# The Journal 2021

## Construction Risk Management

CLRM

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# WELCOME to the 3rd annual CLRM Journal

Welcome to our third edition of the Construction Lender Risk Management Journal. For eight years, the 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. Since the needs of our members vary, there is no one-size-fits-all approach to managing risks; however, the opportunity to share ideas here can help to create consistency, which benefits us all.


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The pandemic has created significant challenges in the industry and has limited our face-to-face meetings and interactions. Despite everything that has occurred, we are so glad that we have been able to keep these conversations going through continued calls and newsletters, recurring webinars, a LinkedIn forum, and in print via this Journal! From independent construction lenders to larger investors and lenders with multi-billion portfolios, the CLRM forum has attracted financiers, attorneys, asset managers, and construction industry participation. The growth in this community has been tremendous, with a 40% increase in membership, and an 80% increase in annual meeting attendance.

Though private non-residential construction declined about 10% in 2020, the commercial real estate industry continues to play a significant role in driving the U.S. economy despite increasing uncertainties. Design changes, deurbanization, uncertainties about office occupancies, and the impact of lockdowns on retail properties and hotels continue to create significant disruption in the industry. Effectively managing risks is more important than ever before.

For this year's journal, we've collected insights from the CLRM community covering the market forecast, key construction trends, financing of public-private partnerships, commercial solar rooftop tenants, mitigation of risks in constructing tall buildings, and a look at the impacts of construction payment speed, among other great pieces.

By sharing ideas and solutions we can become stronger, both as individuals and as an industry. Thank you for being part of our community.

Sincerely,

*Bill Tryon*

PARTNER
Engineering and Science, Inc.

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# CLRM - Add Your Voice!

Joe Derhake, PE, CEO
Partner Engineering and Science, Inc.

Constructing buildings brings with it so much excitement, especially as the buildings come to life and transform communities. Construction is also vitally important to our national economy, however, every construction project carries with it execution risk. If we as technical support professionals for the finance industry can mitigate that risk, our country can build more and complete 100% of the projects that are started.

For construction risk managers and A&E professionals working at financial institutions, CLRM is a very unique forum. Thanks to the vision of our founding members including Bob Biggs and David Drummond, the leadership and tireless efforts of my colleague Bill Tryon, and the insights of our lender and investor advisors, the agenda for CLRM has always focused on what matters most to financial stakeholders. But what is equally important is your voice! The CLRM community thrives because of the robust dialogue and diverse perspectives that are shared by all members.

This is your chance to compare notes and share ideas with your counterparts at other financial institutions. Please get involved! Present at the annual conference (currently virtual) or lead/moderate a panel on the monthly call. This is a great way to advocate an issue in the industry and build your personal brand among your peers. I hope you'll add your voice to our next discussion!

**COME. LEARN. SHARE. BUILD.**

# About CLRM

## Who Attends?

Seasoned construction risk managers as well as the next generation of professionals from national, regional and local lending institutions, and equity providers. This includes senior vice presidents, asset managers, directors of construction risk and similar titles.

## 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.

## Monthly Calls

This is great way to plug in from afar or invite your team. Visit our website to register.

## LinkedIn

Join us on LinkedIn. Search Construction Lender Risk Management Group and request to join or visit:
https://www.linkedin.com/groups/6635200/

## We Want Your Insights

If you are interested in submitting a topic for a call, event, or future editions of this publication, please reach out to us.

## How Do I Become a Member?

Participate! Join a call, attend an event, bring your perspective to the table.

www.construction-lender-risk-management.org

## Meetings

Even in a virtual setting, we are committed to a collaborative, discussion-based environment. With the ease of access that our virtual events afford, feel free to invite your whole team!

**National Roundtable: Annually in Q1**

**2021:** Virtual on 3/16-3/17
**2022:** In-person; dates and location TBD

We typically hold smaller, in-person forums in these cities each year:

- Atlanta, GA
- Cincinnati, OH
- Denver, CO
- Dallas, TX
- New York, NY
- Boston, MA
- Orange County, CA
- Other locations pending

In 2021 these will likely be virtual, however, contact us for more information about events near you.

## Contact Us!

If you would like to be notified of an event, or are interested in hosting a regional CLRM, contact us at:
CLRMinfo@partneresi.com.

# CLRM 2021 Market Forecast: A View Through the Haze

by Dianne P. Crocker, Principal Analyst, LightBox

In my career as a market analyst spanning more than two decades in commercial real estate, I have never been more challenged to write a forecast than right now. One year ago, my forecast was full of optimism about the record-long economic recovery, strong property fundamentals, healthy interest in construction and redevelopment, still-low interest rates, and plentiful debt and equity capital. By March 2020, of course, that optimism eroded as COVID-19 brought the market to a rapid halt.

The lockdown response to the pandemic caused the once-robust pace of commercial real estate lending, construction, and investment to plummet. All but our most essential businesses closed. Construction projects stalled. Commercial real estate professionals across the U.S. canceled travel plans and hunkered down with Zoom from our laptops at home.

The pandemic's impacts were widely felt across the commercial real estate sector in the second quarter—from listings activity to due diligence to deal closings. By the third quarter, the market turned a corner as investors and lenders got comfortable doing deals again, and by year-end, construction re-starts were getting underway in some areas of the country. As the fog begins to lift on the commercial real estate industry's path to recovery post-pandemic, the good news is that market barometers continue to move in a positive direction. **(See Figure 1)**

Business and consumer confidence will improve with the latest round of stimulus and more widespread vaccine distribution, but construction markets will take considerable time to fully recover. Below is a list of ten forces that will impact commercial construction lending in 2021.

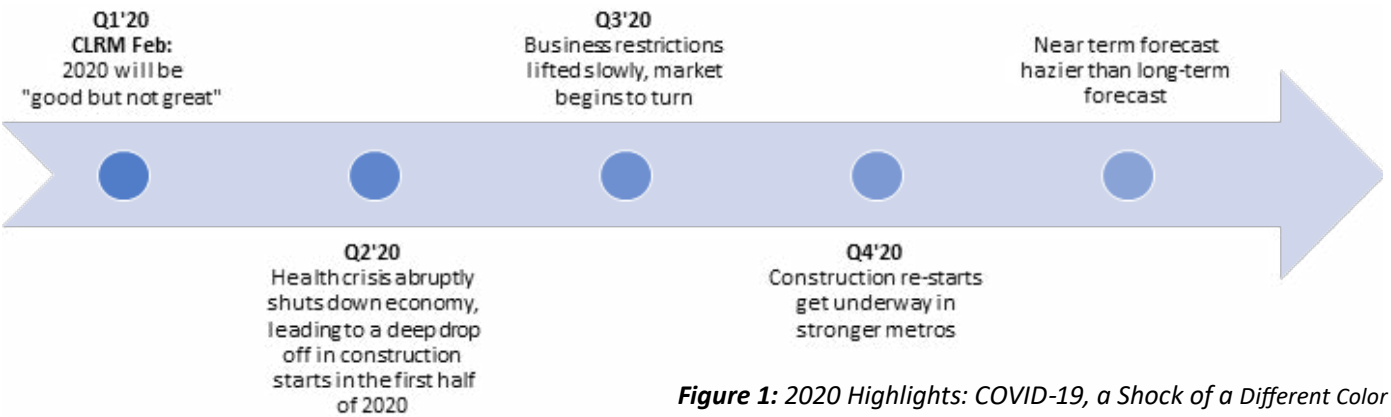


***Figure 1:*** *2020 Highlights: COVID-19, a Shock of a Different Color*

### 1) Equity Dry Powder is Mobilizing.

At year-end 2020, Preqin estimated that there was $336 billion in equity capital waiting in the wings to invest in commercial real estate. For perspective, this is nearly twice

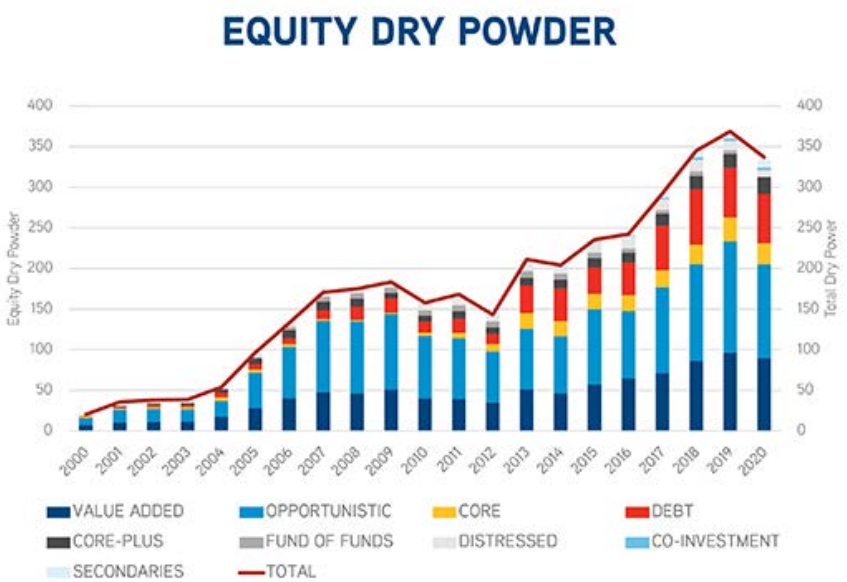


***Figure 2***

the volume that was sitting on the sidelines back in 2009. As these investors consider where to place capital in 2021 and beyond, the top three focus areas are expected to be: opportunistic investments as distressed assets surface, debt, and value-add opportunities. **(See Figure 2)**

### 2) Construction Starts are Forecast to Increase Modestly.

As market confidence improves, the commercial real estate development cycle will continue to advance in 2021, but at a slower pace and reduced volume. After declining by an estimated 14% in 2020, the 2021 Dodge Construction Outlook predicts that U.S. construction starts will increase only 4% in 2021 to $771 billion, with significant differences by asset class. Growth is expected in single-family housing starts, commercial building starts, warehouses, and data centers, while retail and hotel will continue to struggle. Multifamily, which led the way in recent years, is struggling under the weight of high-end construction in primary metros that now face declining rents. At the top of the list of concerns in commercial construction in 2021 are: rising construction cost concerns eroding builders' margins, labor availability, land costs and, new in 2021, tenant leasing and retention.

### 3) MetroWatch: Exodus to the 'Burbs Will Continue.

Given the different rates at which metros were impacted by the health crisis, it is reasonable to assume that the pace of recovery will vary significantly by geographic region and asset class. Demographic shifts, including the migration away from dense, urban areas to suburban areas will shape investor demand and construction planning for years to come. Increasing interest in suburbs makes Sunbelt cities like Raleigh/Durham and Charlotte more attractive. Cost-conscious companies are gravitating toward cities that are business-friendly, affordable, and attractive to large, growing talent bases. Construction is already picking up in suburban boomtowns with strong housing markets that are attracting top talent like Austin, Denver, Dallas, Nashville, Portland, and Seattle.

### 4) MBA's Near-Term Lending Forecast is Improving.

The latest forecast from the Mortgage Bankers Association is more optimistic about near-term improvement in commercial and multifamily lending than the previous October release. The MBA is forecasting a continuation of the bounce back that took root in Q4 carrying the market to an increase of 11% in 2021. This would be a dramatic turn-around from the 27% decline in lending for 2020 below 2019 levels. The MBA's forecast also predicted a 7% volume increase in multifamily lending, after a 17% drop last year. While this is positive news for hard-hit commercial mortgage sectors, it represents only a partial recovery from pre-pandemic lending levels. Given the uncertainty over rent payments and the unknown impact of the pandemic on property valuations, banks are being more selective about originations on properties perceived as high-risk, like hospitality, retail, and office, with a stronger preference for the relative safety of multifamily and industrial property loans.

### 5) The Numbers Game: Lender Scrutiny is Intense.

Although equity and debt capital are widely available, the recession triggered by the health crisis and uncertainty in the forecast is driving stricter underwriting, higher costs of capital, and selectivity about financing, especially in hard-hit asset classes. Lenders' strategies include requiring borrowers to bring second sources of funds to the table in the case of future default, and intense scrutiny of assumptions about a property's operating expenses, tenants' ability-to-pay, occupancy levels, and projections on rental rates and cash flow. As shown in the latest Federal Reserve Senior Loan Officer Survey, lenders are tightening standards significantly, particularly for construction loans. **(See Figure 3)**

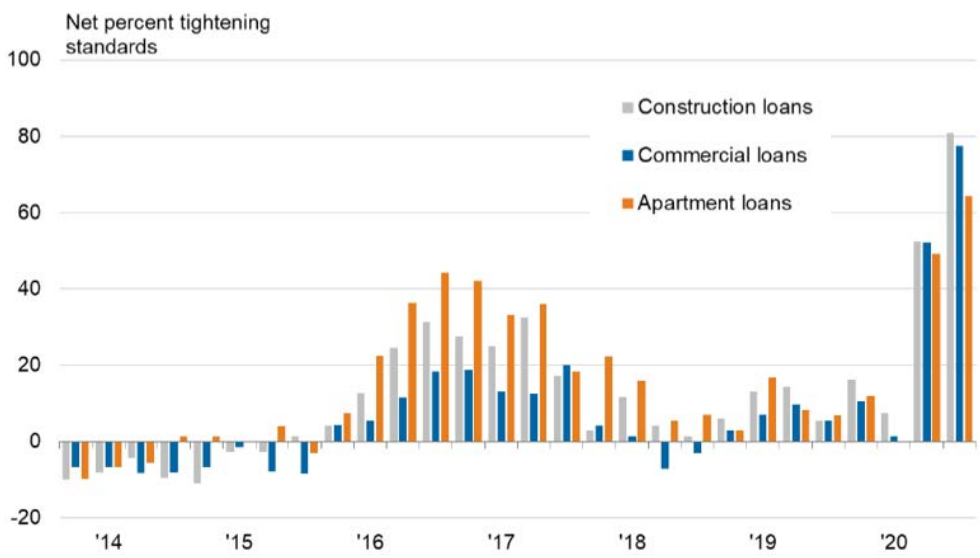


***Figure 3.*** *Source: Federal Reserve Bank, Senior Loan Officer Survey.*

### 6) Homebuilding is Moving In.

One trend that began in 2020 and is taking root in 2021 involves homebuilding. In an economy rocked by the pandemic, rental home construction is viewed as a safe


haven. Even if they can't afford to buy, residents are gravitating toward suburban living. Developers are buying undeveloped land for the purpose of building residential homes to satisfy demand for rental properties. In fact, there are more single-family homes under construction in the U.S. today than at any other time since 2007.

### 7) Industrial Cements "Most Favored Asset" Status.

Last year was a strong year for the industrial sector, 2021 should be even better. The COVID-19 pandemic further solidified industrial's status as most-favored asset class by intensifying the growing reliance on e-commerce and at-home delivery. Industrial properties currently have both the strongest fundamentals and the highest investor interest—in terms of both transactions and new development. Accelerated e-commerce adoption and higher inventory levels have the potential to generate additional demand for 400 million square feet or more in industrial space over the next two to three years. Given the shortage of attractive industrial properties to meet demand in some growth areas, there's been a sharp rise in projects to repurpose retail space into industrial uses, particularly in the Southeast U.S. region. Constructions starts are expected to continue to climb with a focus on the development of facilities to support e-commerce logistics, last-mile distribution, data centers, and cold storage as a substantial portion of grocery sales moved online.

### 8) Multifamily Construction Could Continue to Struggle in Larger Metros.

The ten-year bull run market for multifamily rental housing development and construction has slowed in response to the pandemic. Multifamily developers pulled back on development site acquisitions in 2020, especially in harder-hit metros that are struggling as residents migrate to suburban areas. It is important to note, however, that there are significant differences by metro and sub-asset class. There is strong investor and lender appetite in areas like Phoenix and growing metros in the Southern and Southeast regions of the U.S. As the market impacts of the pandemic take shape, there is likely to be distress surfacing in areas like Manhattan, Las Vegas, and some areas of Florida that are heavily dependent on travel and tourism. Overall, however, multifamily is still generally very strong nationwide and even stronger in the states that are experiencing very high population growth and a shortage of housing.

### 9) Office Uncertainty: We Don't Yet Know What We Don't Know.

The office sector is one of the most difficult to predict. The widespread work-from-home protocols are impacting the office outlook, and the impact on long-term demand for office space remains to be seen. "Wait-and-see" is the prevalent mindset as companies with leases expiring are opting to renew for a shorter period until market conditions become clearer. Eventually the market will experience a gradual re-entry to the office, with a preference for suburban assets over urban, and a slow path of return to pre-pandemic investment levels. In the office sector, tighter lending standards are slowing speculative construction, an appropriate move in times of uncertainty. The office sector is typically the last one to go through deterioration during times of market unrest simply because leases are longer, so the impacts take longer to surface. It is likely that companies will offer more flexible work options and make strategic changes to their office space footprint post-COVID. Some will find that 100 percent of employees don't want to, or don't need to, come back to work 100 percent of the time

in the office. Some may pivot to a "hub-and-spoke" model with a smaller downtown headquarters supported by new satellite space in smaller offices in suburban, low-rise Class B and C properties.

In certain metros, an oversupply of office will eventually be repurposed into new uses like housing, vertical warehouses and e-commerce fulfillment centers, and meeting/event spaces. The story for 2021 will be one of gradual re-entry to the office, with a preference for suburban assets over urban, and a slow path of return to pre-pandemic investment levels. Urban areas hit hard by the health crisis, like San Francisco and New York City, will recover more slowly than smaller metros that benefit from strong employment growth and a technology focus like Austin, Dallas, Phoenix, and Seattle.

### 10) Retail/Hotel Remain Challenged but Nuanced.

Retail is likely where the market will experience the greatest pain—and the greatest potential. Not only have the owners of non-essential stores had to cope with extended closures, but an even broader swath of the population now routinely shops online, making the environment for brick and mortar stores that much more challenging. Retail tenants are struggling to pay rent, and lenders are reluctant to extend capital for retail investment given the continued bankruptcies and store closures.

Nuances by sub-asset class are pronounced with investors favoring grocery anchored shopping centers, pharmacies, and medical facilities. For developers poised for adaptive reuse, retail-to-industrial projects are accelerating, especially in the Southeastern U.S. The next evolution in the retail sector presents a significant opportunity for construction lenders as obsolete retail space is reinvented in ways that meet the demands of tomorrow's market.

The hotel/lodging sector felt the most immediate impact from the pandemic as travel came to an abrupt halt. Although occupancies are expected to recover gradually as business/leisure travel and event activities resume, investors are buying struggling hotels for conversion into rental apartments in metros with strong population and employment trends.

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### Near-Term Uncertainty, Long-Term Optimism.

Over the near-term, market barometers point to gradual, continued improvement in 2021 as vaccine distribution expands to more segments of the population and the economy returns to full operation in the latter half of the year. Clearly, the market recovery cannot fully happen until the health crisis ends, and certain asset classes will fare better than others, as will certain metros. Construction projects that stalled in 2020 are slowly coming back online, while developers are acquiring new sites and planning new projects as market confidence improves.

Longer-term, the industry is entering an exciting age of adaptation that will challenge owners, investors, and developers to respond to the dramatic shifts in the evolving demand for space. This will open up new avenues of opportunity for real estate professionals to reposition, redesign, and redevelop properties as some properties lose their appeal and new uses emerge. ▪

# Will COVID Be the Tipping Point in the P3 Revolution?

by Lisa Glahn, Partner, Vice Chair – Construction Practice Group, Foley & Lardner LLP

In the world of public-private partnerships, the United States is a relative outsider. Despite decades of flirting with the concept as a viable method of project delivery, the United States construction market has treated public-private partnerships – or P3s as they are known – as the proverbial third rail. One part traditional and one part innovative, the P3 model marries a private entity, who will finance, construct and potentially manage a public asset, with a public entity who, in order to avoid up-front construction costs, will promise return on private investment in the form of direct government payments or indirect end-user revenue.


While the rise of public-private partnerships has long been anticipated in the United States, the model has been slow to take off. The reasons for this slow ascent are many and include public skepticism of a model in which private investors' rates of return are often higher than the municipal bond rate as well as the perception that public entities are overpaying for what amounts to minimal risk transfer. Despite these concerns, however, the current reality – in which state and local governments are diverting scarce funds to COVID-related matters and recognizing, acutely, the need to improve failing infrastructure – may mean that P3 will finally gain traction in the United States.

In a recent study by the Council on Foreign Relations published in January 2021, cities and states "supply nearly 80 percent of the $441 billion spent nationally on transportation and water infrastructure".[1] This fact, based on the Congressional Budget Office's most recent data, underscores the importance of state and local spending on outdated and failing infrastructure. In 2019, the American Society of Civil Engineers (ASCE) noted that "the U.S. spent just 2.5% of our GDP on infrastructure, down from 4.2% in the 1930s" and that "from 2016 to 2025, we'll underinvest in our infrastructure by $2 trillion, according to the 2017 ASCE Infrastructure Report Card."[2]

That same ASCE Infrastructure Report Card, which is issued every four years, gave the United States a D+ in 2017 – a grade unchanged from 2013.[3] With respect to how COVID has impacted these realities, ASCE states:

> Unfortunately, the COVID-19 pandemic has made a difficult situation worse. A sizable portion of our existing infrastructure systems are supported with user-generated revenue streams. With the onset of the pandemic, commercial water use is down, commuters are staying off the roads and away from transit, and airports are virtually empty. Meanwhile, municipal and state budgets are buckling under unprecedented demands, meaning less support is available for parks, schools, and other publicly-owned infrastructure, precisely at the time we should be investing.[4]

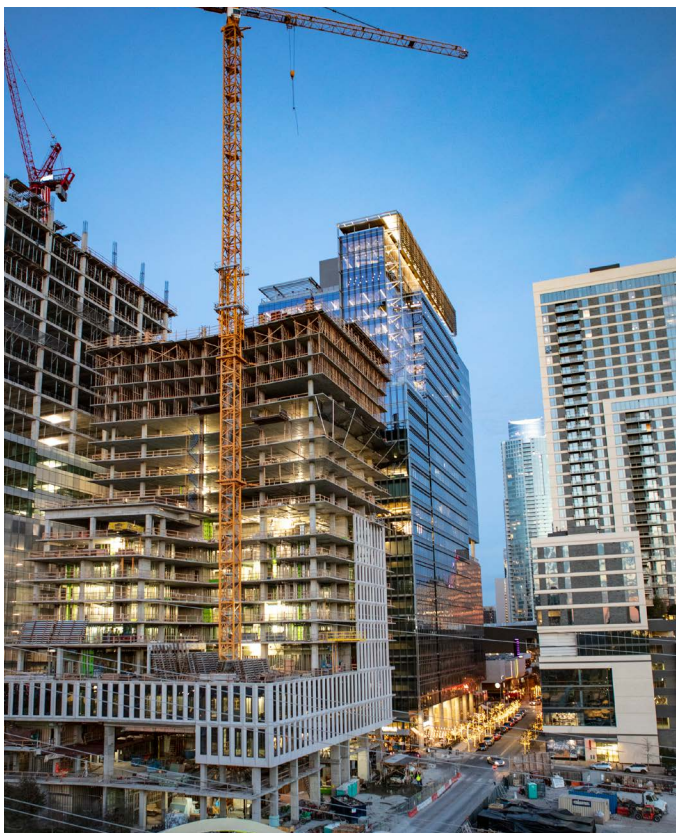
Cities and local municipalities have been hit particularly hard by the pandemic. A December 2020 survey conducted

and published by the National League of Cities (NLC) found that municipal revenues are down 21%, while expenses are up 17%.[5] The NLC also estimates that nearly 90 percent of cities experienced a revenue decrease due to COVID, and will be less able, or unable, to meet their increasing needs in fiscal 2021.[6]

Compound these difficulties with the threat that additional stimulus may not arrive – or arrive soon enough – on the state and local level. A proposal that would have provided another $160 billion in direct aid for state and local governments was struck from the stimulus package approved in December 2020.[7] While the Biden administration seeks to double down on that shortfall by earmarking $350 billion in aid to municipal governments as part of his economic stimulus package proposed in January 2021, certainly nothing is guaranteed.[8]

In the light of these perils, the private sector offers some measure of relief. A recent article posted by the Forbes Real Estate Council argues that the private sector is just the right partner to help local governments carry upfront burdens like attorneys' fees, program management costs, and acquisition, design, and engineering expenses, which are estimated to be as much as 18%-20% of total project costs.[9] Further, advocates of P3 claim that the model can maximize value by bringing in projects more quickly and economically than projects procured under the traditional public construction model. Particularly, advocates point to integration of design and construction services, elimination of certain risk, and reduced capitalized interests costs as key benefits of P3 project delivery.

Still, it remains unclear whether P3 will overcome what seems to be historic U.S. skepticism to perceived privatization of government function. Trends to watch for in 2021 include (i) the granting of COVID relief – and in what magnitude – to state and local governments, (ii) an uptick in the letting of P3 projects, (iii) the passage of enabling legislation by states to either establish or broaden statutory authority for the use of P3 project delivery, and (iv) the consequences resulting from various high-profile P3 disputes, including Maryland's light-rail Purple Line project, which will undoubtedly dictate public opinion as to whether these types of projects truly deliver a "value for money" end product. It certainly seems, however, that all indicia point to traction – at last – in the P3 market in the United States. ▪



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# Avoiding New Mistakes in the Next Downturn

by Trey Meers,
Senior Vice President
Real Estate Services
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**Construction lenders learned from their mistakes after the last recession, but new mistakes may be creeping in.**

A year ago, we were wondering when the longest bull market in history would come to an end. Fast forward to today and some of the top terms for 2020 were "pandemic," "lockdown," and "dumpster fire." Commercial Real Estate and construction lending have proven to be fairly resilient so far, but this now offers a good opportunity for lenders to review their risk management protocols and potentially gird for near-term distress.

The last recession taught lenders too many lessons about how construction loans could go bad, which proved to be the undoing of several venerable institutions between 2008 and 2012. Many of these lessons were heeded, leading to improved risk management policies that allowed lenders to be comfortable getting back into the construction lending game. However, after ten years of a bull market and constant growth, new bad habits may be creeping in.

A key takeaway from "The Great Recession" was that many developers were forced to take the "least bad" option when the bottom fell out of the market. That often meant halting construction projects because of plummeting valuations when they realized their properties would be underwater well before completion. To a developer in this situation, the choice here was to right-size the budget with a significant equity injection, or to hand the proverbial keys to the lender on an unfinished construction project. A significant percentage of developers chose the latter as they tried to conserve cash or focus on saving certain projects and abandon others. In the eyes of a developer facing financial oblivion, every further dollar disbursed to a contractor would be indebtedness potentially needing to be covered by a Personal Guarantee.

When construction lending commenced again (generally after 2012), lenders were stricter with their draw disbursement processes. Construction loans today generally require that all of the borrower's equity be contributed first so the lender can be in control of funding through completion. Cost increases require equity contributions to cover the increases at the moment they're realized, rather than waiting for that expense to actually be incurred.

The lender's ability to control construction through completion is probably the most important risk management tool for a lender. The key here is for a lender to be able to achieve appraised "as-complete" collateral value without being at the mercy of a borrower's worsening cash position.

This single strategy can protect lenders against many of the potential failure points of a construction loan; however, there remain important potential pitfalls that could derail a lender's ability to complete construction in the event a borrower is unable (or unwilling) to do so.

**Make Sure the Correct Parties are Getting Paid** – Many project failures occur when subcontractors walk off the job for lack of payment, even though the lender had funded every draw request in full. Developers and/or General Contractors may hold or delay payments for their own benefit, especially during worsening economic conditions if they decide they need to hoard cash. This was a too-common problem in 2008, but many markets still face this potential risk when custom is for the lender to fund draws to their borrower or the General Contractor. The best practice here is to send construction loan funds as far down the chain as possible – directly to the subcontractors if possible. The best practice is do as much as possible to make sure that the people directly performing the work are actually getting paid. Be sure to collect Sworn Contractor's Statements that list the subcontractors to be paid, as well as individual subcontractor lien waivers – not just a pay application with categories. This can also be achieved through the use of Funds Control Services or Title Company Escrows.

**Don't Rely on Lien Priority to Save a Loan** – Lenders may be overconfident in the protections certain jurisdictions provide in terms of priority of bank liens. Senior lien priority protects a lender from having another party be able to initiate a foreclosure ahead of them, but junior liens would still need to be cleared before any normal loan payoff can occur. Unresolved junior liens would still need to be cleared for any sale of the collateral property or external refinance. Connecting the dots from above, if the correct parties aren't getting paid and junior liens get filed, a lender won't have enough remaining loan funds to complete construction and clear these liens (effectively double paying).

**Watch for Additional Costs and/or Scope** – The biggest culprit in not having sufficient funds to complete construction is cost increases or additional scopes of work the lender isn't aware of. It's important that the lender's inspector be looking out for work being performed that may not be appearing on the pay applications or isn't part of the original plans and specs. Contractors will likely require these extra costs be paid before turning over the building and releasing any lien rights, so lenders need to stay on top of these in order to maintain enough loan funds to complete construction.

No single risk management tool is enough to protect lenders from construction loans going bad, but strong review and control policies along the way can help prevent projects from going sour. The overarching goal is to make sure the lender controls sufficient funds to complete construction and achieve sufficient collateral support for the loan, but that's a simple concept with considerable underlying complexity. ▪

# Operating Leverage and Break-Even Analysis for Contractors

by Dev Strischek, Principal, Devon Risk Advisory Group

## Breaking Even is Hard to Do

Economic cycles are a fact of life in the construction business, and those who are successful pay a hefty tuition in this industry's school of hard knocks. After all, as Confucius said, he who will not economize will have to agonize. The purpose of this article is to explain why profits are so volatile in construction and what must be managed in order to break even.

## Formula for Distress

We learn early in our accounting and finance classes that profit is the difference between revenue and expense, and the surefire way to improve profit is to increase revenue and/or decrease expense:

***Revenue – Expense = Profit***
***Increased Revenue – Decreased Expense = Higher Profit***

Boosting revenue and cutting expense is easier for some than others, especially in the construction field.

First, consider the two variables that drive revenue, price per unit and quantity of units:

***Total Revenue = Price per Unit x Quantity of Units***

Ambrose Bierce's *The Devil's Dictionary* defined price as value plus a reasonable sum for the wear and tear of conscience in demanding it. In good conscience, a contractor could raise prices, but the highly competitive nature of construction means other hungry contractors are likely to match or undercut the contractor's construction prices. Worse, the industry is further restricted in price flexibility by the use of fixed-price contracts, and the typical contractor wins a construction contract only by bidding the lowest possible price. Adjusting prices on a current contract is constricted by the change order process; basically, modifying the original contract's price, so boosting prices is not a feasible strategy for a contractor competing for work in a fixed-price bidding environment.

Ben Franklin warned to "beware of little expenses; a small leak will sink a great ship." Construction can add up to a boatload of costs, but reducing them is not easy. Let's try anyway, by stating the obvious, that total costs are the product of cost per unit and quantity of units:

***Total Costs = Cost per Unit x Quantity of Units***

However, to win a bid with the lowest price, the contractor usually has to minimize his costs. So how can the contractor reduce costs any lower than his minimum costs?

Unlike other businesses, the contractor's fixed-price bidding environment substantially reduces both the price and cost flexibility that other businesses have in the traditional profit strategy. Neither price nor cost is easily changed, so the contractor's strategy choices are limited to ensuring that the contract price is maintained and that costs are contained. In effect, with a tacit ceiling on revenue and a floor on costs, the contractor's odds of increasing a job's profit are far less than the job's profit being reduced because of unexpected costs.

On top of the price and cost limits, contractors must survive the construction industry's cyclicality. The construction cycle is extremely volatile from year to year, and generating enough revenue to break even is even harder when sales are unpredictable from year to year. Let's look at some measures that quantify the volatility and break-even for contractors. How much will changes in sales impact profits, and how much revenue is needed to break even?

## Operating Leverage

Operating leverage measures the impact of changes in sales

on profits. All things being equal, if sales rise by 10%, how much will profits increase? If a 10% increase in sales results in a 25% rise in profits, that is an operating leverage of 2.5x. However, financial gravity can be painful because a 2.5x operating leverage means that a 10% decline in sales would reduce profits by 25%. Worse, companies doing business in industries characterized by both high operating leverage and volatile sales will be vulnerable to erratic profits. Construction suffers from both maladies, so recession and expansion can give the construction industry a bad case of the shakes. Let's now learn how to calculate operating leverage.

Suppose a contractor generated $1 million of revenues, enjoyed a 20% gross profit margin (GPM), and incurred $164,000 of fixed costs to earn a $36,000 pretax profit. What would happen if his sales rose or fell by 10%?

| Income Statement ($) | Actual | Sales +10% | Change -10% |
|---|---|---|---|
| Revenues | $1,000 | $1,100 | $900 |
| - COGS | 800 | 880 | 720 |
| GP @ 20% | $200 | $220 | $180 |
| - Fixed Costs | 164 | 164 | 164 |
| PBT | $36 | $56 | $16 |
| GP/PBT (x) | 5.5 | +55% | -55% |

If sales were to rise by 10%, and all things being equal, GPM remains at 20% of revenues and fixed costs stay at $164,000, the result is that pretax profits rise $20,000, or 55%, to $56,000. On the other hand, if sales were to slip 10% to $900,000, all things being equal, pretax profits amount to $20,000 and 55% less than the actual figure, just $16,000. What is the significance of 55%?

Operating leverage (OL) is the ratio of gross profit to profit before taxes (GP/PBT). In this example, OL is 5.5. How do we use it? Just multiply the change in sales by the operating leverage to yield the change in pretax profits, so a 10% change in sales times 5.5 means PBT will change by 55%, all things being equal. Of course, if all things do not stay equal, OL will change. The significance of OL is the importance it attributes to GPM's sufficiency to cover fixed costs. The lower the gross profit margin, and the higher the fixed costs, the higher the operating leverage.


## Break-Even Analysis

Another way to illustrate operating leverage is to examine its link to break-even analysis, the level of revenues necessary to cover all expenses. A simple way to calculate break-even sales is to figure out how much gross profit is needed to cover fixed expenses. In the preceding example of the $1 million contractor, about $820,000 is the break-even point, or about 82% of sales ($820,000/$1,000,000):

$$\textbf{Break-Even Sales (BES)} = \frac{\text{Fixed Expenses}}{\text{Gross Profit}} = \frac{\$164{,}000}{20\%} = \$820{,}000$$

With a little algebraic substitution, BES can be expressed in terms of operating leverage (OL):

$$\textbf{BES} = \frac{(\text{OL} - 1)\ \text{Actual Sales}}{\text{OL}} = \frac{(5.5\text{-}1)\ (1{,}000{,}000)}{5.5} = \$820{,}000$$

Does this break-even work? It does, indeed:

| | |
|---|---|
| Break-Even Sales | $820,000 |
| - Cost of Sales @ 80% | 656,000 |
| Gross Profit | 164,000 |
| - Fixed Cost | 164,000 |
| Profit Before Taxes | $0 |

We can also express BES as a percentage of sales:

**BES %** = (OL – 1)/OL = (5.5 – 1)/5.5 = 4.5/5.5 = 82%

Adding this line to the earlier industry operating leverage numbers shows how higher operating leverage translates into higher break-even sales.

The point of all this math is simply to say, the lower the gross margin, the higher the break-even point, and the higher the operating leverage, the higher the break-even point. Too high a break-even point could break both the borrower and the banker. So, let's take a closer look at the variable and fixed costs of a contractor.

## Contractor Costs

A contractor's variable costs and fixed costs may be classified according to whether they are job-related or non-job-related, respectively:

| **Job (Variable)** | **Non-Job (Fixed)** |
|---|---|
| Materials | General and Administrative |
| Labor | Officer's Salaries and Bonuses |
| Subcontractors | Rent and Lease Expense |
| Insurance and Banks | Travel and Entertainment |
| Overhead Allocation | Other Expenses |
| Other Expenses | |

Other expenses warrant cursory review if only because anything that does not fit the previous categories falls into this "other" or "miscellaneous" classification. Keep in mind that most expenses decrease profits and most consume cash otherwise available for debt repayment.

## Summary and Closing

During an earlier difficult era, Winston Churchill argued the importance of the profit motive to the political economy, "It is a socialist idea that making profits is a vice; I consider the real vice is making losses." Recession reminds us all how vital a role business profits play in recovery, so it is appropriate to review how prices and costs impact profits and how important break-even analysis is to a firm's survival. This industry is especially vulnerable in recessions because its competitive nature limits price and cost flexibility and the construction cycle is so volatile, so it is useful to understand and employ operating leverage and break-even analysis. ▪

# Mitigating Construction Risks in Uncertain Times

by Bill Tryon, Director of Strategic Development
Partner Engineering and Science, Inc.

The increased yield from construction loans can contribute significantly to a bank's bottom line, but with increased yield comes increased risk. After the Great Recession studies by FDIC and the Office of the Inspector General (OIG) showed that some lending institutions with high construction loan concentrations weathered the recession with no significant decline in overall financial condition. At the same time, though, almost all banks that failed during the recession had significant construction portfolios.

An increase in troubled loans is expected as a result of the pandemic. Lessons from the FDIC and OIG studies could provide useful tips to help mitigate risks. Aggressive growth, high construction loan concentrations, poor risk management practices, ineffective controls and risky decision making were identified as past contributors to the failure of most institutions.

Common weaknesses in risk management and controls included:

- Lack of independent review
- Frequent exceptions
- Ineffective loan monitoring
- Inadequate monitoring of participation loans

### Lack of Independent Review

Construction loans can be lucrative, but proper administration is much more complex than it is for conventional loans. It can be tempting to administer loans based on relationships with the borrower or in anticipation of future business, rather than assuring the quality of an individual loan. A strong market can be forgiving of many such decisions, but as markets turn, the sale or lease of a property may become problematic, values can decline, and borrowers may be unable or unwilling to fulfill commitments. Independent review and oversight of loans was found to result in lower losses.

### Frequent Exceptions

Though occasional exceptions are not unusual, frequent exceptions to loan requirements can be a strong indication of a troubled project and granting such exceptions can allow problems to go unrecognized. In the OIG study, many lenders were found to have no consistent method for identifying, tracking, and evaluating exceptions. By implementing a tracking system, lenders can evaluate and report the frequency of exceptions requested and/or approved in order to intelligently allocate resources to higher risk projects.

### Ineffective Loan Monitoring

OIG found significant weakness in risk management and

internal controls in 80% of the failing institutions studied. Examples included in the study show that Directors failed to maintain risk management policies and procedures to support increasing risks during the downturn. This resulted in an inability to assure equity injections, monitor disbursements, track insurance, monitor and clear liens, etc., producing cumulatively catastrophic impacts in the troubled market.

### Inadequate Monitoring of Participation Loans

As a result of their study, OIG found that many failed institutions obtained participating interests in construction loans in hopes of increasing yield without the risks of expanding their own operations into construction lending. Unfortunately, in many cases participants relied upon due diligence performed by the lead lender, whose own due diligence was less thorough than one might hope. In subsequent guidance, regulators imposed requirements for institutions purchasing a participating interest in loans to conduct an independent review of the transaction to assure satisfaction of their own lending criteria.

### Regulatory Guidance

Federal banking regulators have published guidance for examiners evaluating risks associated with pending construction. In addition to the management of programmatic risks such as loan concentrations and loan-to-value ratios, guidance identifies key factors in the management of project-specific risks.

- Pre-loan evaluation of project feasibility
- Rigorous construction loan administration and minimum standards for loan documentation
- Critical evaluation of construction plans, contracts, budgets, and schedule
- Assessment of the borrower's and contractor's capabilities
- Careful management of disbursements and monitoring of progress

With an anticipated downturn in construction, now could be the perfect time to revisit policies and procedures. ▪

# Modular Construction: What You Need to Know to Assess Risk

by Brooke Bright, Assistant Vice President, Construction Team Manager, U.S. Bank

Industry investors are seeing a growing development trend when it comes to modular construction. Developers increasingly view modular as a viable option to fabricate a building's core structure quickly, resulting in a fast-tracked lease-up. They may see it as a logical step to get banks on board because the construction is expedited, and quality controls are built into the manufacturing process.

The question is, if you have never underwritten a modular project, is it time to take the risk?

Although my underwriting expertise is not specifically in modular construction, I have underwritten a few Affordable Housing modular projects and have seen both the pros and cons of engaging in them. In my experience, one of the most important steps in underwriting a successful modular project is to ask a lot of questions. As with all projects, you can't foresee every eventuality, but these tips may help you to more thoroughly vet them so you can get your organization comfortable with investing in modular.

## Getting Comfortable

The question I most often get from my peers is how to get comfortable lending to or investing in a modular project. For an investor or lender, it's an important question to ask. The answer comes down to the level of risk your organization is willing to take. There are a lot of considerations to make before underwriting takes place, so you can start by asking these questions:

1. How knowledgeable is the developer on the modular construction process?
2. If the developer is not knowledgeable about the modular process, will they be engaging a consultant? If so, who will they engage?
3. If the developer is knowledgeable about the modular process, have they completed a modular project? How many have they completed and when?
4. What modular manufacturer will be used to build the modular units?
5. Is the modular manufacturer experienced in manufacturing the types of units you will be using for your project? If so, how long have they been in business and which projects have they completed?
6. Which general contractor will be used on the project?
7. Has this general contractor ever built a modular building? If so, how many and when?
8. Has the modular manufacturer ever worked with the GC you plan to use?
9. If the modular manufacturer is not local, who will be responsible for coordinating delivery of the units to the job site?
10. Due to the logistics of modular construction, where will the units be stored upon delivery?

This is by no means an exhaustive list, but rather a solid starting point of things to consider before underwriting begins. The answers will help you understand the expertise of the developer or the consultant the developer may use to coordinate the process. They will also help you determine whether you — as an investor or lender — can get comfortable with a modular project. And finally, the answers help your organization determine the next steps on how they would need to proceed in order to minimize risk. For example, just because a developer hasn't completed a modular project before does not mean it's not a good project to invest in; it just means that more information and/or resources are needed before proceeding.

Once these questions are answered and all necessary approvals are received, the hard part begins. Understanding the timing, logistics, and cost to complete a modular project can be cumbersome. If you have never worked on a modular project, there are a few things to be aware of:

1. ***Modular is not cheaper.*** It's significantly more expensive because of the logistical planning involved.

2. ***Modular is not inherently better than stick build.*** Although modular construction is efficient, there are still ongoing studies of its viability in certain markets.
3. ***Modular requires a high-level of coordination.*** Although it's advertised as a faster process, and it can be with the right coordination and experience, if it's not coordinated properly it could negate the anticipated 50% time savings.

Being familiar with your team, your manufacturer, and the logistics and coordination of the project will be key to realizing the full benefits of modular construction. While you may still have some outstanding questions being vetted as underwriting starts, it's imperative that these questions be answered and quantified in order to have a successful project.

## What to Expect from the Process

Typically, the underwriting starts with all the investors, lenders, developers, and other players on the team coming together for a kick-off meeting to outline what's known and the expectations of the group. This is where a dreamed-up timetable and logistics plan turns into reality. Most people are aware that the affordable housing industry does not move particularly fast, and this is especially true for most underwriting processes. Having the team understand the true timelines will help the entire group meet those deadlines for a successful project.

The time slot the developer has with the modular manufacturer will drive all other activities in the timeline. This is important because most manufacturers, if not all, can only push one project through their plant at a time. If you miss your time slot, you may run into another scheduled project. This can cause significant delays if you get pushed to a later time slot. To avoid this, it's important for the developer to have a realistic time frame of the underwriting process with each investor and lender and for the rest of the team to be aware of the capacity and project space limitations of the modular manufacturer.

Transport coordination and responsibility for the successful delivery of the modular units is another issue to consider. This tends to vary depending on which modular manufacturer the project plans to use. I've seen instances where the modular company maintains ownership of the units until they are successfully delivered and accepted at the site or site storage area. I have also seen cases where the Partnership takes ownership of the modular units as soon as they are moved outside of the manufacturing plant's walls. In this case, the developer and their team are responsible for getting the units to the site or site storage in a timely manner. This is something that should be discussed and worked out before moving forward. Insurance also comes into play here. The entire team should know what insurance is needed and be approved by each team member, no matter who takes ownership and when.

Being knowledgeable about the permitting requirements is also extremely important when embarking on a modular project. The permitting requirements will vary by state, so knowing what's required for the state where you will build is important for the construction timetable. Some states, such as California, have a clear-cut process on how to permit the modular units. If you are building in a state that doesn't have a clearly defined process, it will become even more important to investigate and understand this before construction can commence.

This whole process will also need to be funded, and many organizations have clearly defined requirements about how draws need to be processed. With modular, this tends to be a major negotiating point and is something that's rarely a one-size-fits-all-scenario. In most cases, it may be reasonable to have monthly draws processed in the traditional way that most affordable housing lenders and investors are used to. In some cases, however, this may not be feasible for the modular manufacturer being used. Due to the nature of how projects move through a plant and their billing, more frequent draws may be necessary. In these instances, funding will become an important negotiating point because it ultimately comes down to the exceptions an organization is willing to make as well as what the modular manufacturer can comfortably agree to while still maintaining their business model. It will all depend on what each specific company is willing and able to accommodate.

There are additional factors to consider when evaluating the comfort level of your organization to underwrite the developer and modular manufacturer. However, many of the concerns relating to modular construction will become apparent while talking through the process and logistics. The suggestions outlined above are items I wish I had known going in. Through learning and experience, they have helped me get my organization to understand and become comfortable with the modular construction underwriting process. Ultimately, it will all come down to understanding the product, the team, and knowing the risks your organization is willing to take. ▪

# The Higher They Rise: Risk Mitigation Strategies for High-Rise Construction

by Robert Barone, R.A., LEED AP
Director, Institutional Construction Services
Partner Engineering and Science, Inc.

While all construction projects involve risk, building a high-rise comes with a specific set of challenges. Due to the extended schedules and critical path nature of these projects, small issues can exponentially increase in significance as the project rises higher. After working on hundreds of high-rise projects over the course of my career, I can anticipate and help mitigate many of these risks for lenders and investors before they close on their commitments to the project. Most of the pitfalls of high-rise construction fall into 13 main categories. I've listed these below, along with mitigation strategies for each.


## 1 Zoning and Building Approvals

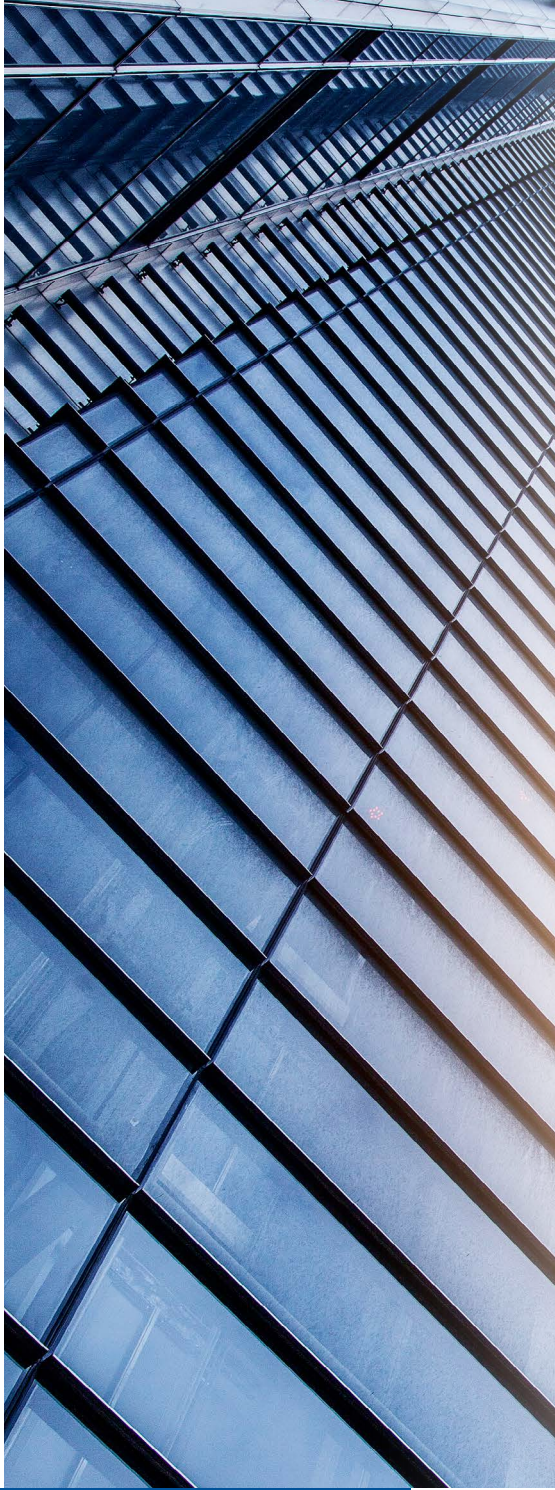
The construction permitting process varies by municipality. Understanding the process and related timeframes is critical to keeping your project on track. As a lender or investor, you should verify that the sometimes complex zoning requirements have been met and the proper permitting has been completed. In cities such as New York City, a review by independent zoning counsel may be needed. The project will not be allowed to commence until the appropriate permits are in place; therefore, a delay in permitting will result in a delay in the schedule. As the project commences and continues, watch the expiration dates of building permits and calendar renewal applications in advance to avoid project shutdowns.

## 2 Design, Project Changes, and Scope Creep

Construction documents, including interior design, should be completed and approved by the developer prior to project kickoff. To the greatest extent possible, it is important to fully understand the status of the construction documents (i.e. schematic design, design development, 100% complete construction documents, permit set, etc.) and agree on a set of milestones and dates to complete the documents prior to closing the commitment. Third-party reviews of construction documents, including reviews by specialists such as accessibility, roofing, MEP, or building envelope experts, can be useful in identifying inconsistencies or design deficiencies before construction begins. Identifying deficiencies early can help with avoiding project changes later or scope creep due to overlooked requirements. Many cities, such as New York, require structural peer reviews prior to the issuance of the building permit. Verify what has been done to mitigate these risks.

## 3 Project Team

A project team–including developer, design team, and contractor—with relevant experience in high-rise construction is critical to a successful project. A team with prior experience working together is a great advantage, as team chemistry can contribute to project success. It is also important to dive into the experience of the individual team members.



***The Developer.*** Complete a review of the developer's financial standing and the experience of their in-house construction team. They should have their own staff of professionals to manage the design and construction team. Obtain their organizational table and resumes of their key team members to verify they have the appropriate experience.

***The Design Team.*** Obtain their qualification statement (i.e. AIA Document B305 Architect's Qualification Statement) which will provide detail on their qualifications for the specific project. The design team must have high-rise experience to account for risks such as the impact of natural catastrophes, wind, and loads of a high-rise building.

***The Contractor.*** Similarly, the contractor must provide their qualifications. AIA Document A305 Contractor's Qualification Statement provides general information on the contractor, as well as their project-specific experience and financial condition. The contractor will need specific experience in site logistics to protect pedestrians, traffic, and neighboring buildings, as well as in high-rise worker/material transportation and crane operations.

As a team, the designers and contractor need to have the experience in selecting materials and systems that can hold up to both the rigors of high-rise longevity and to the risks during construction, such as costs and availability, so as to not increase costs or delay the schedule.

## 4 Construction Agreement

The developer and contractor should negotiate a comprehensive and balanced construction agreement to be executed by both parties prior to project commencement. While there are several agreement approaches that could be taken, most lenders and investors favor a Guaranteed Maximum Price (GMP) approach. Using a GMP approach can mitigate the risk of cost overruns to the developer for in-scope related extras and give some early comfort to the lender or investor that the project should be completed within budget. The GMP should be thoroughly reviewed by the developer and the lender/investor to confirm that (1) the project's documents, which it is based on, are sufficiently complete; (2) that there is a reasonable amount of allowances; and (3) that the GMP qualifications do not alter the intent of the project documents or transfer additional risk to the developer that would have to be accounted for. A GMP based upon substantial subcontractor buy-out (in excess of 80%) also helps mitigate future financial risk to the contractor under that arrangement. The GMP should also include a detailed construction schedule with clear milestones to be met.

## 5 General Contractor Failure

The contractor must demonstrate that they have the financial ability to complete their obligations under the construction agreement. If there is a question regarding their ability to do so, performance and payment bonds should be obtained, or another contractor considered.

## 6 Subcontractor Failure

The failure of a single subcontractor or vendor can have a cascading effect on the project's schedule and budget. The contractor should have a clear strategy to mitigate risks related to a subcontractor failure. The contractor could require the subcontractors to provide individual performance and payment bonds covering their obligations or utilize a Subcontractor Default Insurance (SDI) program. Individual bonds provide guarantees from the subcontractors' sureties that the work of the respective subcontractors will be completed, while SDI provides security to the contractor, the policy owner, if a subcontractor breaches their contract and is terminated. SDI puts the contractor into a position to proactively manage subcontractor issues without limiting coverage in the ultimate event of a default. The contractor who uses best practices around subcontractor prequalification, subcontractor management, quality programs, and subcontractor default loss control, stands to benefit from the implementation of an SDI program.

## 7 Workforce Sufficiency and Labor Harmony

The construction agreement typically requires the contractor to provide an appropriate management team and workforce to maintain the quality of work and meet the project schedule. The contractor's strategy for meeting the project's labor needs should be reviewed at the start. On large projects in areas where union labor is prevalent, the use of a Project Labor Agreement (PLA) may be useful. A PLA can help to ensure labor harmony throughout the term of the project, as it can provide protection against strikes, work stoppages, sympathy actions, picketing, slowdowns, or any other disruptions associated with labor union activity.

## 8 Construction Quality

The construction documents should contain detailed quality control and controlled testing requirements to be met by the contractor and its subcontractors. These documents should also identify the specialty consultants retained by the developer for such systems as the exterior wall, structural, life safety, etc. Additionally, the designers should perform traditional construction administration services as part of their scopes, which will enhance the quality control for the project and protect ownership against poor workmanship. The contractor should manage the overall quality control program and provide a monthly non-conformance report to the developer and lender/investor of all testing that did not meet specifications and the status of the remedial efforts.

## 9 Major Construction Accidents

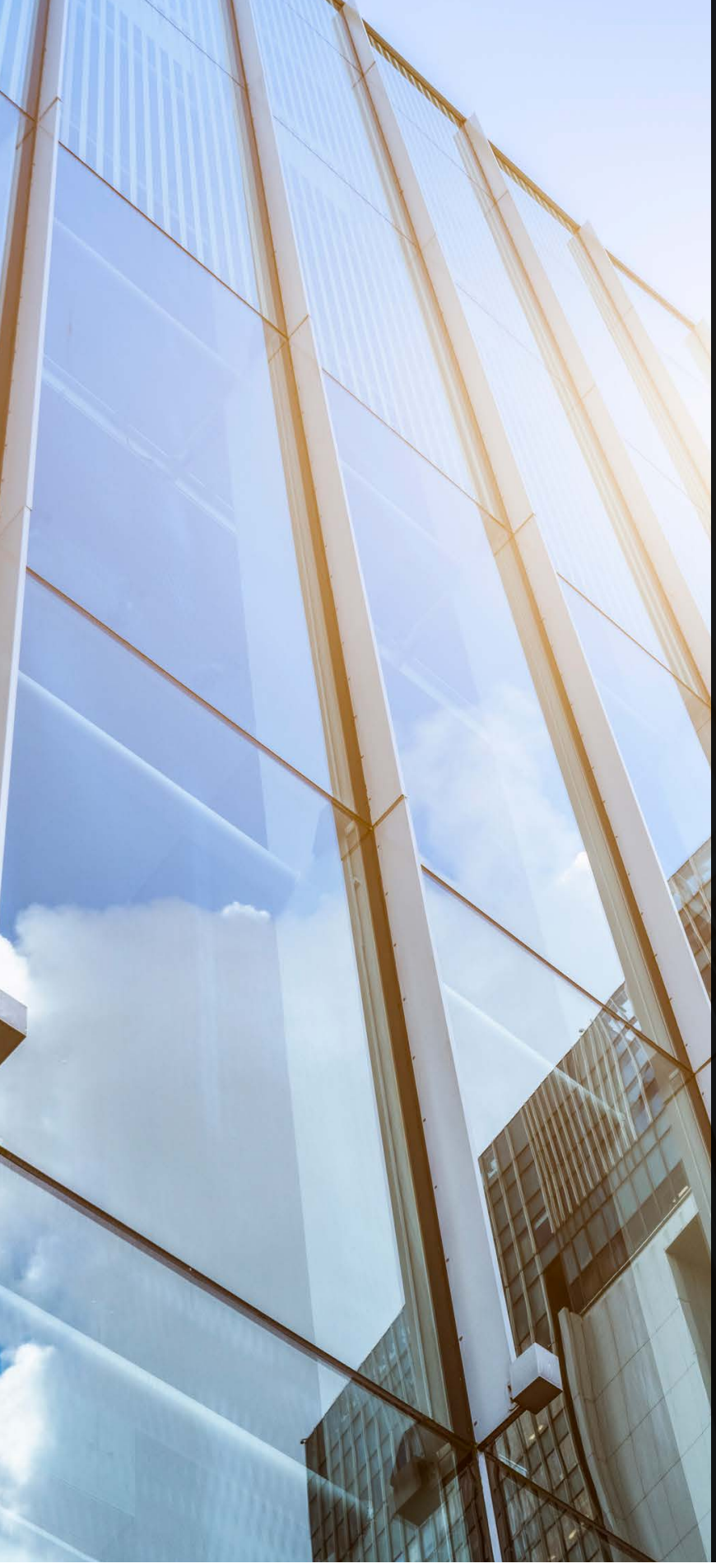
While no project is immune to accidents, having a contractor with significant experience with high-rise construction, an impeccable safety record, and a robust health and safety plan for the project will go a long way towards avoiding major accidents. Cities such as New York, where high-rises are common, will have stringent safety requirements as well. Be sure the project budget contains adequate funds for safety and protection measures during the construction period.

## 10 Adverse Weather Conditions

Depending on the size and timing of the project, weather can seriously impact the project schedule. Designers and contractors must adopt measures to minimize weather delays. The GMP schedule should be prepared to account for normal weather delays. Of importance, many schedules and budgets are prepared based on a specific start date. If the project start has been delayed materially, confirm that weather-dependent activities have not been impacted due to seasonal shifts to the extent they result in extra costs or delays to the project.

## 11 Contractor's Lack of Urgency to Meet Schedule

The construction agreement should include milestone completion dates for events such as foundation start, tower structure completion, envelope completion, first Temporary Certificate of Occupancy, final Temporary Certificate of Occupancy, building opening, and project completion. The contractor should be required to provide regular construction schedule updates, look-ahead schedules, and recovery schedules if the project has fallen behind. The construction agreement could also include financial incentives to the contractor for meeting or beating the milestones and liquidated damages of an agreed-upon sum per day if the substantial completion date is not met.



## 12 Inability of Developer to Make Decisions and Settle Claims

Late decisions or unsettled claims can impact the schedule and budget of a high-rise project. The developer should have a team and procedures in place to review open issues and make major decisions in order to prevent project slow down due to the lack of developer direction or settlement of outstanding cost issues.

## 13 Budget Risk

Given the longer construction period durations and inter-connected activities of high-rise projects, there is risk for large cost overruns. The construction agreement should include requirements for the contractor to monitor, review, and present cost exposures to the developer on at least a monthly basis in the form of a pending change order log and anticipated final cost report. The construction agreement should also have specific language regarding the contractor's responsibility to review all claims presented by the subcontractors for appropriateness, and when and how the cost exposures are to be presented to the developer to be considered a valid cost. A contingency budget sufficient to absorb the unavoidable extra costs for those risks that cannot be mitigated should be included in the budget.

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Generally, the risks of high-rise construction are the same as for any large, complex construction project, but they increase with the height of the project. Before funds are committed, savvy lenders and investors will have a robust risk management plan in place, including a qualified construction consultant. A construction risk management consultant with high-rise experience will be well aware of the potential pitfalls described above and can help a lender or investor assess risks and employ strategies to avoid them via their documentation, from document and budget review to project close. ▪

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# Getting COZY with Small General Contractors

In commercial construction lending, funding tends to follow a cadence that provides a sense of control and security. When that cadence is broken with a request to fund off schedule and fund quickly, we are jolted into the reality that construction lending can be hectic and, often, flexibility is required from all parties involved.

Specializing in small business construction and acquisition lending, Lincoln Capital Management has ample opportunity to engage with small and medium-sized general contractors. We define small general contractors as those who concentrate on renovations and projects of less than two million dollars. These projects make up 44% of our portfolio, as small general contractors often provide the competitive pricing and flexible labor force necessary to complete SBA projects. Small general contractors are the ones most likely to request accelerated payments and it is not uncommon for us to open a contract with terms of a bi-weekly net 10 draw schedule. The ability of these contractors to finish on time, on budget, and at a lower cost is predicated on these tight payment timelines.

The traditional funding timeline starts with net 30 for a general contractor's pay application. Net 30 turns into net 45 for the sub-contractor, which turns in to net 60 for the person who performed the work in the field. The Whiting-Turners of the world can make this structure work. They have the capital on hand to pay their subcontractors in a timely manner, floating the costs if needed and keeping the job fully staffed. For smaller projects, net 30 payment terms take longer to put money in the subcontractor's pocket than it took to complete their scope of work. If subs cannot get paid quickly, they will move on to jobs that can pay. When a general

contractor does not have the capital and cachet of these national names, the speed of funding becomes paramount.

What can we as lenders do to help keep the small general contractors funded while still controlling the funding risk associated with the project? Get **COZY**!

- **Contract Review** - Ensure that the contract meets the needs of the project. When something is in question, many general contractors will point to their documentation as back up. Knowing the contract puts you in the mind of the general contractor.

- **Over-Communicate** - Be crystal clear about what documentation will be required for funding a draw request and the timeline needed to do so. Clarity comes through continued communication and repetition, so keeping the lines of communication open is critical.

- **Zig and Zag** - In other words, be flexible! Anticipate the small general contractor pushing back on your standard payment terms and have a solution ready to suggest. A "my way or the highway" approach benefits no one.

- **Yap Less, Listen More** - Listen to what your small general contractor has to say. When you are attentive to their needs, they will be more willing to accommodate yours. Building this rapport with your builder will be an asset to the project.

Lending on small projects is a partnership between the lender, the borrower, and the general contractor. While we can lay out our rules and require concessions, we should be prepared to adjust our expectations as well. This means understanding that, yes, sometimes the pay application will be slightly ahead of progress on site. Entertain the idea of mobilization fees. Discuss paying suppliers directly and off schedule to help lock in reduced material costs. **Above all, understand and anticipate the needs of the general contractor and their project.** As long as you have been 'COZY' with the project, these issues are easily navigated.

Additionally, when these projects are run through reputable third party funds control services, we as lenders can get COZY with our small general contractors looking to fund draws outside of our typical cadence; these services help make a noticeable difference in the onsite product. The transparency of these third party reports also allow us to clue into over-funded line items and track progress from pay application to pay application, guiding our communication

and allowing us to anticipate project needs.

Building a relationship with the general contractor and understanding a project's pressure points are key requirements if you consider making exceptions to your bank's standard funding policy, as no two projects are created equal. With a little nuance and personal touch, you too can get COZY with your smaller general contractors! ▪

# How the Speed of Payments Impact the Construction Industry

## *Rabbet's Annual Survey on the Costs of Slow Payments on Subcontractors and General Contractors*

by Will Mitchell, CEO, Rabbet

**The construction industry suffers from the longest days sales outstanding of any industry in the US.**

Subcontractors experience the primary effects of slow payments directly, including the cost of floating payments for payroll and supplies, higher risk of bankruptcy during down-cycles, and challenges in growing a cash-intensive business. In addition, general contractors also face some of these primary effects alongside secondary effects like inflated project costs and delays.

Looking at survey data from both subcontractors and general contractors, the 2019 Construction Payments Report estimated a $64 billion impact on the industry for carrying forward the fees and costs of slow payments. In 2020, the impact of slow payments has skyrocketed 56% to an estimated $100 billion. This report demonstrates the primary and secondary costs of slow payments and why all parties in the construction industry should take action to address them.

### 2020 Survey Report Highlights

**56%** increase in costs associated with slow payments, for a total of $100 billion in 2020, up from $64 billion in 2019.

**69%** of subcontractors would offer a discount in exchange for payments within 30 days, resulting in an estimated industry-wide savings of $80 billion, up from $44 billion in 2019.

**25%** of all respondents report that work has been delayed or stopped due to a delay in payments to crew members in the last 12 months.

**41%** of subcontractors report choosing not to bid on a project due to a general contractor or owner's reputation of slow payments.

**183%** increase in subcontractors using retirement savings to float payments.

### Subcontractors Absorb the Greatest Costs of Slow Payments

Working capital is crucial to contracting businesses. In simple terms, cash flows out of a subcontracting business for wages and materials much quicker than the time it takes for cash to flow in. Wages must be paid weekly or biweekly, and materials are typically purchased on 30-day invoice terms. On the positive side, it appears fewer contractors are waiting more than 30 days for payment than in 2019. In 2019, roughly 75% of contractors reported waiting longer than 30 days to receive payments, with one in three waiting longer than 60 days. Fast forward to 2020 and those numbers have improved; 54% of contractors reported waiting longer than 30 days and less than 15% reported waiting over 60 days for payment.

### The Waiting Game: How Subcontractors Float Payments

Subcontractors turn to many sources of financing for wages and materials while they wait for payment from the general contractor. In 2020, subcontractors report needing

to use a wider variety of funding sources than in 2019, including credit cards and personal savings. Only 41 % of subcontractors report the ability to rely on their balance sheet, with 46% relying on a line of credit, 36% relying on a credit card and 37% relying on personal or retirement savings. This represents a whopping 183% increase in the use of retirement savings to finance payments alongside a 53% increase in credit card usage and a 33% increase in contractors dipping into personal savings.

### The First Domino: How Financial Strain on Subcontractors Passes Through to Developers

Despite holding at 3.3% for 2018 and 2019, in 2020 subcontractors estimate that the cost of floating payments adds an average of 4.5% to total project costs, representing $61B in excess cost to the industry. This significant cost to developers and stakeholders could be alleviated by improving their ability to make payments more quickly.

### The Evolution of Payment Efficiency in 2021 and Beyond

Sudden changes to job site requirements and the introduction of remote work necessitated by the COVID-19 pandemic forced contractors, real estate developers, and lenders to confront inefficiencies quickly in 2020. In Rabbet's 2020 State of Construction Finance Report, construction lenders and real estate developers each said over 50% of their current construction finance process could be automated. In fact, over 40% of real estate developers thought their lender's process was inefficient and 70% of respondents believed technology and automation could expedite their process.

Despite being thrust into the spotlight however, inefficiency and slow payments are still a major issue adding unnecessary cost. Trends suggest the domino effect isn't going away in 2021, but the evolution of payment efficiency will continue. Whether you're a develop, lender, or stakeholder, these trends and takeaways can help guide your strategy in 2021 and beyond. ▪


| Trend | Takeaway |
|---|---|
| The cost of slow payments in the construction industry is rapidly increasing each year and negatively impacting all stakeholders involved. | **Efficient payment processes reduce cost for everyone.** The impact of slow payments on subcontractors is the first domino causing a chain reaction that extends cost and risk to developers, lenders, equity partners and other stakeholders on a construction project. |
| Fewer contractors are reporting project delays or withholding bids, but reputation continues to significantly impact contractors' willingness to take on projects. | **Payment reputations influence contractors' decisions.** The events of 2020 may have put many contractors in a position where they do not want to turn down work. However, a reputation for slow payments still adds unnecessary cost to developers' projects. |
| Fewer contractors are waiting longer than 30 days to get paid, yet a larger percentage are incurring financing charges due to slow payment. | **Monthly payments aren't always good enough.** Faster payments alleviate the necessity for contractors to float payments and incur charges which ultimately get passed down the chain to developers (the domino effect). |
| While fewer contractors are reporting a willingness to discount, the size of discounts for faster payments are increasing. | **Payment efficiency helps developers obtain discounts.** When payment speed matters to a contractor, it matters greatly. Ensuring payments are delivered quickly increases the probability of earning discounts. |
| Slow payments continue to add unnecessary risk in the form of liens, project delays and unforeseen costs. | **Expediting payments is critical for risk management.** Inefficient processes that lead to slow payments can derail projects with liens and added risk. |

# Credit Enhancement Options in Construction Lending: A Look at Traditional and Modern Tools

by Chelsy White
Managing Director
Saint Vincent

When it comes to construction loans, there is no doubt that lenders carry significant risk. Although there are tools available at every step of the loan process to reduce lender construction risk via proactive risk management services, when it comes to protection against borrower or contractor failure, the tools available become reactive. In fact, in the event of borrower and/or contractor failure, these tools can cause significant headaches to the lender, often halting the project entirely.

Tools to prevent construction defaults often are also utilized as credit enhancement options for borrowers who need a boost in credit to qualify for construction loans, but each has its own list benefits and drawbacks.

**Traditional Tools for General Contractor Failure.** When it comes to options that can be exercised when a project fails as a result of contractor performance, bonds are the most commonly utilized. Although bonds can be good tools for public projects, they are often not the best choice for lenders since they can be slow to respond, tough to perfect claims, difficult to collect, and can result in expensive litigation. And in cases where the General Contractor is also the borrower, bonds are not really a viable option, often limiting the lender's ability to offer them a loan.

**Traditional Tools for Borrower Failure.** Aside from performing more stringent underwriting, typical credit enhancement options available to mitigate borrower failure include letters of credit, the inclusion of additional guarantors, and restricted cash. Although letters of credit can be a good option as they provide lenders access to cash with fewer obstacles, they can be expensive, require that the borrower be well-capitalized, and handcuff the borrower's operation by potentially restricting working capital.

Having additional guarantors on a project also improves a project's credit profile. However, it can be difficult to obtain additional guarantors and may also prove costly to the borrower as they may have to give up an equity stake in order to secure these guarantors. Although guarantors are required to sign a completion guaranty, historical precedence has shown that a lender's primary recourse against these instruments is an after-the-fact suit for damages.

The use of restricted cash as a credit enhancement tool is utilized when lenders want to be sure money is set aside specifically to repay a project's loan. Although funds placed in this account accrue interest and are reimbursed if the project is completed on time and on schedule, it ties up the borrower's working capital. In a developer's world where cash is king, any lender requiring restricted cash should not be surprised if such a requirement is a deal killer.

**A Modern Credit Enhancement Tool.** Another option for lenders looking to provide solutions to help their borrowers get approved for a construction loan is SureBuild℠ project completion insurance. This credit enhancement tool can be an attractive option for both lenders and borrowers alike.

***Benefits to Borrowers.*** To begin, project completion insurance is significantly cheaper than most credit enhancement alternatives like bonds and letters of credit, which ultimately drive up the cost of the project. Less capital tied to the project also offers the borrower more financial leverage. Secondly, the ultimate goal of the borrower is to get loan approval. Do borrowers ever anticipate the need for project completion insurance or any other credit enhancement tool to be invoked? Of course not, as it means they would potentially lose everything. However, if having project completion insurance helps to close on their loan and give their lender peace of mind, it is an option most will happily explore.

***Benefits to Lenders.*** Aside from being a less expensive credit enhancement option offered at a fraction of the cost of a bond, it is also a proactive construction risk management tool, often paired with professional services like a Completion Commitment and funds control. SureBuild℠ is quicker to call and, in the event of borrower failure, the insurance company would have plenty of notice to a claim and be able to fund expeditiously. Since the lender is the direct beneficiary of the project completion insurance policy, these funds would be available to the lender quickly and without the need for litigation.

***Credit Enhancement Use Scenarios.*** Project completion insurance is a good option for any construction project where risk is elevated. However, typical projects where borrowers have needed a boost in their credit profile have been for one or more of the following reasons:

- ***Credit Concerns***
- ***Cashflow Concerns***
- ***Borrower is the General Contractor***
- ***Lack of Developer Experience***
- ***Developer Project Scope is Larger than Usual***
- ***New Project Type for Developer***
- ***Enticement for Lender Participation*** – Used in the event that the borrower's lender needs additional protections to lend on a new project type, such as solar.
- ***Change in Capital Stack***
- ***Complex Capital Stacks –*** In situations where the General Partner has sufficient cash to fund the project, but has a large number of limited partners, project completion insurance is a great option for two reasons. For one, it can be hard and time-consuming to underwrite each partner. Secondly, it can be tricky to get the limited partners to contribute in times of trouble.

***How Project Completion Insurance Works.*** SureBuild℠ is enacted when there is borrower failure. Once the lender takes control of the property, SureBuild℠ is there to provide funding coverage for over budget construction costs. The insurance company would fund directly to the lender for each draw that is over budget as a result of non-optional change orders. [Note: There is a 10% copay.]

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While construction lending can be a high-yielding and profitable investment, it is high risk. It is important for lenders looking to make deals work for their borrowers thoroughly understand the benefits and drawbacks of the tools available to them. Choosing tools that are proactive and protect the lender at every stage of the process is crucial to assure a project gets completed, especially when it comes to lending to borrowers whose credit-worthiness is borderline. ▪


*Saint Vincent, LLC, is an Arizona limited liability company (LIC # - 3000572859) and is a wholly owned subsidiary of Partner Engineering and Science, Inc. SureBuild℠ is project completion insurance insured by various Syndicates at Lloyd's of London and is written on AM Best rated A (Excellent) XV, Lloyd's of London paper. Policy limits, insured co-pays, and deductibles will vary from policy to policy.*

# Completion Commitment: A Better Tool for Managing Today's Construction Risks

By Joey Bonin, National Client Manager, Principal
Partner Engineering and Science, Inc.

In today's market, amidst a proliferation of construction opportunities during the Great Recovery, there is a greater need than ever to minimize the financial risk of construction loans, especially in the wake of increasing oversight due to regulatory reform, the rise in cost of materials, and labor shortages that may contribute to project delays.

## Managing Today's Risks with Yesterday's Tools

To reduce risks, lenders have traditionally looked to payment and performance (P&P) bonds. If a contractor is unwilling or unable to either pay project bills or perform the agreed-upon scope of work and a default occurs, the issuing surety company is obligated to pay the outstanding bills and ensure completion of the project up to the amount of the bond. As a result, most public projects require payment and performance bonds.

In the private construction and lending space, however, there are some limitations to using bonds for risk management. Some projects cannot be bonded. These might include: overseas projects; multi-year construction jobs (three+ years); projects with contractors deemed too inexperienced or where the owner is also the general contractor; and projects with groundwater contamination, among many others. The bond is linked to specific project scope and contract amount—it does not cover other projects or cost discrepancies that may occur over a period of time. Furthermore, the beneficiary is the owner/developer, not the lender. Many lenders require bonds as a risk mitigant simply because it is a familiar tool, even though it may not necessarily be the best tool to protect their interests. It is important to note a bond can't be called in with an incremental problem or project delay. It can only be triggered by a default, at which point massive problems have already incapacitated the project. The resulting time for filing liens, adjudication, and final fiduciary resolution can drag on for months, sometimes years. Meanwhile, essential subcontractors can be lost due to lack of payment, while the materials and unfinished site deteriorate, possibly endangering the project altogether.

## A New, Proactive Toolkit

Thankfully, bonds are not the only safety net for lenders anymore. Proactive risk management tools, such as funds control, are becoming more mainstream and are increasingly acknowledged by lenders, the Small Business Administration[1] (SBA), and the U.S. Department of Agriculture (USDA)[2], as well as other various commercial construction programs as an acceptable alternative to a P&P bond.

One of the most comprehensive risk management approaches, called a completion commitment (CC), involves a series of proactive control measures implemented before and after closing to help to keep projects on budget and on schedule, and to minimize the risk of default. It includes four key risk management building blocks and an additional commitment of professional services to course-correct if needed.

## The Four Building Blocks of a Completion Commitment

Prior to closing, there are two key control measures to help lenders underwrite the project. A document and cost review (DCR) helps determine the feasibility of a project by evaluating, among other documents, the project's budget, schedule of values, plans and specs, owner/contractor agreement, appropriate permits, and the GC's full scope of work. During the same pre-closing period, a contractor evaluation (CE) helps determine not only the capabilities and experience of the GC but also its capacity to add another project to an active portfolio of ongoing work and still have access to appropriate resources, both human (labor) and materials.

After the loan has closed and once the project commences,

construction progress monitoring (CPM), sometimes referred to as a draw inspection, and funds control/ disbursement are critical tools for ongoing risk management to ensure successful project completion. At the time of each GC draw request, CPM consists of regular site observations (typically monthly) to evaluate construction completion as well as consistency with the original project plans and schedule.

The implementation of funds control and disbursement addresses all project-related payment issues, makes sure funds are disbursed on schedule, and prevents funds from being improperly diverted. As a compulsory feature, it allows the risk management firm to exercise full control over all project funds, conduct oversight of checks being issued by the GC, and, most importantly, to coordinate draw requests with ongoing onsite inspections that monitor milestone fulfillment. By assuring timely payment to subcontractors and suppliers, funds control encourages them to continue working on projects that may have been paused due to a default by the GC. Loss of key subs and suppliers is one of the most significant roadblocks to the successful completion of stalled projects.

All the above building blocks are required to obtain a completion commitment, but there is a fifth element that provides the commitment itself. This is an agreement at project inception that, in cases of performance-related contractor default or termination, stipulates that the risk management firm will step in to oversee management of the project completion, including the hiring of the replacement GC. The lender and owner both benefit from successful completion of the project. The product is requested by the lender, although the bank will usually require that the owner pays for the CC product and the rest of the risk management program as a contingency of the loan.

## How Completion Commitments Work

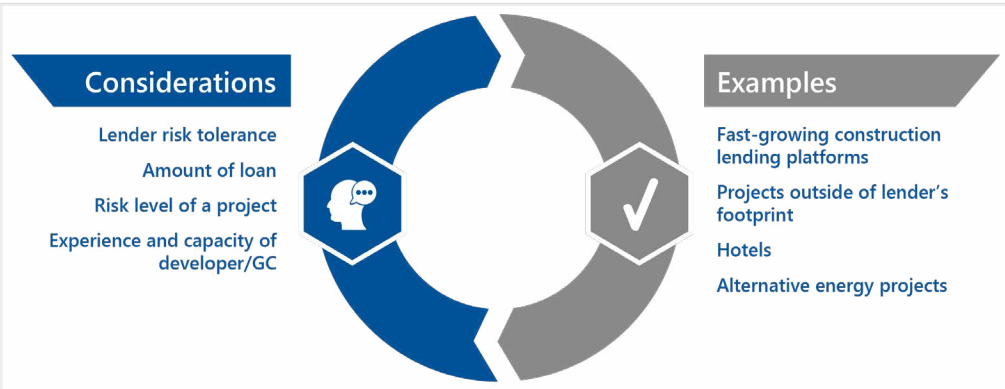
Collectively, these control measures serve as an effective early detection system for potential project discrepancies and problem prevention. Therefore, it is far less likely for a project that has a completion commitment in place to experience the difficulties that result in personnel termination and/or payment-related default.

In extremely rare occasions, despite these proactive preventative measures or through unforeseen circumstances, the GC is terminated for proven non-performance. When a performance default triggers the completion commitment, the consultant is called in by the lender to assist in finding a replacement GC, perform a thorough budgetary and project documentation audit, and continue construction progress monitoring to seamlessly move forward and ensure project continuity. One of the notable mandatory items for a CC is that subcontractors are assignable. In case of a default or termination, this helps keep the project team together—subs are less likely to walk out when they continue receiving checks and interfacing with an on-site project manager from the company on record.

As project and contractor evaluations get underway, the CC consultant notifies all essential collaborating and administrative parties that the GC is no longer on board, ensures all retained subcontractors are paid, and is in constant communication with project stakeholders to make sure funding and completion milestones are in place to resume construction work. As a result, there is generally far less project downtime, typically ranging from days to weeks, as compared to months or even years, for similar projects with triggered P&P bonds.

## When to Use a Completion Commitment

When the only construction risk management in place is a bond, the sole beneficiary is usually the owner/developer, but the lender's potential liability is still significant. Upon default, a surety ultimately restores funding based on the




PAYMENT AND PERFORMANCE BONDS VS. COMPLETION COMMITMENTS: AN OVERVIEW

| | P&P Bond | Completion Commitment |
|---|---|---|
| Beneficiary | Usually owner | Usually lender |
| Typical cost | 1-3% of hard dollar construction budget | 0.4-0.5% of hard dollar construction budget |
| Includes proactive control measures | No | Yes |
| Triggered by | Performance or payment default | Any ongoing discrepancy |
| Typical project downtime | Months to years | Weeks to months |

original estimate to complete the project, but it could take a protracted amount of time to adjudicate liens and follow up through proper channels during the investigation. In some cases, it takes years to restore funds. Unfortunately, by that point, a derelict construction site, subcontractors that are long gone, and the potentially higher costs for labor and materials to complete the project might force the developer or owner to walk away, leaving the lender with a foreclosed and devalued project.

With a rapidly changing construction landscape and an evolving array of lending sources, managing default risk depends on many complex interweaving factors. The graphic illustrates some key considerations and circumstances where a completion commitment is a more effective proactive risk mitigant than a traditional P&P bond.

So, how does the CC work under real circumstances? Below is a case study from a company we'll call "Company One."

### A Better Story: Completion Commitment Saves Hotel Construction

Company One was engaged as a completion commitment consultant for a major hotel construction project in Tennessee. From the outset of the project, as part of the full suite of risk management services, the Company One team worked closely with the GC, subcontractors, and developer to re-evaluate the budget, make payments to subcontractors and vendors, and monitor adherence to major completion milestones. Company One discovered the GC had asked the borrower (developer) to pay him all the money upfront, rather than disbursing through scheduled funds control. He claimed to be self-performing much of the work and was trying to stay ahead of the funds. Had strict funds disbursement oversight not been implemented on this project, the GC could have ultimately absconded with most of the construction budget, resulting in an enormous loss for the developer and lender.

Despite regular site inspection visits, real-time progress monitoring, and meetings with individual stakeholders, multiple liens were placed on the project and the GC was ultimately terminated for cause (repeated delays, quality of workmanship), triggering a performance default. Company One then stepped in to fulfill the completion commitment, starting with evaluating the project's status at the time of the dismissal. The hotel was 50% complete—the roof was on and building envelope was dried-in—an excellent starting point for a new GC to take over.

The Company One team traveled to the site to review the outstanding scope of work. Company One worked closely with the borrower to interview the most capable replacements and assist in getting a new GC on board. There was little to no delay in replacing the GC, and subcontractors and vendors continued to be paid as work progressed. Company One's construction risk management team instituted weekly meetings for construction progress monitoring while collaborating with the developer and new GC to help with assignment of subcontractors. Company One worked with the developer and new GC to revise the project schedule, update site materials deliveries, and establish milestones based on reasonable deliverables. Some vendors were even replaced. Company One saved the developer money by taking non-essential contract administration out of the new scope of work and resumed stringent funds control and disbursement oversight, including monitoring of buyouts to make sure contracts awarded were not greater than the scope of work required.

In the end, the hotel construction was finished without any additional liens and largely on schedule. By contrast, waiting for a bond payout on this project would have delayed completion significantly.

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For any lender or developer, undertaking a major construction project involves significant financial risk. While bonds may have been considered the industry standard for many years, they are not necessarily the best solution for all business objectives in today's market. The completion commitment product, together with a sound full-service construction risk management program including funds control and disbursement, helps ensure the lender and borrower can proactively manage their project from inception all the way through completion, with little or no disruption if problems occur. ▪

Notes

1. SBA SOP 50 10 5 K, Subpart B (pages 216-217)
https://www.sba.gov/document/sop-50-10-5-lender-development-company-loan-programs

2. USDA RD Instruction 4279-B, Subpart B - Business and Industry (B&I) Guaranteed Loans (page 63)
https://www.rd.usda.gov/files/4279b.pdf

# Environmental Due Diligence Checklist for Construction Lenders

By Dianne Phillips
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Environmental due diligence is a familiar part of underwriting for most lenders, but it takes on added importance when construction loans are implicated, especially if the project involves demolition or renovation of structures. Unanticipated construction costs, delays, and/or environmental enforcement arising from noncompliance have the potential to negatively impact a borrower's project development and loan repayment. This checklist identifies topics for consideration by construction lenders.

**Phase I Environmental Site Assessment:** The most common environmental due diligence report requested by lenders is a Phase I Environmental Site Assessment report prepared pursuant to American Society for Testing and Materials (ASTM) (now known as ASTM International) Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process, E1527-13 (known as a Phase I or ESA). A properly prepared and timely Phase I can be used to satisfy EPA's "All Appropriate Inquiry" rule, 40 C.F.R. Part 312, positioning a property owner (borrower) to claim eligibility under the Landowner Liability Protections enacted as part of the 2002 Small Business Liability Relief and Brownfields Revitalization Act, the "Brownfields Amendments" to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Although lenders typically avoid direct CERCLA liability through application of the lender liability protections, underwriting due diligence evaluating the borrower's potential risk is critical. Accordingly, since at least 2005 when the "All Appropriate Inquiry" rule was first promulgated in response to the Brownfields Amendments, lenders have typically required a timely and proper Phase I as part of its underwriting process. Where the Phase I identifies the borrower as "user" most lenders also request a reliance letter.

**Asbestos:** A visual survey for suspect asbestos containing materials (ACM), followed by sampling by a licensed contractor for buildings subject to renovation or demolition activities, and an Asbestos Operations and Maintenance Plan prepared for any structures with suspect or confirmed ACM which may remain post-development. Disturbance of ACM during renovation or demolition requires special handling, permitting, disposal, inspection, and monitoring under state and federal law. Both owners (borrowers) and contractors can be liable for noncompliance under applicable circumstances.

**Lead-Based Paint:** A lead-based paint survey, followed by sampling if appropriate, for buildings constructed prior to 1979, and consideration of a Lead-Based Paint Maintenance/Abatement Plan for any structures with suspect or identified lead-based paint materials depending upon construction plans. Disturbance of lead-based paint (LBP) during demolition or renovation may require special handling, permitting, disposal, inspection, and monitoring under state and federal law depending on the specifics of the project. Both owners (borrowers) and contractors can be liable for noncompliance under applicable circumstances.

**Hazardous Building Materials:** Where demolition or renovation is anticipated, a survey to identify all potentially hazardous building materials (mercury switches,

hydraulic equipment, fluorescent lights, PCB-containing equipment, etc.) which may require special handling during demolition including universal waste and hazardous waste requirements. Although typically a contractor requirement, owners can be liable in certain circumstances.

**Radon:** Radon testing for (i) projects located in a U.S. EPA designated Radon Zone 1 (avg. radon levels above 4pCi/L, the EPA recommended action level), and (ii) where properties have subsurface occupied structures in Radon Zone 2 (avg. radon levels between 2pCi/L and 4pCi/L). Although radon mitigation systems can be installed, anticipating these design requirements during due diligence is typically preferred.

**Wetlands:** Evaluation of the presence or absence of wetlands for areas subject to new development. Depending upon the project, federal, state or local permitting may be required to address wetlands. Both owners (borrowers) and contractors can be liable for noncompliance under applicable circumstances.

**Archaeological Survey:** An Archaeological Survey conducted by a qualified surveyor for new construction projects in areas of known concern. Depending upon the project, federal, state or local permitting may be required to address discovery of artifacts or other impacts. Both owners (borrowers) and contractors can be liable for noncompliance under applicable circumstances.

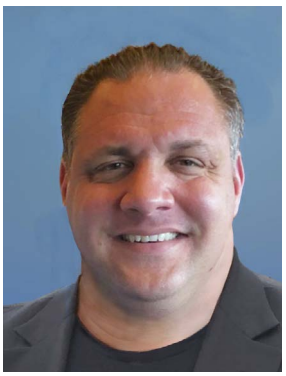
**Endangered Species Survey:** An Endangered Species Survey conducted by a qualified surveyor for new construction projects in areas of known concern. Depending upon the project, federal or state permitting may be required to address areas of protected habitat and species (both plant and animal). Both owners (borrowers) and contractors can be liable for noncompliance under applicable circumstances.

**Mold:** Documentation issued by a qualified person of a visual-based opinion on the presence or absence of mold for properties undergoing rehabilitation. Depending on the project, historic mold contamination and/or ongoing concerns may impact development, especially housing projects.

**Stormwater Management:** Construction sites often require stormwater permits and development of a Stormwater Pollution Prevention Plan (SWPPP) under federal or state law. Although typically a contractor requirement, owners can be liable in certain circumstances.

**U.S. Department of Housing and Urban Development (HUD):** For Projects involving HUD (loans or grants), HUD environmental due diligence requirements including compliance with the HUD Multifamily Accelerated Processing ("MAP") Guide and HUD Environmental Review Online System (HEROS).

Although each construction loan and project will have project-specific requirements, keeping these categories in mind will aid in underwriting due diligence. ▪



# Commercial Solar as a Rooftop Tenant: The Benefits and Process

by Joe Tassone, Co-Founder / Project Developer
ABOVEGrid

Real estate investors and property owners were met with many challenges last year. COVID-19 was an unfortunate impetus to potentially changing the real estate environment forever. Once thriving office parks are now facing lease expirations and early terminations as tenants rethink the virtual model or become casualties of COVID-19. Online shopping has become even more prolific, leaving retailers and malls barely hanging on.

Last year, my colleague Michael Gross of Partner Engineering and Science, Inc. wrote a great article titled "Increase Your Asset's NOI with Solar Rooftop Tenants." [Scan QR code to read] His article does a great job explaining the overall advantages of a solar lease/savings arrangement and dispels some of the myths around solar technology. ***As a developer, I wanted to take this opportunity to detail the step-by-step process that building/property owners can expect when considering a rooftop solar power system, as well as discuss questions they should ask.***

SCAN ME

## Opportunity in Renewable Energy

As some of the more traditional real estate models decline, the renewable energy sector is exploding! For the first time, coal has taken a back seat to solar/wind, with Goldman Sachs forecasting over $16 trillion in renewable energy investments over the next 10 years (Winck, B., Market Insider, 07/17/20). In addition, the federal government has extended the current ITC tax credit until 2023, and more and more states are upping their goals of carbon neutrality. This in turn is creating an even more financially attractive market for renewables, which is great news for developers and property owners alike.

That being said, not every property in every market is conducive to a commercial solar project. In addition, unused rooftop space is historically more expensive than typical ground-mount solar power systems and usually comes with more restrictions. Nonetheless, if you do have a large flat rooftop in a state/city with a good solar incentive, you may have already been approached by a developer or solar provider to lease your rooftop and/or enter into a Power Purchase Agreement (PPA).

## Solar Energy Developers and First Steps

Solar energy developers are companies that originate solar projects, perform due diligence, procure all the permits to a construction-ready site, and usually directly own or sell the solar system to an owner; this can be done as a utility, Independent Power Producer (IPP), or investment fund. As developers, we often hear building owners say they had been approached about installing rooftop solar in the past, but it never worked out. To those, I encourage you to be open-minded as incentive programs change over time. What may not have worked 18 months ago could now work very well due to new legislation, more competitive pricing models, and the changing utility electricity rates. ***As with any industry, there are both good and subpar developers. It is important that you do your due diligence in checking the references and resumes of the principals of any organization offering to install solar on your property.***

**The Proposal.** Once you are comfortable with the developer/owner and you have received and accepted a clear proposal outlining the economic and non-economic benefits of the project, they should be asking for an informal site visit to examine your roof and your utility infrastructure. This is an important part of the due diligence process and should be performed very early on.

**The Non-Binding Term Sheet**. After the developer completes the preliminary due diligence, they should be preparing a non-binding term sheet (based on the proposal) outlining the terms of the transaction. There are several transaction models available, each tailored to specific market characteristics.

## Solar Transaction Model Options

In some utility territories, like New York's Con Ed which has a community solar program, the deal will most likely be a straight building roof lease ("**Lease Model**"). Terms generally include lease terms in the 20- to 30-year range with escalations. This lease is a fairly straight forward arrangement and provides an assurance of predictable revenues. In other markets where electric energy rates are higher and offer attractive state incentives, like New Jersey, the transaction may be a PPA. In this "**PPA Model**," the owner/user pays the solar owner for electric energy delivered from the solar installation over the term of the agreement.

PPAs work well as a "Behind the Meter" solution and are beneficial for the property owner if either: (1) they are an owner/user that consumes electricity in excess of what the solar system would generate, such as a manufacturing facility, or (2) they pay for the electricity and CAM charges as part of the tenant leases. Depending on the electric energy rate (kWh) the owner/users are paying as well as the incentives offered, the owner could save considerably on electric energy costs. ***In this article, however, I will focus on the Lease Model.***

[Note: 1 MW (megawatt) = 1,000 kW (kilowatts) = 1,000,000 watts. A 100,000 square foot rooftop will typically accommodate an approximately 1 MW project. In most cases, rent is paid according to the system's size in MWs.]

## Next Steps in Your Rooftop Solar Development

**Due Diligence**. At the point in the process, a nonbinding term sheet is executed and the developer will commence with more costly due diligence; this typically includes title, Phase I, structural and engineering studies, and the preparation of applications to the respective jurisdictions. These activities are incurred directly by the developer. In my experience, most municipalities have favorable ordinances addressing rooftop solar with most installations given the go-ahead by simply applying for a building permit or through a site plan approval process.

**The Interconnection Queue**. One of the unique factors in a solar development is getting "interconnection" approval from the local utility. This is a complex process with specific procedures differing from utility to utility. Experienced developers will be able to do an early assessment of the utility infrastructure (circuits and substations) to determine the feasibility and expected cost of the project's interconnection. Most utility companies have an "Interconnection Queue," which is an online database showing all projects that are currently being reviewed by the utility and those already interconnected to the utility owner's system. As a general rule, the Queue is established on a first-come, first-served basis, with payment milestones that the developer must make to the respective utility in order to advance the interconnection process and fund the required utility equipment.

Getting in the Queue is a very vital part of the process. For example, utility circuits (lines) can only handle a certain amount of capacity (projects), so if a competitor's project(s) are submitted prior to yours, it could likely result in utility line upgrades that cause an incremental project cost and potentially make your project unfeasible. However, a developer will not know the exact costs until the utility performs its study and analysis. The entire interconnection study process varies depending on the utility and system size, but typically, you can receive interconnection approval within 6 to 7 months of submittal. If everything goes to plan, the interconnection/upgrade costs will be in line with budget estimates. However, I have seen instances where the project died because the utility determined that a new utility line section needs to be constructed, despite all other due diligence (permits) coming back as projected. These instances may be minimized through the developer's working history with the utility and prior experience with interconnection planning. ***Ask the developer to provide proof that your project has been applied to the utility and is included in the Interconnection Queue. Be mindful of developers who attempt to lock up land/buildings and do not move judiciously to submit the utility interconnection application. Incorporating this term in the lease document will ensure your project is not just sitting idle.***

**The Term Sheet.** A few weeks after a Term Sheet is executed, the developer should send you an editable version of a rooftop lease template. The majority of the lease agreement will contain typical boilerplate language that is found in most leases. Have your attorney review the document. A few caveats: **(1)** Lease payments typically commence as commercial operation begins. **(2)** It is not uncommon for the developer to include a "due diligence" rent or option period fee. Keep in mind that these systems' permits are expensive to obtain, and there is substantial cost risk the developer is assuming. However, you should not expect a large sum of option and/or due diligence rental fees. **(3)** Some clauses in the lease are typically not negotiable. They include: **(A)** *Assignment*: The developer needs free reign to assign the lease/system to a third party, primarily for financing purposes. **(B)** *Term*: For a system to be financeable and have a realistic payback period, terms are usually a minimum of 20 years. **(C)** *Termination*: The lessee is typically provided with broad default cure provisions,

including step-in rights by the financier. However, you can negotiate an early termination buyout, typically after the first five years.

A word to the wise: Solar tenants are not your typical "building" tenants. The investment in the solar system typically exceeds seven figures, so there needs to be security for all involved. Investors typically avail of significant tax incentives, which impose restrictions on their ownership. Time is of the essence; many deals fail because an attorney took too long and tried to negotiate every minutia. Remember, it is important for the developer to submit the project into the interconnection queue; most developers will not advance the project (spend additional development funds) until a lease agreement is signed.

**Construction Tips**. Once a project's due diligence is completed, all permits are obtained from the municipality, and the developer receives an Interconnection Service Agreement (ISA) from the utility, then construction of the project is ready to commence. Most developers will sell the project at this stage to an IPP or investment fund. This step may take up to 60 days to complete, which is standard in the industry.

As the project approaches the construction stage, the building owner will want to know the details of the project operations and maintenance arrangement as well as who the vendor is. That way, they will know who to contact if there is an issue. You will also want to have evidence that the roof warranty is in place and that the roof is properly inspected before and after construction. The best practice is for the developer to work with your roofer and roof manufacturer up front. If your roof is more than 10 years old, there is a good chance the roof will need to be replaced. This can be folded into the project scope at little to no cost to you. However, the cost of replacement will reduce your annual lease payments.

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In conclusion, leasing your unused roof space for additional income will increase your NOI and your property's overall value. Nearly every community, major corporation, and state has "Going Green" initiatives. In addition to having a very stable long-term rental stream for unused real estate, you will be on the cutting edge of the energy revolution. Going with an experienced developer with good references and a strong track record is important and can be the difference between a successful project and one riddled with issues. ▪

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## 2022 Annual Meeting

We look forward to meeting next year in person!
*Location and dates to be determined.*

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