Best Practices in Document Control for Construction Program Management

What you will learn

- Program management offices and their role in document control
- What is document control, how it works, and why it's critical in construction programs and projects
- Why your team or program management office (PMO) should focus on software platforms that include document control services

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Background –The goals of a program management team

No two program management teams are alike because all programs are unique. They each reflect the unique needs and culture of the types of industries, owners, and programs being executed. Regardless, the team is the critical service provider that gives its stakeholders control of all programs. Here is what they should be doing:

- **Strategic support**: Aligning program and project work with overall strategy by classifying, selecting, and prioritizing projects.
- **Resource management**: Maintaining a good overview of all the programs and projects and ensuring that all the necessary data is always up to date and plausible. In this context, decisions regarding the scope, budgets, and resources are prepared and made in due consideration of interdependencies between projects.
- **Project services:** This involves providing operational support in programs and projects by taking on the management of a project, executing defined subtasks or providing project assistants.
- **Training and coaching:** Program/project managers and participants in the processes are trained and supported in the field.
- **Methods and tools:** Choosing and adapting the PM methodologies and processes to best suit the needs of everyone involved at the company.

A key objective of any program management team – controlling and curating program and project data

The goal of a program management team is to guarantee that all projects finish on time, on budget, and free of litigation. A program team doesn't have much control over the weather, supply, commodity costs, and market/economic conditions, etc. However, one area of program management that is 100% in their control is their data. Producing clean, structured data daily is the key input that leads to the following:

- Faster and more economical program and project decisions
- Audit-ready program and project data, 24/7
- Always-ready closeout documentation for the life of the program/project and beyond
- Reduce or eliminate litigation risk

The Data Control Conundrum in Construction

An important question at the start is - who truly owns the data?

The answer to this question should be simple, it is the program/project owners' data. But the truth is, it all depends on the software being used on the project and who bought it. Today, the way that modern construction program management tools and platforms function, the software owner (the one who pays for it) acts as the ultimate system administrator, with the ability to control every participant's access to the system as well as the data within.

So, depending on who bought the software, control over program and project data may lie in the hands of the owner or it might be the lead contractor or some other delivery-side organization managing the project work. Importantly, the owner of the software has the power to override security and access – and even alter – your data, i.e., your intellectual property. In many cases, various external participants may be able to do the same with your data. Finally, in a worst-case scenario, the software owner can even lock you out of your own data, and unacceptable outcome (consider your closeout data).

The result of not owning and controlling your data

As any program manager can attest – stuff happens, and disputes arise during the construction phase. Weather, strikes, supply chain disruptions, late approvals, design changes, miscommunications, etc. If you don't have total control over your program data, you are going to have a much more difficult time negotiating disagreements.

- The emails, notes, entries, records of actions taken, program documents, etc. – must be both available and accurate. Neither is possible if the program management software being used permits one party to alter or delete another's information.
- When things go sideways on a program or project, there must be a clean, indelible, and undisputed record of what happened. It is the document controller that ensures this information is available and reflects each party's accurate contribution to the program or project record.
- This is an audit record that cannot be changed, and it is invaluable when problems arise. If or when a dispute arises, all parties need to know that they will have access to their data in the system and that no one else has been able to change it.

Can't we just rely on software to organize our data?

The simple answer is no. In the future, we may see truly automated document control processes. Currently, construction program management software cannot deliver organized, clean, timely project documentation without human support. These sophisticated software platforms provide a good set of tools for document control, but they don't perform the task automatically. Ultimately, a program management team needs to have a formal document management process that is executed consistently by a designated individual or a team.

The Data Control Solution for Construction Programs: The Document Controller

What is it exactly? Let's begin with the definition according to goconstruct.org:

"Document controllers maintain project documents. They ensure that accurate information is distributed throughout an organization, on time, to the people who need it. In the construction industry, document controllers work with technical documents like blueprints and reports. They sort and store electronic and hard copy documents for designers, surveyors, architects, and other colleagues."

The document controller does what software currently cannot:

- **Preventing version confusion**: As revisions occur, multiple versions of documents are created, which concerned parties may not be aware of or have immediate access to. This is especially true with paper documentation and can easily lead to errors and rework if crews consult an outdated document.
- **Guaranteeing document access**: Finding the right paper documents can take time but accessing digital documents in the field can be time-consuming as well. Even with digitization, Internet connectivity issues, slow VPNs, file permission problems, and other delays can arise, especially when multiple disconnected solutions are used to store, send, or access documents.
- **Ensuring accurate modifications from any source (field or office)**: Not all software applications make it easy to edit or comment on documents, especially for people who work outside the office.
- **Prevent wasted time:** Without a clean, organized, centralized repository for documents, everyone spends extra time looking for what they need.

The Details: what specifically does a document controller do?

Task 1 - Creating links (which prevents rework)

Document management is not just a back-office issue. In fact, it's on the job site where information that's out of date or hard to navigate makes its most significant impact because it hurts communication. Linking all the drawings is critical for team members on the job site.

- **Connect Disparate Sources of Information** - linking organizes your program and project documentation and connects separate sources of information to make your drawings far more effective. It allows Subs and GCs to quickly click through ASIs, RFIs, specs, and more for the associated information.
- **Navigate RFI, ASIs, Drawings, and Specs** - It isn't enough that the documents are available, they must be accessible on-site so that team members aren't slowed down or making decisions without the right information.
- **Blend Automatic and Manual Linking Processes** – While automatic linking systems exist, they are not accurate enough to justify their reliance on manual linking. At the very least, both can be used.
- **Keep Drawings Up to Date and Connected via Cloud** – The controller should be linking the field documents with links to cloud storage to ensure job site team members are using the latest plans etc. Without cloud-based storage, using linked drawings on the

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job site is less effective since you must rely on manual processes to ensure all documentation is up to date.

- **Eliminate the need for large plan sheets** - You can use linked drawings to eliminate the need to view oversize plan sheets. Instead, you can access and modify drawings and linked documents from a tablet or other mobile device.

Task 2 - Checking file structure (and folder structure)

Without an experienced document controller, there is no governance applied and multiple people may be creating unique folder structures. If the folder structure is hard to navigate (as is often the case), team members will inevitably create their own "secret" folders and create a mess. On the other hand, if the controller has experience creating intuitive folder structures, everyone can find what they need, and the motivation to create their own folders is eliminated.

- **Indexing Documentation:** Document indexing is the process wherein a document controller titles and tags documents with certain attributes or labels that can later be efficiently searched through and retrieved. By attaching specific tags to a digital document, you're able to use the terms in those tags to find the information you need.
- **Better organization**: In a recent survey by Nintex, 49 percent of respondents reported that locating documents was problematic for them (here). It was the highest-ranking issue that employees across industries had with document management and sales processes in their respective organizations.
- **Enables better collaboration and more efficient workflows**: Easier access to documents helps people work together more efficiently. In the same Nintex survey, 43 percent reported document sharing was a broken process at their company (see above link). Shared, indexed documents allow the right employees to access the documents they need, at any time.
- **Easier audit compliance**: when your documents are already in order, indexed with relevant metrics, you can forgo the chaos normally associated with an audit.
- **Saves time**: McKinsey estimates that workers spend as much as 19 percent of their time hunting for and gathering information (here). But with the right document indexing processes in place, you and your team can spend that time you'd spend searching on actual work.
- **Saves money**: All the above benefits compound to help improve your bottom line.

Task 3 - Structure document data: turn all files into searchable, usable documentation.

- Digitalized documents can be easily stored and shared. When documents are scanned, they can be easily stored in electronic format. This makes it easy to access them from anywhere, at any time. It also makes it easy to share them with others, either by email or by uploading them to a shared storage location.
- Digitalized documents can be easily searched. When documents are scanned, they can be easily searched using optical character recognition (OCR) software. This allows you to quickly find the information you need, without having to flip through pages of paper.
- Digitalized documents can be easily archived in electronic format. This makes it easy to keep them safe and secure for future reference.
- Digitalized documents can be easily reused for other programs and projects. This can save you time and money, as you do not have to recreate the documents from scratch.

Task 4 - Handle all ASI: Connecting plan to Supp Info, RFIs, Partner Notes

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Changes are inevitable during any construction program or project. Keeping track of all Architect Supplemental Instructions (ASI) keeps minor changes from potentially leading to big delays in the timeline.

Although individual construction ASI changes may not dramatically impact a program or project in terms of cost or time, the cumulative effect of many ASIs over the course of an entire program can have a negative impact on project budgets and schedules. Staying current with ASIs ensures that no change is ever made without your knowledge and approval.

Task 5 - Bring intelligence from other software platforms

Large-scale programs often involve the use of a variety of software platforms – existing project CRM systems, mobile field apps, various architectural software programs, etc. Government entities may have their own project CRM that needs to be coordinated with the system being used by the project owner.

Tasks 6 through 10 - Other important tasks for a document controller

- **Attend team meetings -** The document control person should be on every team call with one goal in mind: obtain any documents mentioned in the call that isn't currently in the document repository or software system.
- **Provide training** on the project or program software and/or deliver live help desk services for team users to keep moving forward.
- **Track all email correspondence** among team members and ensure the program or project record is updated to reflect these communications.
- **Initiate/ adjust user permissions** invite users, ensure they have access to data, and create security permissions for a hierarchy of users.
- **Note** all corrections asked for by program/project members.

A unique approach to program management: The Digital Information Librarian

MySmartPlans takes a unique approach to program management. We are a software-enabled service, we give you the software (our complete construction management software platform) and the document control services.

How? At MySmartPlans, we assign every client a document control team, led by their own Digital Information Librarian (DIL). The DIL is a proactive role to run the point on all document control tasks, taking the information and communication burden off everyone else while leveraging the MySmartPlans software platform.

How we implement document control services

Each DIL is assigned a program/project from start to closeout. The DIL is responsible for setting up the dashboard, making changes to the dashboard, managing, and populating all the information for the dashboard, and providing technical support and training.

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Throughout the lifecycle of the program or project, the DIL helps the Team collect, organize, enhance, and library the project's communication & documentation. In combination with the MySmartPlans technology, they create a highly disciplined, thorough, and transparent communication flow. This results in programs/projects that are faster, easier, smarter, and simpler.

Specifically, the Digital Information Manager will:

- Work with the Project Managers on the team to aid in project team discipline and organization through the team member certification process.
- Ensure the information given is complete and accurate (no sheets or sections missing).
- Work with the designated contact to resolve any issues before the information is published to MySmartPlans Dashboard
- Ensure the information is organized so that users can very quickly navigate to what they need
- Ensure that document text can be easily searched
- Compress files to ensure they open quickly and take up as little space as possible
- Set native document attributes for the best viewing
- Create bookmarks that will easily allow users to click on individual pages or sections for quick navigation
- Create links in documents to other content where requested for ease of access.
- Ensure documents and files are named according to project naming conventions
- Convert file formats to standard file types as necessary
- Create live "As-Built" sets per client direction as information is generated by the contractor.
- Convert video formats as necessary
- Enable documents for Smart Review for real-time collaboration.
- Convert documents to PDF/A archive standard for closeout
- Build and populate the MySmartPlans closeout dashboard as a true digital twin.

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