Owners' handbook for project closeout

Buildings and facilities

Contents

Project closeout is the final phase of the construction process when the physical building or facility is complete and is ready to be handed over to the owner. Having a clear vision and execution has gotten the owner to this point; all that remains now is an effective project closure to ensure successful delivery. Due to the enormity and complexity of a construction project, the enthusiasm with which it started often loses steam by the time it nears completion. As per KPMG's Global Construction Project Owner's survey, only 25% of construction projects finish on time and within budget. Project closeout is a critical component of project handover, whether you are building a tennis court, hospital wing, railway bridge, or roads connecting two cities.

Broad categories of project closeouts

While closeout activities vary slightly across industries and project types, the main categories of project closeout are common. Here are the primary areas of focus for closing out a construction or renovation project.

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02 Administrative closeout

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Construction closeout

Construction closeout refers to the period beginning with the substantial completion of the project and lasting through the final acceptance and payment. This period includes completing all required deliverables per the contract documents and often coincides with administrative and financial activities. Substantial completion means that a building or project is nearly finished and is typically indicated by the successful completion of the last activities in the construction phase of the project schedule. Most often, these activities are the final inspections and compilation of the punch list. At this time, all parties (owner, architect, and contractor) agree that the building entity itself is complete and ready for Furniture Fixtures and Equipment (FF&E). The Architect/Engineer (A/E) will then confirm this by issuing a G704–2017 Certificate of Substantial Completion, and the project may move into occupancy.

Deliverables by phase: Construction

Deliverable/activity	Due from
Certificate of substantial completion	A/E, after approval by owner
Completed punch list	Contractor
Design team approvals	A/E
Inspection certificates	Various parties, engineering
Lessons learned/postmortem	Project team
As-Builts	A/E
Lien waivers	Contractor, A/E

Administrative closeout

Administrative closeout comprises both a contract closure as well as a quality verification. Its purpose is to confirm that all the contractual obligations have been met as expected. Owners will want to comprehensively review all the contracts executed to date and ensure that all requirements are fulfilled and delivered. This area of closeout also involves the legal team, along with project leadership and signatory authorities. This team looks for any discrepancies and coordinates with the construction field teams to ensure that all items due to the owner have been completed and are satisfactory. Additionally, they ensure that any disputes that can be resolved have been addressed, sometimes requiring arbitration or mediation to reach a mutual agreement. A final component of this team's work is confirming that final payments have been made and are in accordance with the payment terms of the contracts. The financial team is responsible for issuing these payments; here, the administrative team is just confirming that they have been issued.

Deliverables by phase: Administrative

Deliverable/activity	Due from
Lien waivers	Contractor
Records retention and disposition	Owners
Collation of legal documents	Owner, construction admin
Obligatory releases	Various parties
Termination of the relationship(s)	Owner
Official memorandums	Various parties
Certifications	Various parties

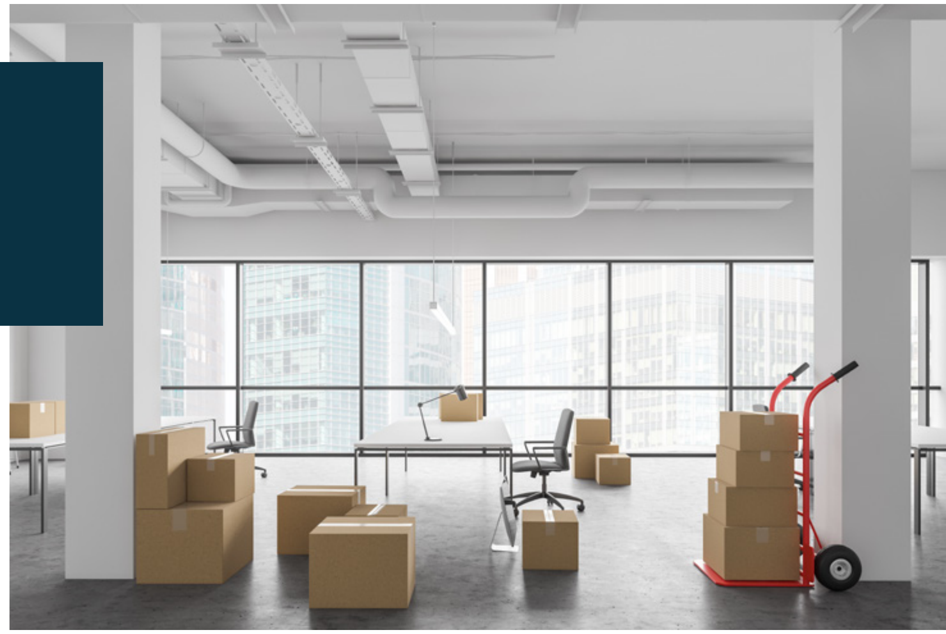
Financial closeout

A financial closeout often coincides with a contractual closeout, as these teams need to coordinate the project status throughout their activities. This period officially signifies the end of procurement in the project. Once the colloquial 'switch is flipped' by the Controller or Finance Manager, all accounts and commitments are typically frozen from processing future transactions. During this closeout phase, contract managers will work closely with finance to ensure that all final payments have been made and that the owner does not have any further financial obligations to uphold. If any commitments have a remaining balance, it is at this time that they are typically drawn down, meaning that any surplus funds are removed from that commitment and returned to their original source. This is typically done via a series of net-zero commitment changes and journal vouchers, but there are other methods as well. If there are any project contingency funds set aside for this project, those funds are also de-committed and earmarked for use on another project. Depending on the project, the budget may need to be closed and reopened each year. Finally, perhaps the most essential part of this process is a comprehensive reconciliation of accounts. Finance teams should review all payments made for the project and confirm that they are still valid and that no line items were over/underpaid.

Deliverables by phase: Financial

Deliverable/activity	Due from
De-obligation of funds	Owner, finance team
Final payment vouchers	Owner, finance team
Retainage release	Owner, finance team
Procurement instruments closure	Owner, finance team
Commitment changes	Owner, finance team
Budget changes	Owner, finance team
Journal vouchers	Owner, finance team
Funding source settlement	Owner, finance team
Compliance reports	Owner, finance team, compliance
Payment verification	Owner, construction admin

Occupancy



Occupancy refers to the final stage of project closeout, where the building or facility is ready for move-in; thus, the owner can use it, or any part of it that is complete. FF&E are typically installed during this phase but may begin as construction ends. The primary goal of this closeout phase is to complete all necessary activities to receive a Certificate of Occupancy (CO). This allows the owner to physically take control of the premises and legally allow nonconstruction persons to enter the structure. A CO specifies the property's authorized class (residential, commercial, mixed-use, etc.) and provides for the unrestricted use of the structure, indicating that it is suitable for occupancy. A CO further serves as proof that a property has followed all relevant building and zoning codes. Once a CO is obtained, owners get to work on completing the interior build-out of the space, often consulting with interior designers to style and furnish the rooms and common areas. As equipment and fixtures are installed, the owner will need to keep copies of all related operations and maintenance user manuals along with relevant warranty information. These should be provided by the installation subcontractors, but the paperwork can often be misplaced. Keeping these documents organized can be a tremendous time-saver in the future when they are needed for reference.

Deliverables by phase: Occupancy

Deliverable/activity	Due from
CO	Municipal, building official
LEED certifications	U.S. Green Building Council (USGBC)
Warranty documents	Various parties; request for all FF&E items
O&M manuals and testing/commissioning results	Various parties; request for all FF&E items
Interior design items	A/E or interior designer

Project closeout challenges:

Obstacles in your way

Construction projects are arduous and may take years to finish. Like marathons, one must keep a steady pace for the duration in order to reach the finish line and complete the race. Some runners struggle in the last lap, just as some owners face many challenges during the closeout phase. They try to rush the project along and skip the finer details in hopes of faster completion. Owners who manage the building process carefully and deploy consistent, repeatable closeout workflows get the best results.

Poor document management

Case studies show a significant loss of data due to the lack of a robust, centralized management system. The amount of paperwork and the sheer number of documents needed to complete a building project is astounding. Large projects easily lead to the generation of thousands of pages of printed materials. Digitizing these records helps the owner find critical information, like warranties, training manuals, cut sheets, and lien releases, when needed. These records can be easily misplaced or filed incorrectly in paper format. In the unfortunate event of litigation, the owner may be asked to produce records from the first weeks of the construction project, which could have taken place five years ago. Not being able to retrieve this information could be the difference between winning and losing the lawsuit. Therefore, it is imperative to put in place a proper document management system right at the start of the project.

Poor communication between team members

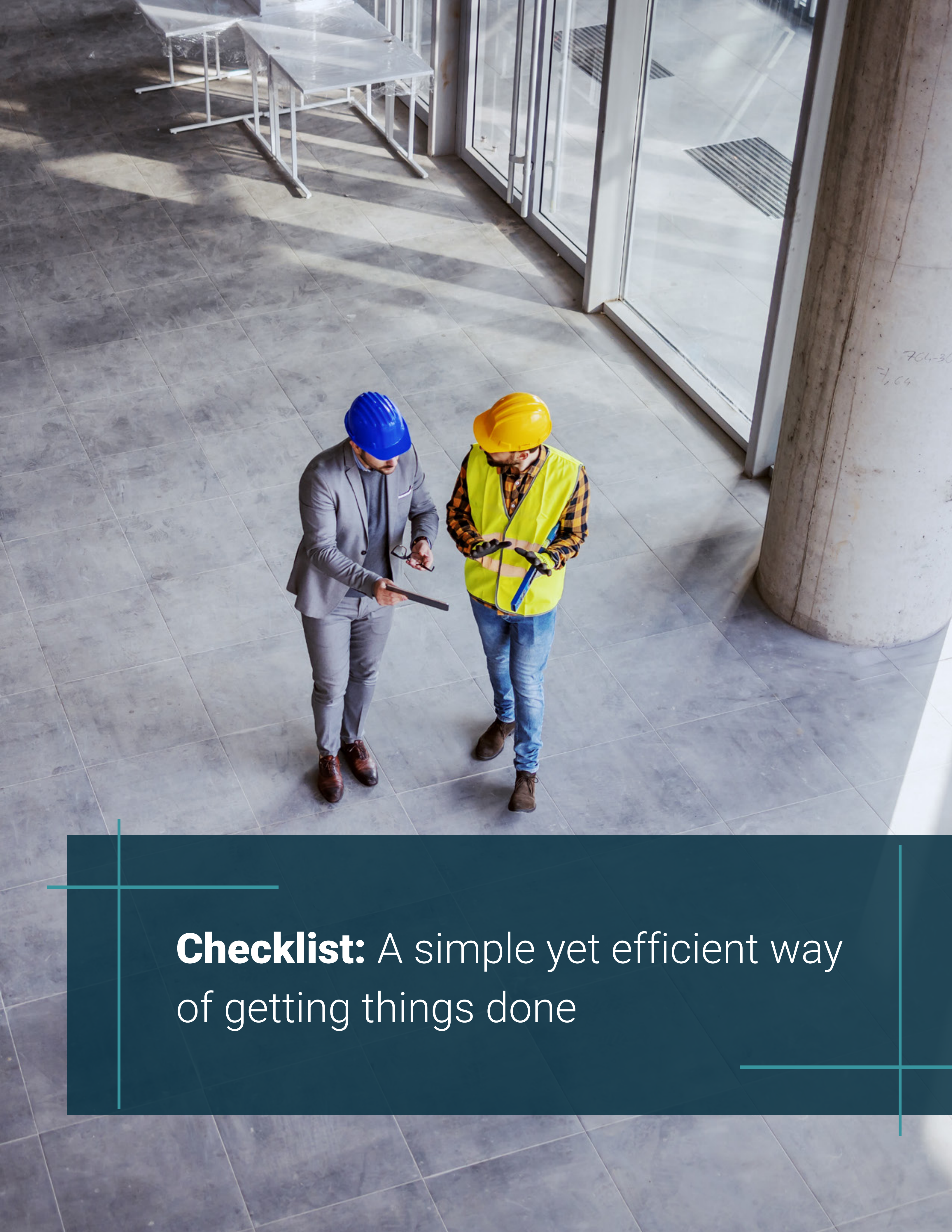
A survey by KPMG found that technical competency and delivery systems are essential but not enough. Project leaders must complement these with soft skills to manage the team well. Construction projects have many stakeholders involved in the process, making communication channels blurry at times. Everyone plays a crucial role in the development and execution of a communication plan. Poor communication and lack of collaboration between these stakeholders can cause delays and unnecessary budget and time overruns. A project management system should be used to log and keep track of all project communications in an organized way. Having a system like this in place can help to protect the owners and allows them to easily refer to historical conversations and email chains that may come up later in the process, thus avoiding 'he said, she said' disputes.

Inconsistent tracking of work done and reporting

Owners should prioritize consistent tracking of the work executed as well as the work pending and standardize project reporting right from the start. A change order that is ignored, lost, misplaced, or not completed can quickly turn into a claim, bringing project closeout to a screeching halt. As soon as a change order becomes a claim, it becomes exponentially more challenging to resolve. Tracking such change requests and pending work helps to avoid delays and potential conflicts. **In 2018, two out of five industry professionals planned to upgrade construction management software to better manage challenges such as these.** The most common features they were looking for were project tracking, job costing, project estimating, improved accuracy, and process standardization/automation.

Staff shortage and workload

The shortage of skilled workers is a massive problem in the construction space. **The AGC reported that 80% of contractors struggle to find qualified workers.** The owner may be forced to pay overtime wages or offer incentives to attract additional laborers to complete the project. While this is largely the contractor's responsibility, the owner often ends up footing the bill directly or passively through increased premiums paid to the contractor. With these challenges, owners are looking for new ways to increase productivity and have an efficient workforce. A few ways to improve productivity include design simplification, meticulous control of project scope, and standardization of deliverables during preconstruction. Off-site and modular construction are new modalities that allow less time on-site and offer many benefits, such as greater design cycles and automation. A project management system can also be of great value in this endeavor. With advanced analytical tools and AI (Artificial Intelligence), modern software enable more competent execution management and faster decision-making. Real-time data collection and reporting allow project managers to predict potential obstacles in the project execution before they occur. This allows them to intervene more proactively, preserving productivity and keeping the project on track.

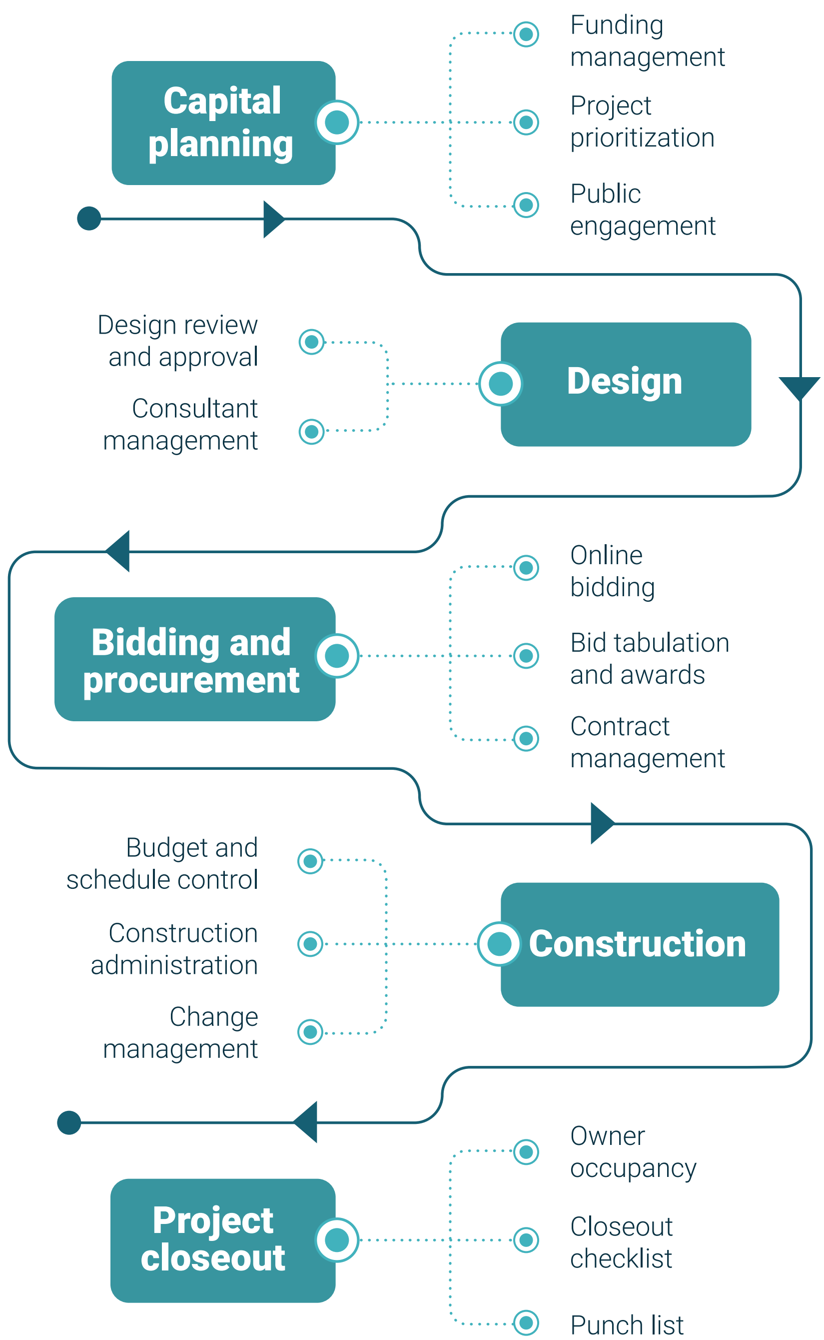


Checklist: A simple yet efficient way of getting things done

Project closeout checklist

Project closeout checklists are vital in managing the closeout process. A project closeout checklist is basically a list of all necessary tasks that must be finished before the project can be certified as complete. This simple to-do list can make the lives of everyone involved in the project much easier by helping them to track down the required deliverables and project artifacts easily. Each stakeholder may have a unique project closeout checklist owing to the different responsibilities delegated to them. An owner's project closeout checklist will likely vary from their general contractor's, but in the end, each of these lists is accounted for and tracked.

A thorough project closeout means completing all work as per the contractual obligations. This means that all the costs incurred have been billed and paid, the construction project complies with all the rules and regulations of the municipality, and the owner can legally occupy the building. All documentation involving each project stage is handed over to the owner in what is called a turnover package or project handoff. Ironically, the closeout is the period where budget overruns often occur due to depleted funds. A successful project closeout, however, minimizes these overruns.



The owner's project closeout checklist commonly consists of the following

Punch list

A construction punch list is a set of deficient or incomplete items that must be completed (typically by the contractor) before the project ends. The owner should cross-check their punch list with their general contractor's punch list to ensure that no more work is pending and that all defects have been resolved. (More about punch lists in the next few sections.)

Building keys

Keys to any/all entryways should be handed over to the owner at handover. This includes all security passcodes, digital key codes, and alarm codes.

Certificate of Occupancy

This is a document issued by the local government agency or the building authority that serves as proof that the building complies with all relevant standards and codes and is fit for occupancy.

G704–2017 Certificate of Substantial Completion

This is a document declaring that the construction activities are complete, thus declaring the actual date of completion. This document indicates that the owner can take possession of the property and is obligated to pay the contractor the remaining money owed for the project, including any retainage withheld.

Consent of surety

This is a confirmation from the bond surety for a particular action that could impact the bond and its liability. The owner, general contractor, or subcontractor may need the consent of the surety before they undertake certain actions. Getting consent from the surety is how a bonded party or the obliged ensures that the bond covers them if they move forward.

AIA G706 Contractor’s Affidavit of Payment

This is a form listing any remaining indebtedness or known claims in connection with the construction contract.

As-Builts

These drawings are the final representation of what is ultimately built. They are completed during construction, where the contractor indicates what was built with red ink (or using digital markup tools) on the original design documents, noting any deviations from the drawings that occurred.

Record drawings

The owner must ensure that all project record drawings from the architect and/or the design professionals have been received. These updated drawings include notes of the on-site changes that the contractor makes in the As-Built drawings.

Archives (physical or digital)

The archiving of all project documents for future reference should be done by the owner.

Operation and maintenance manuals

The owner must receive the operational and training manuals for all building equipment, systems, and maintenance procedures.

Final payment application

This is the payment to the contractor of all amounts owed under the contract documents with respect to the original project work, including any retention. It is based on the contractor’s application for the original project final payment and the owner’s original project Certificate of Final Completion.

Lien waiver

A written agreement between the payer and counterparty where said counterparty gives up their right to place a lien on the payer’s property or goods. This functions as a receipt to the payer, indicating that all amounts owed to the potential lien holder have been paid.

Final payouts

The owner must release the final payment to the contractor and the design team.

Funding reconciliation

All project funding sources must be accounted for, used, or relinquished, and all necessary reports must be distributed to grant/bond issuing agencies.

Cost management

At project closeout, the owner must perform the necessary financial review and reallocations, including all commitment and budget changes, to potentially free up funding for use on other projects.

One-year warranty scheduled

The design professional and contractor must coordinate a one-year period of corrections inspection.

Contract items

The owner must inspect the completion of all aspects of the contract, ensuring that all line items have been completed and are within the agreed upon timeline.

Lessons learned/postmortem

The owner conducts a 'lessons learned' meeting separately and then includes contractors and design professionals to discuss what did and did not go well on the project in order to identify areas of improvement for future projects.

Your project closeout checklist

Construction closeout

Deliverable	Due from
Certificate of substantial completion	A/E, after approval by owner
Completed punch list	Contractor
Design team approvals	A/E
Inspection certificates	Various parties, engineering
Lessons learned/post-mortem	Project team
As-Builts	A/E
Lien waivers	Contractor, A/E

Administrative closeout

Deliverable	Due from
Lien waivers	Contractor
Records retention and disposition	Owner
Collation of legal documents	Owner, construction admin
Obligatory releases	Various parties
Termination of the relationship(s)	Owner
Official memorandums	Various parties
Certifications	Various parties

Financial closeout

Deliverable	Due from
De-obligation of funds	Owner, finance team
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Retainage release	Owner, finance team
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Interior design items	A/E or interior designer

Punch list: A critical component of a closeout checklist

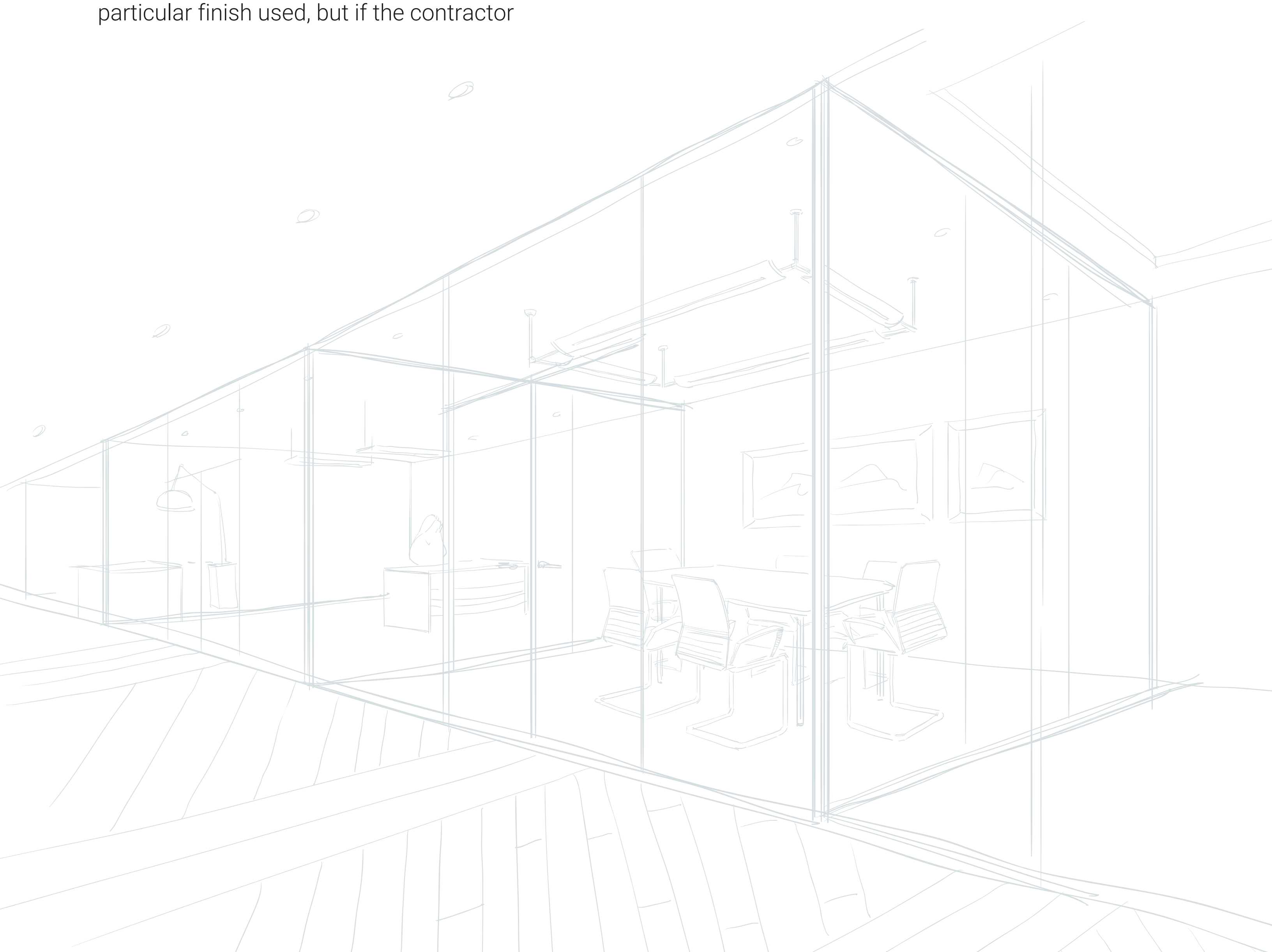
As mentioned in the previous section, a construction punch list is a set of deficient or incomplete items that must be completed (typically by the contractor) before the project ends. It is also called a snag or deficiency list and, when done properly, is one of the most important components of project closeout. The person responsible for completing a punch list varies depending on the project. Sometimes the burden may fall on the general contractor or the project owner. At other times, it could be a collaborative effort between both parties.

The punch list process begins when the project is nearing substantial completion. It often begins with a preliminary inspection or site walk-through by the general contractor's project manager or superintendent. This pre-inspection allows the general contractor to inspect the work done by all their subcontractors to ensure that their work is in line with the contractual obligations. Depending on the project, this may happen iteratively throughout the course of the project.

If any work done by a subcontractor is found to be incomplete or faulty, the general contractor indicates this in their notes, often in a document called the internal punch list. This punch list is typically not provided to the owner but may be available upon request, although some contracts treat this as proprietary or as a 'trade secret.'

After the contractor has completed their punch list, they notify the owner that they are ready for the final site walk-through. The site is again assessed by the general contractor, but this time, the owner(s) and their representatives are a party to the inspection. The owner may choose to complete their inspection independently, but the general contractor is usually welcome to attend their walk-through. If the owner's team finds any discrepancies in the work, they record them on the official punch list to be accepted by all at project completion.

Depending on the remediation of deficiencies, the general contractor may choose to combine the owner's list with theirs for the convenience of the subcontractors. This complete list outlines all the work that needs to be done before the handover. Punch list items can range from minor cosmetic flaws, such as a missed nail or incorrect paint color, to major issues, such as structural or envelope defects. After completion of the site walk-throughs and corresponding punch lists, there is often a negotiation process between the owner and contractor on the validity of the punch list items. For example, the owner may not like a particular finish used, but if the contractor installed it in accordance with the design drawings, then the owner is liable for the cost of the repairs if they choose to proceed. Likewise, the contractor and owner may disagree on whether an item is defective and who should remediate it. At times, the A/E may be brought in for a 'tiebreaker' between the parties. Typically, whoever is determined to be at fault is responsible for completing the repairs at their own cost, including any subcontracted work. As a result, these negotiations often result in change orders to document any deviations and assign costs to the appropriate parties.



Punch list administration: Streamlining the process

A well-managed punch list can save time and money during the construction closeout process by preventing last-minute emergency work orders. Incorporating a few best practices into punch list management can make for a much smoother project handover.

Routine team meetings

Routine team meetings should be scheduled throughout the punch list completion process to assess the work completed and push for the completion of open work. Regularly scheduled Owner, Architect, and Contractor (OAC) meetings may be used for this purpose, adding a punch list as a line item to the standard agenda. Providing answers and clarification to items on the punch list and giving course-correcting guidance on the contractor's performance helps mitigate last-minute disputes over quality, cost, and the satisfactory completion of work. These meetings can also help the relevant parties to better plan and prepare for the move-in date and occupancy. The owner's participation in the punch list process is vital to successful project closeout.

Creation of a detailed punch list

Each item in the punch list should be as clear and specific as possible and include photographs wherever feasible. Punch lists with items that read, 'the window in the office does not open,' are difficult to locate and resolve efficiently. The owner must include enough detail to enable the contractor to identify the problem for repair and for the owner to inspect it for approval. Failure to do so can lead to delays and overlooking defects altogether. If either party encounters an unactionable punch list item, they should request additional clarification from the relevant party. Using a standard template can make this process run more smoothly. A good template will include columns such as defect name, number, building location, floor number, room number, and requested resolution, with acknowledgments kept at a minimum.

Involving design professionals in punch list creation and administration

Some owners may try to lower project administration costs by not involving their design professionals in the punch list process. While this may save some overhead costs up front, it may not be as effective as it seems. Design professionals are most likely to catch any minor deviations from the drawings since they were the ones who created them. Engaging them early in the process is ideal, but at least including them in the review process will alleviate some stress on the owner and perhaps mitigate some risk.

Use cloud-based punch listing software for better tracking

With digitization and automation of project delivery systems, owners no longer have to rely on paper punch lists. Traditional paper punch lists used a hole punch next to the line to indicate a resolved item, hence the name. As you can imagine, this led to massive inefficiencies and left room for errors and confusion. Modern firms use various software solutions for this, and while spreadsheets can get it done, the best practice is to leverage cloud-based project management software that enables real-time tracking of punch lists and integration of the data. To best enable field teams and increase adoption, the platform should be accessible via mobile phone or tablet. KPMG's Global Construction Survey 2021 found that the sudden COVID-19 lockdowns forced companies around the world to improve and increase connectivity. This led to dramatic improvements in connectivity due to digital collaboration and remote working.

Best practices to succeed in project closeout management

The completion of a project may take months or sometimes years, so once it nears completion, owner occupancy becomes the highest priority. A savvy owner will not rush the closeout process because they know that it is an essential prerequisite to occupancy. Smart owners will thoroughly inspect the project, ensure all the contract obligations are met, and then issue final payments to the contractor.

Plan early

Keep project completion in mind from the start of construction and plan ahead to avoid last-minute delays, disputes, and confusion. Create an end-to-end project closure plan and codify all requirements as contractual obligations so that the contractor takes the project closeout seriously and does not rush it. A schedule, with dates for each task that needs to be addressed and remedied, should be created. The project closeout list should include each actionable item, and it should be clearly delegated to the relevant individuals. This will help track the progress and speed of completion.

Financial closeout

The owner must complete the following steps before clearing all final payments to the contractor.

Change orders

The owner should request that the contractor submit all remaining change order requests that have not been approved and paid. They must resolve all the outstanding change orders and request that the contractor submit their final application for payment. Lastly, they must confirm that all approved change orders to the schedule of values are included in the final payment application.

Follow the state laws and regulations

Each state or county has specific guidelines and rules for construction processes carried out in that region. For example, if the project site is in Utah, but the owner's business is located in Colorado, the project team may need to follow the rules and regulations of construction policy of both states! Owners should engage their legal teams on these matters to ensure they are compliant with federal, state, and municipal laws. This may protect the owner from getting into potentially costly legal disputes during the handover process that could result in the forfeiture of funding awards.

Verify punch list and documentation

The owner must verify that all the items in the punch list have been completed satisfactorily and obtain all the necessary documents related to it, including site photos.

Documentation

It is worth the effort on the owner's part to compile a well-organized set of project-related files using the right project management and digital tools. This way, finding information quickly becomes easier. Owners can retrieve as-builts, contract data, equipment specifications, or warranty information for the maintenance and operation of the capital asset. They can refer to these records in the event of a dispute after the completion of the project. The owner should ensure any project documentation issues have been resolved before making the final payment to the contractor.

Final thoughts

Project closeout is the last mile of a long marathon. Having the right strategy, mindset, and processes in place can alleviate the challenges of closeout and avoid a mad dash to the finish line. The owner should start strategizing on the closeout plan from day one. A keen owner understands that project success is possible only by bridging timelines with execution. Being able to anticipate and prepare for risks begins with proper closeout planning at the project start. Integrating smart workflows and managing communications effectively will help owners have greater control over the outcome. Keys things to look out for during the project closeout are the deliverables to be given and received during each phase of completion and ensuring that you have a robust document management and workflow system to manage the details. Investing in cloud-based construction project management solutions and deploying consistent, measurable processes throughout your organization will lead to better closeout outcomes across your program.

About Aurigo Software

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