and identified a partner to work with, it is time to prepare for taking over an active construction project. Although not intended to be exhaustive, the checklist below is intended to provide a starting point for asking questions and determining what additional information is needed.

Loan Documentation and Assignments

As part of the pre-foreclosure due diligence, the loan documentation and project documentation must be reviewed for completeness and accuracy. This includes important documents, such as the Construction Contract, but also extends far beyond that. Do you have the full Plans and Specifications (including ASIs)? Has the General Contractor provided all approved and proposed Change Orders as well as the most up-to-date Construction Schedule?

Reviewing the loan documentation will also be crucial in identifying what project documentation has already been assigned to the Lender. These assignments provide the Lender with the right to step into the ownership role of

those contracts in the event of foreclosure. This may also include the city permits, which will help to avoid further delays in the construction schedule.

The review of documents should also include the Completion Guaranty as part of the pre-foreclosure checklist. What is the definition of Complete? Is there a maximum amount that is recourse under the Guaranty? Are there any burn-off provisions within the Guaranty that may limit the amount of recourse the Lender is entitled to?

Understanding Current Project Status

Outside of understanding the current loan documentation and assignments, the Lender also needs to understand the current project status. In requesting a Cost-to-Complete Analysis as part of the due diligence process, the Lender should have an idea of what the future costs are to complete the project. Are there sufficient loan funds to cover these costs? Has work progressed to a point that any unforeseen conditions have been identified or are there still risks to the budget? Is adequate contingency priced into the Cost-to-Complete for unexpected cost overruns? Beyond that, what stored materials are located either on-site or off-site, and what deposits have been made for future materials needed for construction?

Outside of this, further due diligence may be necessary to also understand the current improvements completed as well as any deviations from the approved plans and specifications. In some cases, Borrowers who are struggling may cut corners to reduce costs, which can lead to unintended consequences as the Lender steps into the ownership's shoes.

Understanding Current Payment Status

After understanding the project documentation and the status of construction, it is then time to understand the payment status of the project. This includes the General Contractor, Trade Partners, Suppliers, Design Team, and any additional Consultants. All of these are vital in completing a project, and in cases where the Lender has stepped into the ownership's shoes, it is likely there are going to be outstanding balances to work through. In these cases, it is important to establish a relationship quickly to begin the process of coordinating payments, either directly or through a title company as the payment processor.

It will also be important to understand the payment status with government entities, including the Tax Assessor and Utility Companies. In these situations, having a title search completed can be a helpful aid in understanding what obligations exist. Not only will this provide insight into outstanding taxes, but it will also identify Mechanics Liens that have been filed on the property. While theoretically, the Lender should be in a first lien position, there are situations where a Mechanics' Lien could prime that position. In this case, it is important to understand those risks and work to identify solutions for resolving them.

Insurance Coverage

Perhaps one of the most important pre-foreclosure items to consider is putting proper insurance in place for the project. In this situation, bringing in a third party to understand the risks and liabilities may be necessary in preparing for ownership. Will the insurance carrier be able to provide Builder's Risk insurance depending on construction completion? If progress is stalled, will Liability insurance be sufficient? Does the current policy provide the necessary limits required under the Loan Agreement?

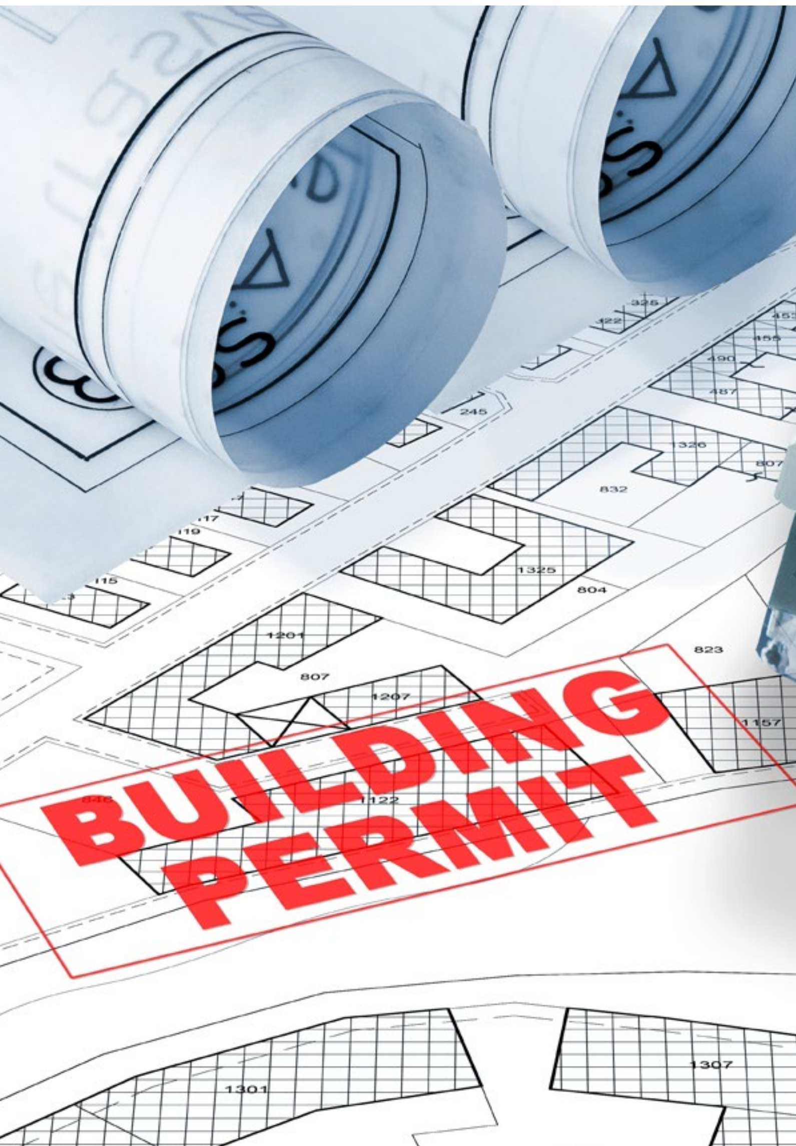
Beyond that, the Lender will also need to understand whether the policy is still valid. As insurance costs have continued to increase, a growing number of Borrowers have taken to financing their policies. In these situations, coverage may be cancelled for non-payment, which can create an insurance lapse for the Lender to resolve. Thus, it is important to identify whether the policy can be re-instated with payment or if the Lender will have to force place through an alternative method.

Finally, the Lender will also need to identify and coordinate any existing claims under the insurance. Ideally, the Lender will already be identified as the Mortgage and Loss Payee on the Certificate of Insurance; however, it is important to work with the carriers to ensure the correct entity is receiving the proceeds.

Permits and City Agreements

Whether construction continues immediately or there is a period of demobilization, it is important for the Lender to also understand their obligations to the City. This is typically in two main areas: (1) Permits; and (2) City Agreements.

For City permits, the first question to ask is who pulled the permits? Were they requested by the Borrower or by the General Contractor? The Lender will also need to understand who is able to pull permits, as certain states only allow General Contractors licensed within that state to work, which will also be important in determining next steps as the Owner. Beyond that, reviewing the permits for expiration dates or upcoming deadlines will also be important to ensuring compliance with laws. Understanding permits extends beyond the Building Permit as well. Depending on the phase of construction, a Stormwater Pollution Prevention Plan (SWPPP) may also be in effect, typically through the local Department of Environmental Quality.



As part of the construction process, the Borrower may have also entered into a Development Agreement with the City to qualify for deferred payments or tax credits. In taking over the construction project, it is important to understand what the requirements are of those agreements as well as the timeline they must be completed in. Are you responsible for deferred permitting fees under the Development Agreement? Is there a potential tax lien that could be levied against the property for failure to complete construction?

Taking Control of the Site

Finally, as part of preparing to step into the ownership role, Lenders need to be able to secure both the project site as well as any materials located on, or off, the site. This may require an additional security presence on-site as well as construction fencing. Depending on the state of construction, securing the project could also require work to protect the building itself. For example, in climates with harsh winters, will you be required to supply heat? If there is a wet season, do you need to close in the building to protect materials already installed?

As part of securing assets, Lenders will also need to understand the inventory and value of assets currently in place. This will require an inventory of both the on-site and off-site materials. For on-site materials, are there storage containers with store materials located on-site? If so, how are those storage containers being paid for? Regarding off-site stored materials, it will be important to have those materials transferred into the Lender's ownership and confirm that any off-site materials have both proof of ownership and insurance to protect from damage.

Securing the site could also extend to the disposal of hazardous material as part of a remediation process. In this case, it is likely that a third party will be necessary in navigating how best to go about this and what will be required. ▪

Receivership 101: Real Estate / The Basics

David Wald

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If you're a lender or creditor's rights lawyer, chances are you may not have needed a receiver in connection with the workout of a nonperforming loan – or at least haven't needed a receiver for a very long time. So here are the basics of receivership with a focus on real estate, including construction loans.

As they say, the devil is in the details and details do matter. However, the basics of real estate receivership are generally the same across all 50 states and in both state and federal courts. For specific matters, it's important to consult experienced legal counsel for advice.

Receiverships are strictly a pre-foreclosure remedy, usually in connection with a pending foreclosure or other related lender/borrower litigation concerning a nonperforming real estate loan. Importantly, it is not necessary for a lender to complete the foreclosure for the lender to resolve a nonperforming loan. With the proper orders, a receiver can, among other things, sell the property without the lender taking ownership. And a receiver can usually be promptly dismissed in the case of a successful loan workout.

The primary reason for the appointment of a receiver is that a lender can't operate or control a borrower's real estate loan collateral until the foreclosure is completed (with certain limited exceptions). If a lender does try to take control of the borrower's property prior to foreclosure, the lender can lose its special statutory protections from property operating liability and related claims, or worse, may have their loan involuntarily converted to an equity interest in the property. A receiver is also typically needed to complete a judicial foreclosure in one-action states, where the lender seeks to recover loan proceeds from both the sale of the property and the borrower.

The primary benefit of a receiver is their ability to, among many other things, control, protect, investigate, complete, operate, and sell a borrower's property prior to and without completing the foreclosure, and insulates the lender from the liability typically associated with these activities.

Two more notes. Where the borrowing entity is placed into receivership, it is often possible to have the receivership order grant the receiver sole authority to file bankruptcy. Where the lender seeks to have the receiver sell the property in receivership, it is important to confirm that the receiver's title insurance company is ready, willing, and able to provide title insurance for the sale of the property at closing without waiting for the sale order appeal period to expire.

1. Why Does a Lender Need a Receiver?

- Lender can't operate or control borrower's property pre-foreclosure *
  - Usually at least four months to foreclose in California (each state is different)
  - Receiver helps insulate lender from risk of loan being converted to equity
  - Some states allow lenders to take limited measures to protect property pre-foreclosure *
- Receiver can inspect, protect, maintain, complete, operate, lease, and sell property
  - Receiver can obtain property information
  - Receiver can perform or provide access for testing and inspection
  - Receiver can help insulate the lender from pre-foreclosure claims via receiver sale mechanics liens (but not stop notices)
  - Long-term liability for construction defects on pre-foreclosure construction
  - Potential environmental liability
  - Helps a lender remain a 'lender' and not become an 'owner' prior to foreclosure

2. What is a Receiver?

- Receiver is an agent of the state or federal court
  - Not a bankruptcy trustee
  - Doesn't work for lender or borrower
  - Reports to all parties and the court
- Anyone can be a receiver in California – there is no "list" in most states
  - New York requires certification
  - Some states prefer 'local' receivers
  - Receiver can't be related to the lender, borrower, or other receivership party
- Typical types of receivers
  - Asset manager
  - Property manager
  - Lawyer
  - Accountant
  - General 'all-purpose' receiver

3. What Does the Receiver Do?

- Receiver becomes the de facto "owner" of the property via court orders
  - Borrower remains the owner
  - Receiver responsible for property or for borrowing entity
- Receiver can only do what's provided for in the order
  - Protect and operate
  - Gather project documentation and permits
  - Take control of bank accounts
  - Maintain insurance
  - Entitle / complete
  - Borrow / lease / sell
  - Receiver can only do what there's money to pay for
  - Cash from the property
  - Cash borrowed from the lender
  - Cash borrowed from a third-party lender by priority lien – typically paid via sale

4. What Does the Lender's Counsel Do?

- Lender's counsel prepares and files the initial motions
  - Motion for judicial foreclosure
  - Motion for appointment of receiver and receivership order
  - Plaintiff's bond
  - Ex parte vs. Noticed motion
- Lender's counsel represents the lender, not the receiver
- Receiver's often have their own legal counsel
- Receiver can make motions directly to the court

5. The Receivership Order

- The receivership order:
  - Form receivership order / California judicial council form order
  - Custom 'long form' receivership order
  - Consult the prospective receiver about the proposed order

- Adding authority to the initial order typically requires additional time and court hearings
  - Obtain stipulated order if possible (i.e., agreed to by borrower)
  - Consult counsel regarding best strategy and approach
  - Venue may be important

6. Other Receivership Issues

- Different courts, different results
- Incomplete construction and for-sale housing doesn't generate cash flow until sold
- Borrower bankruptcy – receiver must turn over property, unless:
  - Receiver isn't served with notice of bankruptcy
  - Lender's counsel promptly pursues relief from stay
  - Bankruptcy court allows receiver to remain in place as custodian
- Expiring entitlements – now you see them, now you don't
  - Public agency approvals may expire if building permit not pulled
  - Tentative tract maps may expire if not extended
  - Building permits may expire if construction stops
- Title insurance for receiver's real property sales
  - Receivership orders subject to appeal
  - Title insurance company must waive appeal period to avoid delays
  - Many title insurance sales reps unaware of issue – typically requires underwriter legal approval
- Receivership of real property (rent, issues and profits) vs. property ownership entity (equity)
  - With equity receivership, court may grant receiver sole authority to file bankruptcy
  - Equity receiverships are typically more complex ▪

Projects in Trouble: The Value of Cost-to-Complete Reports

Commercial construction projects, while promising great returns, also pose significant risks for lenders and investors. Unforeseen conditions, budget overruns and unexpected delays can quickly eat into expected profits. When things go wrong, a deep dive to evaluate what is needed to get troubled projects to the finish line, along with related costs, can offer insights to help mitigate risks and steer projects towards successful completion.

Key Instances for Report Usage: Significant Project Changes

A Cost-to-Complete report is ordered when construction is underway and when there is a significant change on the project such as:

- **Change in General Contractor** - When a general contractor has been terminated or ceases business operations.
- **Significant Impact to the Project Budget** - Seen as cost overruns or an item that significantly affects the remaining budget.
- **Project is Stalled, Stops Work, or is Restarting** - Project restarts place risks to both the schedule and budget.
- **The Project Adds or Changes Lenders or Investors** - New lenders and investors on a project under construction evaluates their risk for joining an existing project.

It's worth noting that while this article focuses on troubled projects, not all instances of Cost-to-Complete report usage are due to project distress (ex: new investors). Essentially, any substantial deviation from the original project plan or any event that could impact the project's financial health or completion timeline may warrant the ordering of a Cost-to-Complete report.

The Role of a Cost-to-Complete Report

At its core, a Cost-to-Complete report is a comprehensive analysis of a commercial construction project's financial status and future projections. It includes the following key components:

- **Current Project Status -** A detailed overview of the project's progress to date, highlighting completed milestones and expenditures.
- **Remaining Work** - A breakdown of construction yet to be completed, including materials, labor, and any outstanding contracts.
- **Cost Projections** - Estimates for completing the remaining work, factoring in current market conditions and potential contingencies.

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> *When things go wrong, a deep dive to evaluate what is needed to get troubled projects to the finish line, along with related costs, can offer insights to help mitigate risks and steer projects towards successful completion.*

- **Contingencies** - An allowance for unexpected costs or changes in the project scope, anticipating for unforeseen circumstances.
- **Risk Assessment** - An analysis of potential risks that could impact the project's timeline and budget, along with mitigation strategies based on work completed and costs incurred.
- **Recommendations** - Actionable steps based on the report's findings, providing a roadmap for effective project management moving forward.

Preparation and Distinctions of the Cost-to-Complete Report

While a Cost-to-Complete report is like a Document and Cost Review report, a Cost-to-Complete is a more extensive evaluation of a commercial construction project. Since the project is already underway, additional work is needed, including a site visit, detailed review of pay applications to date, review of parties contracted to finish the work, evaluation of lien waivers and their completeness, and possibly a Contractor Evaluation report in the event the general contract has changed.

The preparation of a Cost-to-Complete report involves:

- **Site Visits** - Experienced professionals conduct on-site inspections to assess the progress of the project, noting any completed work and ongoing activities. This allows for a more accurate evaluation of the project's current status and potential challenges.
- **Documentation Review** - Analysis of contracts, invoices, change orders, lien waivers, and other relevant documents provides a comprehensive view of the project's financial history. A thorough review of these items will help identify discrepancies or potential risks that may impact the project's budget and timeline.
- **Consultation** - Discussions with project managers, contractors, and stakeholders offer valuable insights and perspectives into potential challenges and opportunities.

Benefits for Lenders and Investors

Cost-to-Complete reports offer several advantages for lenders. Firstly, they facilitate enhanced financial planning by providing accurate financial forecasting. This enables lenders to make well-informed decisions regarding budgeting and loan structuring, particularly in response to project changes. Secondly, these reports enable proactive risk management. Early detection of potential cost overruns or delays empowers lenders to take timely and proactive measures, such as adjusting loan terms or providing additional support. By minimizing the risk of unexpected financial burdens, lenders can ensure smoother project execution and favorable outcomes. Lastly, Cost-to-Complete reports aid in risk mitigation. By gaining a comprehensive understanding of the project's financial health and identifying potential pitfalls, lenders can effectively mitigate risks, ensuring the successful completion of the project.

Developers and Sponsors Advantages

Similarly, Cost-to-Complete reports offer numerous benefits for developers and sponsors. Firstly, they enhance credibility. Providing a Cost-to-Complete report demonstrates transparency and reliability to lenders, fostering trust and confidence. This can be invaluable for securing financing and garnering support for the project. Secondly, these reports serve as effective project management tools. They offer insights that enable project managers to maintain cost and schedule accuracy, ultimately enhancing project efficiency and success. Thirdly, Cost-to-Complete reports empower borrowers with cost control measures. By identifying potential cost overruns early on, borrowers can implement timely corrective actions to keep the project on budget and on schedule. Lastly, these reports assist in project schedule maintenance. A clear and accurate assessment of the project's timeline, including the date of substantial completion, is essential for borrowers. It enables them to prioritize and coordinate activities effectively, thereby minimizing delays and maximizing project efficiency.

Introducing a Real-World Example

The case study below sheds light on the challenges faced during a community development construction loan project, presenting examples of when these reports can be effectively utilized. The Cost-to-Complete reports played an important role in addressing these challenges and guiding the project towards successful completion.

Conclusion

The Cost-to-Complete report offers lenders confidence that a project in distress has a higher likelihood of being completed. It provides lenders and borrowers a comprehensive analysis of the project's status, and a path forward to completion by providing valuable insights for informed decision-making, timely interventions, and proactive risk mitigation strategies. As projects grow in complexity and scale, the value of this tool becomes increasingly indispensable, particularly when projects encounter stress, ensuring smoother project completions for all stakeholders involved. ▪

Case Study: Community Development Construction Loan

An urban project with a $12 million budget was planned with a reasonable contingency of 10% and showed promise to help revitalize an area of the city. The borrower-developer is based 1,300 miles from the project site and has no prior experience in this city. In addition, the general contractor is new to the borrower-developer and lender. Despite these factors, the original lender proceeded with the loan.

Six months into the project, the contractor’s pay applications continued to have issues including not receiving lien waivers from the subcontractors and inaccuracies on percent complete for the individual line items. Given that the project had about 10% of the total budget for allowances, which is typically a concern, these items were watched closely during construction.

It became evident that the allowances were insufficient to cover costs, prompting the general contractor to submit a $2 million change order to cover the difference. However, this exceeded the original lender’s budget, necessitating the involvement of an additional. Subsequently, a Cost-to-Complete report was ordered.

Six months later, the project encountered a setback when the general contractor declared bankruptcy. A second Cost-to-Complete report was ordered, accompanied with a Contractor Evaluation report on the new general contractor. Despite the fact that the schedule was impacted, the project proceeded with no work stoppages, and all subcontractors have been paid to date.

Although the project experienced an increase in the original project budget, an updated budget and schedule was established, with completion set for Fall 2024.

A Guide to Demystify Construction Liens

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Construction projects are dynamic endeavors that involve numerous parties, extensive planning, and significant financial investments. Amidst the hustle and bustle of construction, one legal aspect stands out as crucial for all stakeholders to understand: construction liens. These liens, also known as mechanic's liens or property liens, serve as powerful tools for contractors, subcontractors, and suppliers to secure payment for their services and materials. But what exactly is a lien?

In essence, a lien is a legal claim placed on a property by a party who has provided labor, materials, or services for the improvement of that property but has not been paid for their contributions. It serves as a form of security interest, ensuring that those who have contributed to the construction or improvement of a property have a venue for issues they might have with payment for their work.

Stakeholders' Uses of Liens

Construction liens play a pivotal role for the various stakeholders involved in construction projects. **Contractors, subcontractors, and suppliers** use construction liens to establish legal claims and ensure compensation for their work and materials. They also leverage the threat of a lien to entice prompt payments and resolve disputes. A proactive approach to construction liens that facilitates timely resolution of payment disputes is best for **property owners and developers** since liens can jeopardize project financing. **Construction lenders** safeguard their loans by including provisions requiring borrower compliance with lien laws so to avoid lien encumbrances on the property. Lenders also monitor lien activity to help assess project progress and to monitor a borrower's financial health.

Construction Notices

Construction notices play an important role in delineating rights and responsibilities among stakeholders throughout a construction project's lifecycle. Often, there are state-specific requirements dictating the use and timing of these notices; some states mandate their use, while others leave them optional.

The **Notice of Commencement** holds significance as it marks the commencement of construction for a project and establishes the start of a timeline from which various items will be measured. Property owners typically initiate this notice, setting the stage for important project-related procedures. In addition to establishing the project's commencement date, notices often identify the key project participants. The Notice of Commencement ensures transparency and clarity of important project information for all parties, and can help facilitate efficient project management and payment processing.

Another document is the **Preliminary Notice**, known by various names such as Notice to Owner, Notice to Furnishing, or Notice to Contractor depending on the jurisdiction. This pre-lien notice serves to inform property owners of the involvement of contractors, subcontractors, or suppliers in the project. Timelines for filing such notices vary by state, with some requiring submission prior to service and others mandating submission within a specified timeframe after service begins. Preliminary Notices act as a precursor to potential lien rights, highlighting the parties involved and their intention to claim a stake in the project's proceeds if there are any problems with their compensation for services rendered on the project.

Lastly, the **Notice of Termination** serves as a counterpart to the Notice of Commencement, signaling the conclusion of the project or a specific phase. Property owners typically issue this notice, terminating the project's construction period and setting a deadline for the filing of liens. Notably, in some jurisdictions, failure to file a lien by the termination date, or within a timeline established by statute or within

the termination notice itself, can result in the forfeiture of lien rights.

It is essential for all stakeholders to be aware of the requirements and timelines for submitting these notices to ensure compliance with legal obligations and to protect their interests in the project.

Lien Waivers

Lien waivers serve as critical instruments for managing payment processes and mitigating risks for all involved parties. They serve as legal documents in which one party relinquishes the right to file a lien against a property upon receiving payment. There are two types of lien waivers commonly utilized: conditional and unconditional.

Conditional lien waivers provide a level of assurance to contractors and subcontractors that they will receive payment for their services or materials. By signing a conditional lien waiver, these parties agree to waive their lien rights upon the condition that they receive payment. This mechanism helps facilitate prompt payments while still affording contractors and subcontractors the protection of their lien rights until payment is received.

Unconditional lien waivers, on the other hand, signify that payment has been received by the contractor or subcontractor, and they are relinquishing their lien rights unconditionally against the subject payment. These waivers are typically issued once payment has been confirmed, providing property owners, developers, and construction lenders with assurance that lien rights have been waived and the property is free from lien encumbrances.

Both conditional and unconditional lien waivers play integral roles in the construction payment process, promoting transparency, facilitating timely payments, and minimizing the risk of disputes and liens.

Filing of Liens

In the event that a contractor, subcontractor, or supplier hasn't received payment as per terms, state regulations dictate the process for filing a lien. Before filing a formal lien, some states require the party seeking payment to send a **Notice of Intent to Lien** to the property owner and other relevant parties. This notice serves as a warning of an intention to file a lien if payment is not received. If a party does not receive payment, they become a claimant and must appropriately prepare and file the lien with the appropriate authority and within the statutory timeframe. A lien must be properly served to all parties with an interest in the property, upon which the claimant becomes a lienholder. If payment is still not received after the lien has been filed and served, the lienholder may take legal action to enforce the lien. Action taken to satisfy a lien could be taken as far as foreclosure proceeding against a property/asset.

Bonding Off Liens

In the event that liens are filed, the bonding off of liens serves as a strategic recourse for addressing potential encumbrances on construction projects. In instances where liens are filed against a property, property owners or other interested parties may opt to bond off the liens via lien release bonds issued by a surety. A lien release bond redirects the claim from the property to the bond itself. These bonds act as a form of security, ensuring that lienholders will receive payment if their claims are upheld. Bonding off liens can expedite the resolution of disputes, maintain project momentum, and safeguard the property's title and financial interests.

State-Specific Nuances

State-specific regulations present a significant challenge in understanding construction liens, as laws governing liens vary widely across different states. Each state has its own distinct requirements and procedures, adding complexity to lien-related processes. For example, certain states, like Georgia, mandate specific statutory lien waiver forms and language, emphasizing compliance with state laws regarding lien rights. Similarly, deadlines for filing construction liens differ from state to state; while some states require filing before the Notice of Termination, others

specify a certain number of days after being on-site. Missing these deadlines can lead to the forfeiture of lien rights. Given these nuances, it is imperative for all stakeholders to familiarize themselves with the lien laws specific to the state in which the project resides to ensure compliance and to mitigate risks associated with liens. Fortunately, numerous online resources are available to guide you through the complexities of construction liens and state-specific requirements.

Risk Management

Stakeholders of construction projects may benefit from utilizing funds control and construction project monitoring services from third-party consultants, like Partner, as a risk management measure to help prevent construction liens. Funds control involves overseeing the disbursement of project funds to ensure compliance with project milestones and budgets, and can also play a significant role in mitigating the risk of construction liens. By meticulously monitoring payments and ensuring timely disbursement to contractors, subcontractors, and suppliers, third-party consultants help prevent payment delays and disputes that often lead to the filing of liens. When coupling their lien law expertise with the collection of both conditional and unconditional lien waivers, third-party consultants provide stakeholders with an extra layer of protection against potential lien filings due to non-payment issues.

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The filing of a construction lien is an all-too-common occurrence for construction projects. However, project stakeholders have variety of options to help them navigate the various lien law requirements, including filing notices, conditional vs. unconditional waivers, and adherence to state-specific regulations. By leveraging resources such as third-party consultants for funds control and other risk management services, stakeholders can proactively address potential issues, adhere to regulations, and foster transparent communication among project participants. When done right, the handling of construction liens can have a positive contribution to the successful execution of a construction project. ▪

Managing Stored Materials and Risk in Construction Contracts: Evolving Standards in a Changing Market

Stephen Barcus
CEO | Olde City Builders

When it comes to reimbursing contractors for services rendered, standard practices have been dominated by the customers for many decades. However, the recent instability in the global economy has created many factors empowering the contractors over their clients. As a result, customers of general contractors such as property owners, developers, municipalities, corporations, and financiers have had to assume construction-related risks unprecedented in the modern era. One of these risks is the financial responsibility for materials that have been purchased for use on a project but not yet installed on-site. Established contracts and documents are notably vague on these items, as they were not always such a significant risk. The current system, responding to the supply and demand of construction materials and labor, must find ways to manage existing functional and standard construction contracts to address this previously unremarkable concern.

Payment Advances – Summary and History

As the real estate development, risk management, and construction industries change, we are seeing an upheaval of traditional processes when it comes to advancing payments to general contractors. Traditionally, no payment would be provided to a contractor for any materials purchased but not yet installed on-site. Property owners and developers—frequently referred to as the customers of contractors throughout this article—face many more challenges when recouping losses for materials that are not installed.

Materials bought by the general contractor and stored off-site are not typically eligible for reimbursement under the terms of the general contract. Under these traditional conditions, the general contractor assumes the financial risk for the period between procurement and installation of these materials. This period can be long, and when awaiting coordination with other trades, this period can be extended and exacerbate the financial risk for the general contractor. These scheduling issues expose the general contractor to increased and atypical losses.

Historically, general contractors would mitigate these risks the same way they manage other financing risks: by passing it on to their subcontractors and vendors (aka suppliers). The credit available to a general contractor is expanded, even multiplied, when they rely on the credit available to their suppliers. However, the rapidly changing economic conditions resulting from the COVID-19 pandemic and other unprecedented economic factors have intensified the fluctuations in material prices and exacerbated issues such as material shortages and disruptions in the supply chain. The recent market has overtaxed subcontractors and vendors. Consequently, these economic factors have empowered them to push back on assuming this risk, forcing general contractors to request new terms from the project's developers.

Now, purchasing materials at an early stage in the construction project's life cycle has become more

commonplace. Many contractors (GCs and subcontractors), however, cannot afford the risk created by procuring materials that will not be reimbursed until they are installed. In light of shortages in qualified contractors, developers, and their financiers have had to amend their funding processes, now opting to reimburse contractors for materials bought prior to their installment.

Historical Contract Terms Surrounding Stored Materials

The American Institute of Architects (AIA) has been the industry standard for management of construction contracts in the United States for many decades. Their standard contracts encompass a variety of types, including firm fixed-price agreements, cost-plus contracts with guaranteed maximum prices, and construction management agreements. However, the terms pertaining to the funding of off-site stored materials in these contracts remain ambiguous. The following passage (Exhibit 1), extracted from the AIA A101-2017,[1] is the most commonly used AIA General Contract: "Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum":

Exhibit 1

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work;

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

Section 5.1.6.1.2 expressly states that "the Contract Sum properly allocable to materials and equipment delivered" will be paid for only they are "suitably stored at the site" or "if approved in advance by the owner, suitably store off the site." These terms are loosely defined, in comparison to other payment conditions in this passage, and allocate power in negotiation over stored materials to the customer. The customer has the right to reject funding materials they don't consider "suitably" stored, an otherwise undefined term. This section places the onus on the general contractor to confirm storage on- and off-site is suitable.

In addition, the sister document to the AIA A101-2017, the AIA A201-2017 "General Conditions of the Contract for Construction,"[2] provides some clarification on the processes of funding stored materials on- and off-site (Section 9.3.2), however, it still relies on the term "suitable," which must be defined outside of the draft contract language. Ultimately, if the general contractor procures materials without advanced approval to store them off-site, or a mutually agreed upon definition of "suitable," they assume financial risk and exposure of paying for those materials and temporarily carrying those costs.

A later passage in AIA A101-2017, Section 5.1.9 specifies that "Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site." This requires that the general contractor receive advanced approval to store materials at other locations if they expect to be reimbursed prior to delivery of materials on site.

Exhibit 2, the AIA Document G703-1992[3]—a typical schedule of values included with all executed construction contracts and pay applications per the AIA contract system—includes a column for stored materials. It does not identify how they will be treated, but requires that they be accounted for separately from other costs. This column could include materials stored on-site or off-site. The suitability of these materials could be up for discussion prior to certification by the architect or contract administrator. Their reimbursable status could be challenged resulting in their removal from the Pay Application prior to approval, leaving the contractor at risk.

[1] American Institute of Architects. AIA A101-2017: Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum. https://content.aia.org/sites/default/files/2017-04/A101_2017%20sample.pdf

[2] American Institute of Architects. AIA A201-2017: General Conditions of the Contract for Construction. https://content.aia.org/sites/default/files/2017-04/A201_2017%20sample%20%28002%29.pdf

[3] American Institute of Architects. AIA G703-1992. https://shop.aiacontracts.com/contract-documents/20631-continuation-sheet-

AIA® Document G703™ – 1992

Continuation Sheet

AIA Document G702™–1992, Application and Certificate for Payment, or G732™–2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
			WORK COMPLETED						
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD	MATERIALS PRESENTLY STORED (Not in D or E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C – G)	RETAINAGE (If variable rate)
	GRAND TOTAL								

Sample

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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Exhibit 2

Economic Reasons for Change in the Process

As mentioned earlier, the risk assumed by subcontractors and vendors has become unmanageable in many cases. Certain materials, such as lumber, steel, and concrete, have been subject to wild price fluctuations over the past several years. Holding these items for projects without receiving payment does not make financial sense, particularly since their values fluctuate unpredictably and the materials are in high demand on jobsites across the world. Additionally, other items such as HVAC equipment and electrical switchgears are still in short supply due to manufacturers struggling to meet demand. When supply cannot keep up with demand, the customers, who have typically dictated the terms in construction, now have to relinquish that power to their suppliers.

Although this article is primarily focused on the management of construction materials, it's important to recognize that changes in supply and demand dynamics have significantly affected construction procurement across all levels for many years, with many functional causes. The supply chain shrank out of necessity during the Great Recession of the early 2000s. As the economy responded to recession mitigants, construction, typically a leading indicator of economic activity, experienced a surge. The period between the Great Recession and the COVID-19 pandemic, roughly 2009 through 2019, was defined by a slow empowerment of contractors over developers in the construction industry. Capital for construction was widely available, costs to finance projects were historically low, yet the supply of manufacturers and tradespeople was depleted.

While many attribute market shifts to the COVID-19 pandemic, in the construction industry, it primarily acted as a catalyst for existing trends. The demand for work went up as stimulus programs sought to keep the economy moving, the construction jobsite was deemed essential and relatively safe for workers, and a growing housing shortage became undeniable. As the pandemic waned, inflation and other market uncertainties continued the shift of power from developer to contractor, fueled by persistently high demand and short supply. Today we are seeing some shift back towards the pre-recession conditions, but the gains are minimal.

Risk: Who Will Assume the Risk for Stored Materials as Supply and Demand Shift?

The distinction between installation and procurement is important to a customer, as their interest in a construction project is in the real value of the property. Under common law, uninstalled materials are inventory but installed materials are real estate. Since most developers rely on

outside financing to fund their projects, financiers typically require collateral, often in the form of mortgage rights over the property being developed. However, uninstalled materials (aka inventory) cannot be foreclosed on in a real estate mortgage agreement, so will not be paid for by financiers. By installing the materials procured, the asset is transformed from inventory into real estate, thereby creating a secured commodity. Financiers assume less financial risk by paying for installed materials while the customer assumes less risk using financed capital to pay the contractor. However, the contractor still holds all the risk between procurement and installation.

While this risk may seem unreasonable to many contractors, this process follows the economic justification for much of the construction industry. Construction can only be paid for because it is increasing the real value of property. The funding of a project is justified by the sequential increase in the value of the property. Work is paid for incrementally as it is completed, not all at once. This rationale has dominated the construction process for so long, it is ingrained in the contract documents, as explained above. However, as discussed, the negotiating power within the industry is undergoing a shift.

Use of Contract Terms to Mitigate Risks with Stored Materials

The existing process becomes problematic when supply and demand invert. The general contractor does not want to assume all the risk when they take possession of materials, while customers only want to relieve contractors of that risk upon payment for the installation of those materials. More specifically, the general contractors or their suppliers own the risk until those materials are suitably installed on-site per contractually defined means and methods.

The key term above is "contractually defined." The AIA opts not to standardize the terms of stored materials, meaning these terms are defined on a case-by-case basis. When the financial risk with procuring materials is up for debate, it must be defined in the contract. The customer can mitigate their risk by stipulating ownership of funded materials, thereby allowing them to seize them in case of dispute. In this case, the contract should define that payment is contingent on certain submittals, such as an executed bill of sale identifying the customer as owner of the materials.

Most jobsites have property insurance policies that safeguard materials against theft or loss. However, if the materials are stored off-site, it's important that the

customer ensures that coverage at that location is also amenable to their needs in order to prevent potential losses of their property to fire or theft.

Another risk associated with materials stored off-site is ownership. If a contractor rents warehouse space to store materials that have been paid for by the customer and, subsequently, the contractor goes out of business, the landlord may hold the property until they are indemnified for lost rents. Even if a customer can document that they own the materials, they will not be able to recover them until the debts are settled. Therefore, thoroughly reviewing and approving ownership of storage facilities serves as a major risk mitigant that allows customers to pay for materials stored off-site.

For most customers, it's important to acknowledge that assuming ownership of lumber, steel, or other materials in the event of a contractor's insolvency is an impractical solution. Customers typically do not operate hardware stores or other resale facilities, and the value of their asset may decrease without the ability to install these materials. They do not have the mechanisms to recoup losses by reselling the materials. The most valuable advanced recourse for customers opting to fund stored materials—and this mechanism applies to deposits on labor and other intangible payments—is a bond obtained by the contractor or supplier naming the customer as obligee.

In short, a bond is a line of credit provided by an insurance company that is tied to contractual terms. The technical term for bonds of all types is 'surety,' which is used to distinguish it from both insurance and credit, as bonds are unique combinations of the two. Surety defines any other classifications. Although bonds can only be provided by licensed insurance companies in the United States, bonds are categorically NOT insurance.

In the case of stored materials or deposits on work to be performed, a bond is a guarantee from a third party that the work will be performed. The third party, known as the surety, enters into an agreement with a construction project supplier (e.g., general contractor, subcontractor, vendor, or material provider). This agreement, the bond, guarantees that if the work is not completed or the product is not provided by the supplier to the customer, the surety will fulfill the agreement and seek restitution from the supplier.

A bond from the supplier is the best way to mitigate the financial risk between the general contractor and customer. Like lines of credit, bonds have costs involved and may not always be available for many reasons. In the absence of a bond, securing risk between procurement and installation can best be achieved via the other options discussed. These include confirmation of the ownership of the storage facility, obtaining a bill of sale identifying the customer as owner, and insurance coverage for all storage locations. ▪

Don't Get Lapped! The Slow Adoption of Technology in the Construction Industry

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In today's rapidly evolving technological landscape, many industries have embraced innovation as a way to enhance efficiency and productivity. We would expect the construction industry was no different, however, a recent report out of University of Chicago's Booth School of Business states that a construction worker in 2020 produced less than a construction worker in 1970.[1] As the industries around us gain in production and construction declines, we cannot help but wonder how the adoption of technology in the office and field could help close this gap and keep construction industry production on par with other business sectors. Adding technology, like AI, to help on jobsites with activities such as predicting cost and schedule overruns could free up labor to focus on the skilled trade work that only they can complete. The potential boost that technology could give the construction sector is widespread, yet several challenges hinder the adoption of technology in construction. Finding a way to navigate these obstacles provides a great opportunity for growth.

1. Resistance to Change

One significant roadblock in the integration of technological advances is the inherent resistance to change within the construction sector. The industry has a long-standing tradition of relying on established practices, making it challenging for new technologies to find acceptance. Construction professionals may be hesitant to transition from familiar to unfamiliar, albeit more efficient, solutions. The industry looks at the required investment of time and capital and imagines where it can fail. Instead, industry leaders should be looking at the exponential growth the greater economy has realized with successful

[1] Potthoff Kacik, G. (July 25, 2023). US Construction Has a Productivity Problem. *Chicago Booth Review*. https://www.chicagobooth.edu/review/us-construction-has-productivity-problem
For the complete research paper, read: Goolsbe, A. & Syverson, C. (January 2023). Working Paper No. 2023-04: The Strange and Awful Path of Productivity in the U.S. Construction Sector. *The University of Chicago*. https://bfi.uchicago.edu/wp-content/uploads/2023/01/BFI_WP_2023-04.pdf.

implementation and adoption of the growing technological landscape.

For example, a recent survey revealed that only 48% of construction companies utilize automated accounts receivable processes.[2] The majority cited cost and implementation as the primary reasons for slow adoption. However, according to another recent study, by integrating technology with traditional construction methods, industry reports show an additional 10-15% reduction in project time, ultimately leading to increased project profitability for general contractors and less carry costs to owners.[3]

2. Fragmented Ecosystem

The construction industry is often characterized by a fragmented ecosystem, with numerous stakeholders involved in a single project. From architects and engineers to subcontractors and suppliers, aligning diverse interests and workflows can be complex. Matt Harris with Trimble found that 94% of general contractors are using some form of technology to help with scheduling efficiency. However, only 77% of trades use technology on-site.[4] Further demonstrating that on the same jobsite, many workers functioning as a team operate at different levels of efficiency. The lack of standardized processes among various trades and interoperability issues hinder the seamless integration of technology across the entire construction value chain. While it is possible for general contractors to mandate all subcontractors to use a schedule system, the issue arises when different general contractors use different systems. which in turn requires subcontractors to operate on many different systems. Organizations like AIA and AGC could help lead the industry-wide standardization efforts.

3. Cost Considerations

Investing in new technology requires a financial and organizational commitment. For small general contractors and subcontractors with limited overhead, this can be a significant deterrent. The perceived high upfront costs and uncertainties about the return on investment may discourage smaller players from adopting new technologies. When it comes to contractor payments, a recent study states that 88% of contractors wait longer than 30 days for payment, and late payments add approximately 3.3% to contract costs.[5] In addition, 70% of contractors say they would take a discount in exchange for quicker payments, putting an estimated $18 billion annually back in the pocket of builders, developers, and lenders. The upfront costs may be high, but the return on investment is worth the expense.

Fostering Collaboration for Success

To overcome these challenges, fostering collaboration between lenders, borrowers, and general contractors is imperative. Lenders can play a pivotal role by providing financial support for technology adoption. Offering incentives or low-interest loans specifically earmarked for technological investments can motivate construction firms to embrace change.

Maintaining an ongoing dialogue within the entire project team is crucial. Embracing the C.O.Z.Y. approach[6] – **C**ontract review; **O**ver-communicate; **Z**ig and zag; and **Y**ap less, listen more – can help ensure that everyone is on the same page regarding technological initiatives. This open discourse allows for the identification of challenges and the development of collective solutions, aligning individual interests with the overarching project goal.

While integrating technological advances in the construction industry poses challenges, addressing these issues head-on can pave the way for a more efficient and modernized sector. Data shows that those who successfully navigate this shift experience tangible benefits in project outcomes. By fostering collaboration, addressing resistance, and providing necessary support, the construction industry can unlock the full potential of technology for a more sustainable and innovative future.

In the spirit of embracing technology, ChatGPT helped in the writing of this paper. ▪

[2] PYMNTS (January 25, 2022). Only 48% of Construction Firms Use Automated Accounts Receivable Processes. https://www.pymnts.com/news/b2b-payments/2022/only-48-percent-construction-firms-use-automated-accounts-receivable-processes/

[3] Utilities One (November 12, 2023). Traditional vs. Modern Construction Impact on Project Time Management. https://utilitiesone.com/traditional-vs-modern-construction-impact-on-project-time-management

[4] Harris, M. (May 1, 2021). Technology in Construction: The Impact of Technology on Construction Data. Trimble: Viewpoint Blog. https://www.viewpoint.com/blog/technology-in-construction-impact-of-technology-on-construction-data

[5] Rambo, R. (April 6, 2023). 3 Keys for Improving AP Processes and Reducing Late Construction Payments. Trimble: Viewpoint Blog. https://www.viewpoint.com/blog/3-ways-to-reduce-construction-late-payments

[6] Rabalais, P. & Crawford, J. (March 2021). Getting COZY with Small General Contractors. CLRM: The Journal 2021. https://www.construction-lender-risk-management.org/wp-content/uploads/2021/03/CLRM-Journal-2021-Interactive.pdf#page=25

Assessing Climate-Related Risks and Adopting Property Resilience Measures

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In the evolving landscape of commercial real estate investment, the financial implications of climate change are becoming increasingly significant. The Federal Reserve Board of Governors underscored this point in March 2021,[1] noting the direct financial risks posed by climate change, including the reassessment of asset values, alterations in the cost or availability of credit, and impacts on cash flow timing and reliability. These changes prompt a critical need for commercial real estate owners and investors to thoroughly understand and mitigate the risks associated with climate-related events and extreme weather conditions.

As extreme weather events such as hurricanes, wildfires, and record temperatures become more frequent and severe, the commercial real estate sector faces growing exposure to climate-related risks as well as rising insurance costs. These exposures necessitate a comprehensive approach to evaluating and addressing potential vulnerabilities, ideally starting at the pre-acquisition stage of investment. During this phase, physical and transitional climate risk data can significantly enhance capital planning for the long-term resilience of properties.

Property Resiliency Assessments

The adoption of climate risk assessments, also known as property resiliency assessments (PRA), has gained momentum within the commercial real estate community in the past few years. ASTM International has also been developing new standards for the PRA, which are due to be released this year.

These assessments often leverage geographic data from national and local weather databases, flood maps, and advanced models that combine artificial intelligence with machine learning and historical data. However, a solely regional focus can sometimes miss critical nuances of a property's specific risk profile. As such, combining geographic data with site-specific assessments is essential for a truly accurate evaluation of a property's resilience—that is, its ability to withstand and recover from extreme

[1] Brunetti, C., et al. (March 19, 2021). FEDS Notes: Climate Change and Financial Stability. Board of Governors of the Federal Reserve System. https://www.federalreserve.gov/econres/notes/feds-notes/climate-change-and-financial-stability-20210319.html

weather events. The Delta between regional and site-specific risk can vary widely depending on the occupancy and community location such as industrial versus retail parks. Surrounding properties, industries, vegetation, and hardscapes all impact the property's resilience to extreme climate events.

A comprehensive assessment includes an on-site evaluation to identify building characteristics that could influence performance during climate events. For instance, regional flood maps might not indicate a flood risk for a particular property, but an on-site assessment could reveal susceptibility to flooding due to outdated or inadequate stormwater management systems. Conversely, a property presumed at risk based on regional data might have risk mitigating features, such as sufficient elevation, advanced drainage solutions, and raised mechanical systems that significantly reduce its vulnerability.

When to Conduct a Property Resiliency Assessment

The ideal timing for conducting a climate risk and resiliency assessment is during the due diligence phase preceding acquisition, specifically alongside the property condition assessment (PCA). This approach not only saves time and resources but also ensures a comprehensive understanding of the property's climate vulnerabilities. In regions known for specific climate risks, integrating a resiliency assessment with the PCA can yield a more in-depth property valuation by accounting for climate risk factors with the potential to increase average annual loss and decrease asset value.

Furthermore, early assessment allows for the identification and implementation of cost-effective mitigation strategies. For example, in regions prone to hurricanes, installing straps on rooftop equipment can prevent significant damage and liability. Similarly, in areas of high fire risk, simple measures like air intake ember guards and the removal of flammable materials within 10 feet of buildings can offer substantial protection against fire damage. These strategies, identified through a detailed climate risk assessment, can be incorporated into capital planning, ensuring that investments are both resilient and financially sound.

Incorporating climate risk evaluators into the PCA process can enhance a property's appeal to investors beyond the immediate benefits of risk mitigation, particularly those increasingly focused on sustainability and ESG (Environmental, Social, and Governance) criteria. Properties that demonstrate a commitment to resilience and sustainability can achieve higher GRESB (Global Real Estate Sustainability Benchmark) scores, an important ESG benchmark in commercial real estate, potentially attracting a broader investor base.

The importance of property resiliency assessments extends to the broader strategic planning of real estate investments.

These assessments provide a range of scenarios—from best to worst case—alongside corresponding mitigation options, allowing investors to make informed decisions about the costs and benefits of various risk mitigation strategies. Although the field of climate science is relatively new with few standardized programs, it is characterized by complex variables. Having the ability to predict and prepare for climate impacts is critical for long-term investment success.

Impact on Building Design

Climate change also influences design and development decisions. Advances in building materials and engineering offer new options for resilience and hardening of properties to extreme weather events. Before the finalization of design, a PRA should be performed to inform decision-making regarding building envelope, mechanical system placement, and other resilient design features. In areas prone to wildfires, for instance, fire-resistant building envelope materials and the creation of a defensible space have become standard practices. These strategies, informed by climate risk assessments, ensure that new developments and redevelopments are better equipped to withstand future climate events.

The evolution of building science and the availability of detailed climate data have revolutionized the due diligence process in real estate investment. Modern technologies such as infrared scans, LiDAR (Light Detection and Ranging), and drone imagery provide insights that were previously unattainable, enabling investors to assess the future resilience of properties more accurately. As the industry continues to adapt to these changes, climate risk and resiliency assessments are likely to become a standard component of the PCA scope, helping investors to identify and mitigate potential vulnerabilities effectively.

In conclusion, the growing impact of climate change on commercial real estate necessitates a proactive approach to risk assessment and mitigation. By integrating climate risk assessments into the pre-acquisition due diligence process, investors can better understand the vulnerabilities of potential investments and implement strategies to enhance their resilience. This not only safeguards the financial performance of individual assets but also contributes to the sustainability and resilience of the broader real estate portfolio. As the industry moves forward, the ability to navigate the challenges posed by climate change will become a key determinant of success for real estate investors and lenders alike. ▪

About CLRM and Getting Involved

Who Attends?

The CLRM is attended by experienced Construction Risk Managers, as well as the upcoming generation of professionals from national, regional, and local lending institutions, and equity providers.

Typical Agenda Topics

Discussions include: regulatory environment, market trends, recurring problems in construction projects and how to address them, management of workflow and vendors, risk management approaches and scopes of work, data and technology, emerging issues, and so much more.

Meetings

CLRM hosts one national roundtable every spring, along with multiple regional forums held across the U.S. throughout the year. The current locations for the 2024 regional forums are listed below, with dates to be announced at a later time. We are actively seeking local leaders to join and lead these meetings, so please reach out to us if you're interested.

CLRM 2024 Regional Meetings

- **New York, NY**
- **Dallas, TX**
- **Atlanta, GA**
- **Chicago, IL**

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