



Preserving Your Claim through Documentation

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1. INTRODUCTION

Most contractors have a tendency to approach each new job optimistically and assume that it can be timely and profitably completed without dispute. This optimism is all too frequently not realistic. Instead of relying on blind optimism, the prudent and realistic contractor will implement and utilize a project documentation system that serves two important functions: first, to ensure adequate control and monitoring of the project; and second, to begin, as construction begins, building an accurate and complete record of job conditions and problems and their impact on the project.

While it may be somewhat unpleasant to begin a project with an eye toward possible future controversy, the failure to adopt such prudent management procedures almost inevitably assures that issues requiring documentation to support the contractor's positions will be compromised and protracted disputes will develop. Documenting the many complicated problems that arise during the course of the work may appear to be burdensome for job site personnel charged with that responsibility. Nevertheless, since documentation almost invariably determines the success of the contractor's claim, the importance of "building the record" cannot be overemphasized.

Sound contract administrative practice requires keeping records in an orderly fashion and periodically reviewing those records, as needs dictate. While preparing and maintaining documentation involves effort, ready access to factual data affords management a variety of benefits. Conscientious record keeping can preclude confusion and subsequent disagreements, and, therefore, can help to prevent claims.

With the progression of time and the absence of documentation, memories may become hazy, verbal agreements are not always clearly recalled, and disputes may become more probable. Also damaging is poor documentation or misinformation that can destroy the credibility of legitimate presentations of fact.

In contrast, clear and factual documentation assists management to make better-informed decisions and to monitor progress more objectively. Documentation facilitates reaching agreements, defining roles and responsibilities, coordinating activities, and maintaining open communication, all of which reduce the likelihood of claims. When management is alert to incomplete or missing documents (*i.e.*, submittals that fail to return), potential problems can be detected and resolved. Finally, should claims still occur, documentation serves as the basis for a fair and equitable settlement.

This article will discuss the primary aspects of project documentation including how to document, what to document, and a records management checklist.



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2. HOW TO DOCUMENT

Document control systems typically establish procedures for storing and retrieving original project documentation, whether received or prepared in native file format or paper copy. Incoming and outgoing documents are captured, copied, categorized, and filed. Selection of appropriate capture methods and filing and retrieval systems depends largely on the needs and preferences of the individuals using the documentation. The main objective is accessibility and some degree of orderliness. Records may be kept for years on long-term projects and it is imperative that at least one complete record of all essential documents be kept intact.

Adequate documentation is vitally important to the contractor interested in survival. First, it provides the information needed to effectively bid, plan, and construct the work. Second, it provides the data needed to analyze and successfully resolve a construction claim. Contractors and owners who are able to monitor the job in such a way as to anticipate potential claims as they occur will be in the best position to prove these claims successfully after arbitration or litigation begins. More importantly, fair settlement of the claim outside the courtroom is often possible because of specific data provided by document management, cost accounting, and monitoring procedures that support a detailed schedule and damages analysis. In the courtroom, a presumption of reasonableness arises in favor of such records that satisfies the claimant's burden and shifts it to the other party, who must then prove that the records are unreasonable and/or inaccurate.

Project records should, at a minimum, be (1) made contemporaneously with the event, (2) made by, or be based upon, information from a person with knowledge of the event, (3) kept as a regular practice of the company, and (4) sufficiently detailed to permit a third person to reconstruct project activities solely from the files.

It is also imperative for owners, contractors, and subcontractors to be problem oriented, as well as cost oriented, while maintaining documentation during construction to be able to identify and react to those problems which may impact the contract price or performance time. It is imperative that records are kept of anything and everything that may be pertinent to problems or claims.

2.1 DOCUMENT FACTS NOT FEELINGS

Do not let your personal feelings govern your documentation of project history. The following two statements illustrate this point.

FEELINGS: (Owner to Design Engineer) "It is no wonder the Contractor is six months behind schedule; you Engineers have not met a single deadline yet!"



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FACTS: (Owner to Design Engineer) *“As you know, the Contractor is six months behind schedule. The Contractor continues to scream that the Engineers have not met a single deadline yet. I may not yet know the real cause of the problem, but I do know that a six-month delay in the project completion will cost me more money, and I expect to get it back from you if it is shown that your poor performance is the cause of the delay.”*

FEELINGS: (General Contractor to Subcontractor) *“You are, without a doubt, the slowest, most incompetent Subcontractor I have ever had the misfortune to work with in the last 25 years. I intend to take out of your hide every dollar we spend as a result of any overall delay to this job.”*

FACTS: (General Contractor to Subcontractor) *“The schedule on this job is in serious trouble, and if the situation is not corrected promptly, we are looking at some significant extra costs for which we will expect reimbursement from someone. Your work is behind schedule and we are very concerned about your ability to do the work. If your work delays the job completion, we will look to you for all additional costs for which you are responsible. Please advise us in not later than three days of your plan for completing your work on schedule and as required by the Contract Documents.”*

2.2 SATISFACTION OF THE CONTRACT NOTICE REQUIREMENTS NEED NOT BE OVERLY LEGALISTIC OR ANTAGONISTIC

The harshly worded notice letter might state the following:

Dear Mr. Owner:

Pursuant to Article 4.3.3 of the General Conditions, you are hereby put on formal notice that our work has been delayed for reasons which are entirely the fault of the Owner or as a result of the negligence of those for whom the Owner is legally responsible. As a direct consequence of said delays, we are incurring significant additional costs including, but without limitation, additional labor costs, inefficiency costs, added tool and equipment rental, additional site and home office overhead, added travel cost, and other ripple or cumulative impact costs. We hereby demand that a change order be issued to cover our additional costs incurred, or which may subsequently be incurred, as well as an appropriate extension of the contract time pursuant to Article 4.3.8.1 of the General Conditions.



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A kinder, gentler form of notice would read:

Dear Mr. Owner:

As you know, we have been keeping you up to date on the unexpected problem that we ran into when the Project Architect discovered an error in the structural steel design. To help in your planning, we wanted to give you a further update. Although we are certain that your Architect and his Engineers are working diligently to solve the design problem, we thought that you would appreciate knowing that the project schedule, as well as our construction cost, will necessarily be affected by this problem and the time necessary to design and implement a solution. We cannot tell you how much added time and construction cost to expect until more facts are available to us, but we wanted to assure you that we will do everything we can to minimize those cost and the necessary contract time extension. If we can be of any help in expediting the resolution of the problem, and getting us all back on track, please let us know.

2.3 “CONFIDENTIAL” MEMOS ARE NOT NECESSARILY CONFIDENTIAL

What is “Confidential” today is likely to be read and, if possible, used against you, by an opposing party in the event of a serious construction dispute. By marking an internal document as “Confidential,” you merely assist the opposing party and his lawyer in identifying the documents to be read first in the event of arbitration or litigation. The scope of communications between lawyer and client that are protected from disclosure is narrowly defined by the law. The same is true for the scope of documents that are protected from disclosure because they are created “in anticipation of litigation.” Before you assume that what you are writing is protected by some legal privilege, check with your lawyer. The fact that a file is marked “Personal” also should not be viewed as a license to therein write something that you would not want others to read.

2.4 BEWARE OF THE INTERNAL MEMO OR EMAIL

Internal schedule and cost projections can be used to impeach, very persuasively, later statements of the contractor’s claim position. Avoid the temptation to explain job problems because of something your predecessor, or another department in your organization, did or did not do properly.

2.5 SOME WORDS AND PHRASES SHOULD NEVER FIND THEIR WAY INTO YOUR INTERNAL DOCUMENTS

Although you fully appreciate what is significant and not significant about the disputed facts, the jury (and to a lesser extent, the arbitrators, judge, or jury) will not have the time or the level of



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experience necessary to separate the wheat from the chaff. If they remain confused about essential facts after hearing your dispute (or even if they are not confused about the facts), they are likely to be greatly influenced in their decision by their determination of which side seems trustworthy, or some relative ranking which allows them to decide which party is the “good guy” and which is the “bad guy.”

Construction lawsuits are almost never sexy. If the jury or arbitrator can find something juicy or unusually interesting in a construction case, it is likely to be a welcome break in the tedious process of unraveling the facts of the dispute, and probably will be given greater weight than it otherwise deserves.

If you understand those truths about construction disputes, then you will understand the danger of finding in your own files one of the words or phrases that is set out below:

Let's hide our smoking guns.

Can you think of any other dirty tricks?

Let's play this scam longer for trade bait.

We'll play a shell game with our real numbers.

How do we cover our tracks?

For eyes only.

Confidential.

Another estimating bust.

Further purchasing gaps.

Run of the mill subcontractors.

Lazy and incompetent workers.

Dregs from the Union Hall.

No home office support.

We need to be claims conscious.

Let's take a hard-line.



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3. WHAT TO DOCUMENT

There are many types of records that should be maintained during a construction contract. The following guidelines are intended to serve as a checklist of the types of engineering and construction project information that will help establish entitlement, cause and effect, and the amount of damages due.

3.1 PRE-CONTRACT DOCUMENTS

Documents included in the owner's bid package, which typically are drawings, specifications, soils data, special conditions, and specific instructions, as well as the contractor's calculations and bid preparation documents, are generally admissible evidence as to what was intended by a construction contract. A reasonable contractor prepares his bid or proposal to provide what the contract requires – no more and no less. A prudent contractor will seek clarification to ambiguities in the bid documents, particularly if they have a schedule and/or cost impact. These request for clarification letters and “question and answer” meeting notes and minutes are vital to recording additional information upon which the contractor relied to prepare its bid. However, when disputes develop over such ambiguities or alleged changes in the contract requirements, an examination of the bid documents and the contractor's backup information may be the only way to resolve these issues.

A comparison of the as-bid drawings with the as-built drawings should disclose any changes, variances, or dissimilarities. Investigation into the reason for these differences may reveal some owner action or inaction (*e.g.*, a defective design) for which a contractor may be entitled to recover any related additional cost.

A contractor's bid estimate will indicate how he viewed the project and how he intended to accomplish the work. Bid estimates are often sensitive in that the contractor often views them as confidential or a review may disclose errors, miscalculations, or omissions. Bid estimates will also include any subcontractor or vendor quotes indicating expected markups or material prices. Delays often prevent a contractor from obtaining these prices, and if the timing or other bases for the items are documented, a claim may be supportable and justified.

As-bid schedules and manpower curves show the duration and labor forces that the contractor intended to use for the performance of work. Delays, acceleration, or changes in the work will impact the as-bid schedule and labor requirements and ultimately the cost of the project. However, proof of the basis of bid is often necessary to support these claims.

Soils and other geotechnical data supplied by the owner, in the owner's possession, or obtained by the contractor during a site investigation visit prior to contract are important evidence in decisions regarding differing site conditions. Reliance of this data by a contractor when such data is found to be in error is critical to determining entitlement for this type of claim.



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In summary, the important pre-contract documents are:

- Owner's Invitation to Bid/Request for Proposals
- Owner's Instructions to contractor
- Bid package drawings and specifications
- Bid clarification letters and responses
- Pre-bid correspondence
- Bidder "question and answer" meeting notes and minutes
- Owner's bid schedule showing work by other contractors
- Bid package amendments
- Contractor's as-bid schedules and manpower curves
- Bid estimate takeoffs, calculations, labor productivity assumptions, and worksheets
- Contractor's bid packages to subcontractors
- Subcontractor bids and schedules
- Vendor quotes used for bid
- Site investigation report (owner's and any performed by contractor)
- Soils and geotechnical reports
- Project labor agreements
- Contractor's bid evaluations of subcontractors' bids
- Contractor's bid submittal (Technical and Commercial)

3.2 CONTRACT/PROJECT MANAGEMENT DOCUMENTS

Only those documents in existence at the time that the contract is awarded may be considered part of the contract, and only if agreed by the parties. Anything prepared later, except for formal changes, is not part of the contract. It is essential that a clean, unchanged set of original contract drawings and specifications be kept for future reference to prove any changes that may occur during the project. It is also important to note that drawings or specifications issued at contract award may be different from those in the bid, and the contractor should verify such changes before accepting the work. The notice to proceed is also a significant contract-related item in that its date may unexpectedly follow contract award by several weeks or more and could delay the construction phase of the project from the beginning. Change Orders and Contract Amendments agreed after the original contract execution become part of the Contract file. Also, any Plans and Procedures required by the owner to part of the contract, whether prepared by the owner or the contractor as part of its bid submittal, and as amended by the parties as part of the contract negotiations, may become part of the contract documents.

Any good documentation system will facilitate a keen appreciation and understanding of the contract which is involved. This is a must, for when the contractor incurs a problem, change, or delay, or sees a dispute arising, the contract should be consulted to determine applicable notice



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requirements and, as is often the case, what additional records need to be kept. For example, contracts often require the contractor to keep “force account” or similarly particular records of work activities if the contractor alleges that such work is extra, changed, or otherwise not covered by the contract. Failure to keep such records, of course, will have the same effect as a lack of notice required by the contract so that the contractor’s right to a claimed recovery may be barred if contract provisions regarding additional record keeping are not complied with. Accordingly, once the possibility of a claim arises, the contract must be consulted to determine whether additional record keeping is required of the contractor so that documentation systems and methods can be adjusted accordingly.

Therefore, the contract/project management documents file should include:

- Original contract (General/Special Conditions, Exhibits)
- Subcontract documents (General/Special Conditions, Exhibits)
- Drawings and specifications issued with the Contract
- Notice to Proceed
- Change Orders and Contract Amendments (executed after the Contract initiation but then become part of the Contract)
- Project Management/Execution Plan
- Change Order Procedure
- Scheduling Procedure
- Subcontracting Procedure
- Procurement Plan
- Staffing Plan
- QA/QC Plan
- Transportation Plan
- Risk Management Plan
- Safety Plan
- Environmental Plan
- Start-up and Commissioning Plan
- Construction Management Plan

3.3 *EMAILS, LETTERS, AND NOTICES*

Compared to ten or more years ago, the primary method of communication on today’s engineering and construction projects is through emails. The email may contain important information in the text of the email, such as directions or approvals of changes, or the email may include attachments which contain the important information, such as formal change orders or letters. Thousands if not tens of thousands of emails may be generated on a multi-year project. In most cases, emails are preserved on each person’s personal computer. However, large firms maintain all email on company servers in addition to being on personal computers. Having a



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system to preserve such email information is vital to preserving the history of today's engineering and construction project.

The importance of sending letters cannot be overstressed. Unlike other documents, letters convey a sense of "shared" information. The recipient cannot later claim that he or she was unaware of a troublesome situation. Letters should be written about anything that might impact the time of performance, cost, scope, or quality of the work of the project. When matters of extreme importance are being discussed, the use of certified return-receipt mail is recommended.

Of particular importance are letters of timely notice. Most contracts require the contractor to give written and timely notice in the event of changed conditions that may result in claims. The initial letter should be brief, describe the problem simply, and state the intention of requesting additional time and/or money. Follow-up letters can elaborate on the situation as facts become available. The owner also should provide timely notice whenever such notice may afford the contractor an opportunity to mitigate or eliminate a problem.

All correspondence on a project should be preserved in a chronological master file with each letter numbered and catalogued for convenient reference.

In summary, emails, letters, and notices that should be maintained in project files include:

- Letters and emails to/from owner and/or owner's Project Management Representative
- Letters and emails to/from design engineer/architect
- Letters and emails to/from contractor
- Letters and emails to/from subcontractors
- Letters and emails to/from vendors
- Correspondence logs
- Internal office memos and emails
- Notices to owner and to owner's Project Site Representative of any changes or problems
- Notices from subcontractors of any changes or problems



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3.4 CONTEMPORANEOUS RECORDS

Contemporaneous written expressions of work progress, site conditions, and potential increased costs entered into a job log or daily diary can provide a valuable and factual evidentiary foundation, particularly if done in the form of a regular business record. Providing job foremen or superintendents with hand held recorders makes it convenient to fully record notes and observations. Tapes can be typed later to provide a written record.

Distribution of meeting minutes is a common project practice. However, these minutes may often be prepared to represent just one side in favor of the author's particular outlook with little attempt at impartiality or accuracy. Objections to wording or representations may not always be expressed in writing by all of the participants. Therefore, caution should be exercised and minutes should be compared with information in other documents.

Memos of conferences and conversations with anyone involved with a project can be valuable months or years later in reconstructing the substance of those meetings.

Requests for approval or information on critical equipment, materials, designs, or procedures are important documents to maintain. A log of such requests as well as corresponding responses may provide evidence as to delays on a project.

Actions in approving a contractor's inspection system or quality control program or actions in accepting or rejecting contract work frequently go beyond contract requirements and give rise to valid claims. Punchlists prepared by the owner or his representative can provide documentation as to the extent of unnecessary rework or extra work requirements being requested by the owner in the form of inspection and acceptance of work.

Success of construction contract claims often depends on proving that notice of changes was given. All records of such facts, even notes and memos, should be retained.

The contractor usually keeps a "Shop Drawing Log" to record dates of when drawings were requested from the supplier or subcontractor, when drawings were received for checking, when drawings were sent to the A/E, when drawings were returned from the A/E, when second submittal was made if revisions were required, and the date of final approval. Other important logs include pipe spool fabrication and delivery reports/logs, drawing and specification logs, change order logs, submittal logs, and transmittal logs.

The certificate of final completion issued by the owner documents that the contractor has completed all work. However, the contractor should beware of signing such documents if they include acceptance of final payment that releases the owner's liability for any unresolved liens or claims. Other important certificates include mechanical completion certificates, substantial completion certificates, systems completion/turnover certificates, and certificates of occupancy.



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Personnel should be encouraged to take photographs of site conditions on a routine and systematic basis, concentrating on problem areas and areas crucial to procedures and scheduling. A picture is worth a thousand words, or a thousand dollars, especially in matters involving delays on construction projects. Delays are often caused by changes and additions to the work. Although the reason for the change or addition usually cannot be photographed, the resulting delay, such as idle equipment or lack of daily progress, can be photographed. Taking photographs of all phases of the project can provide excellent documentation of original site conditions, problem activities, and the construction process. Photographs that include people or scalar objects to show relative proportions are best. The date, viewing point, and name of photographer also should be recorded for each photograph.

Daily Construction Reports and equipment utilization reports filled out by the superintendent, foreman, or project manager are also common records to document resources used on a project. The report normally records the amount of labor present, the number of equipment items operating, the names of subcontractors working, a description of the work accomplished, and a description of the problems encountered. Daily weather data observed at the project site or obtained regularly from local weather bureaus may be useful in proving delay claims due to unusually severe or abnormal weather. This data is also useful in cases where work was delayed into a different season requiring, for example, winterization costs when none would have been required but for the delay.

The Daily Construction Report is likely to be the crucial element of paper work. As such, the Daily Construction Report may well be the key means of preserving evidence and contemporaneous observations of the conditions and problems encountered which give rise to the claim. It is a key consideration to remember that no one else is likely to preserve evidence for you and that the contractor, as the probable claimant, will be expected to have preserved his own evidence and, indeed, to have created a record of his injury and the impact of his injury.

One of the greatest advantages of a daily reporting system is that it will generally provide a regular business record of contemporaneous observations and evaluations of events on the construction project and their impact. The construction attorney can readily appreciate having such daily reports as a “regular kept business record” if and when the matter comes to trial because regularly kept business records are generally admissible as an exception to the “hearsay” rule, a technical rule of evidence which may result in documentation being excluded at trial.

Obviously, active job site personnel will find it much easier to compile the kind of records needed to support a claim recovery if forms are provided for their use during construction. Any daily report form, to be fully effective, should record at least the following information:



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- Nature and cause of delays including details of idled men and equipment, if any.
- Man-hours and equipment hours worked.
- Work accomplished, including units of work, where appropriate.
- Brief descriptions of conversations with owner, owner's representatives, and other third parties, particularly including verbal directives to do extra work.
- Brief description of work considered to be beyond contract requirements and description of man-hours, equipment and materials used in performing work (this should include work properly chargeable to owner or subcontractors).
- General description of job problems, either ongoing or one time occurrences.
- Weather conditions.
- Estimates of any loss of productivity due to external causes and the reasons for such loss.
- Notation of any other unusual job conditions.

Therefore, examples of contemporaneous documents include:

- Diaries
- Progress and other meeting minutes
- Conversation memos
- Telephone logs
- Handwritten notes
- Superintendent's daily reports
- Construction Manager's reports
- Requests for Information
- Inspection/testing reports
- Hydrotest reports
- Pipe spool fabrication and delivery reports/logs
- Nonconformance reports
- Notices to owner and to owner's Project Site Representative of any changes
- Drawing and specification revisions
- Drawing and specification logs
- Shop drawing log
- Customs reports and related information
- Material receiving reports
- Installed equipment lists
- Punchlists
- Approved vendor lists
- Mechanical completion certificates
- Substantial completion certificates
- Systems completion/turnover certificates



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- Certificates of Occupancy
- Certificate of Final Completion
- Contractor's weekly and monthly progress reports
- Subcontractors' weekly and monthly progress reports
- Daily construction reports
- Daily labor records
- Equipment utilization reports
- Equipment rental records
- Change Order logs
- RFI logs
- Submittal logs
- Transmittal logs
- Progress photographs, particularly of problem activities, including date and name of the photographer
- Weather data
- Field sketches

3.5 SCHEDULE DOCUMENTATION

Schedule documentation is vital in proving delay or acceleration claims. Depending on contract requirements or the complexity of an engineering and construction project, various types or combinations of schedules may be utilized not only to plan the work but also to geographically illustrate with great effectiveness at trial the impacts of delays and disruptions on a projects. CPM schedules are not only useful in managing a complex project, but are also valuable tools in analyzing the impact of concurrent or unrelated changes, delays, or acceleration on the project schedule and support requests for time extensions. Bar charts and short interval schedules are also useful evidence to demonstrate impacts on a project, as well as the prudence of management planning. Any meeting minutes that have schedule-related discussions should be indexed as such for future reference. Manpower loading distributions directly related to schedules are important documents to show impacts of changes, delays or acceleration claims.

In summary, the important schedule-related documents are:

- CPM schedules (original and updates) including electronic files of all schedule data
- Bar chart schedules
- Short interval detailed schedules
- Manpower loading charts
- Impact, time extension request, and other delay schedules
- Scheduling meeting minutes



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3.6 COST RECORDS

Proving the actual dollars lost is critical to a construction claim. Use and maintenance of effective accounting methods can provide the proof of damages necessary to support additional compensation.

Since delay, acceleration, and impact claims frequently involve inefficiency and loss of productivity factors that are difficult to segregate under traditional accounting systems, a method of isolating costs not covered by the contract is especially needed. A system that allows for concurrent segregation of unanticipated costs is not only easier and less expensive than the after-the-fact breakdown; it is also more convincing in the courtroom.

Cost reports are often prepared to study unit costs or production units as the job progresses. Analysis of these cost reports may show where the contractor's estimate was incorrect or where inefficiencies were caused by the contractor's own mismanagement.

Although cost records on each project and between contractors will vary, the following list represents the typical spectrum of cost data that should be preserved for potential use in proving damages:

- Contractor's control budget
- Weekly labor distribution
- Labor time cards coded to work activities
- Overtime labor records
- Labor wage and fringe agreements
- Certified payroll reports
- Canceled payroll checks
- Daily equipment cost records, including hours operated, hours idle, work performed, and repairs made
- Labor productivity/earned value reports
- Purchase orders
- Paid invoices
- Material receiving tickets
- Bulk material quantity reports
- Canceled accounts payable checks
- Contractor's job cost reports (initial, weekly, monthly, and final)
- Subcontractors' job cost reports (initial, weekly, monthly, and final)
- Contractor's home office overhead reports
- Revenue records
- Progress payment reports
- Change orders cost estimates and change order costs
- Bank loans
- Cash flow projections



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3.7 SUMMARY OF DOCUMENTS

In summary, the following list identifies the general categories of documents, and specific documents in each category, that should be preserved on an engineering and construction project.

- Pre-contract Documents
 - Owner's Invitation to Bid/Request for Proposals
 - Owner's Instructions to contractor
 - Bid package drawings and specifications
 - Bid clarification letters and responses
 - Pre-bid correspondence
 - Bidder "question and answer" meeting notes and minutes
 - Owner's bid schedule showing work by other contractors
 - Bid package amendments
 - Contractor's as-bid schedules and manpower curves
 - Bid estimate takeoffs, calculations, labor productivity assumptions, and worksheets
 - Contractor's bid packages to subcontractors
 - Subcontractor bids and schedules
 - Vendor quotes used for bid
 - Site investigation report (owner's and any performed by contractor)
 - Soils and geotechnical reports
 - Project labor agreements
 - Contractor's bid evaluations of subcontractors' bids
 - Contractor's bid submittal (Technical and Commercial)

- Contract Documents
 - Original contract (General/Special Conditions, Exhibits)
 - Subcontract documents (General/Special Conditions, Exhibits)
 - Drawings and specifications issued with the Contract
 - Notice to Proceed
 - Change Orders and Contract Amendments (executed after the Contract initiation but then become part of the Contract)
 - Project Management/Execution Plan
 - Change Order Procedure
 - Scheduling Procedure
 - Subcontracting Procedure
 - Procurement Plan
 - Staffing Plan
 - QA/QC Plan
 - Transportation Plan
 - Risk Management Plan



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- Safety Plan
- Environmental Plan
- Start-up and Commissioning Plan
- Construction Management Plan

- Emails, Letters, and Notices
 - Letters and emails to/from owner and/or owner's Project Management Representative
 - Letters and emails to/from design engineer/architect
 - Letters and emails to/from contractor
 - Letters and emails to/from subcontractors
 - Letters and emails to/from vendors
 - Correspondence logs
 - Internal office memos and emails
 - Notices to owner and to owner's Project Site Representative of any changes or problems
 - Notices from subcontractors of any changes or problems

- Contemporaneous Records
 - Diaries
 - Progress and other meeting minutes
 - Conversation memos
 - Telephone logs
 - Handwritten notes
 - Superintendent's daily reports
 - Construction Manager's reports
 - Requests for Information
 - Inspection/testing reports
 - Hydrotest reports
 - Pipe spool fabrication and delivery reports/logs
 - Nonconformance reports
 - Notices to owner and to owner's Project Site Representative of any changes
 - Drawing and specification revisions
 - Drawing and specification logs
 - Shop drawing log
 - Customs reports and related information
 - Material receiving reports
 - Installed equipment lists
 - Punchlists
 - Approved vendor lists
 - Mechanical completion certificates



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- Substantial completion certificates
- Systems completion/turnover certificates
- Certificates of Occupancy
- Certificate of Final Completion
- Contractor's weekly and monthly progress reports
- Subcontractors' weekly and monthly progress reports
- Daily construction reports
- Daily labor records
- Equipment utilization reports
- Equipment rental records
- Change Order logs
- RFI logs
- Submittal logs
- Transmittal logs
- Progress photographs, particularly of problem activities, including date and name of the photographer
- Weather data
- Field sketches

- Schedule Documentation
 - CPM schedules (original and updates) including electronic files of all schedule data
 - Bar chart schedules
 - Short interval detailed schedules
 - Manpower loading charts
 - Impact, time extension request, and other delay schedules
 - Scheduling meeting minutes

- Cost Records
 - Contractor's control budget
 - Weekly labor distribution
 - Labor time cards coded to work activities
 - Overtime labor records
 - Labor wage and fringe agreements
 - Certified payroll reports
 - Canceled payroll checks
 - Daily equipment cost records, including hours operated, hours idle, work performed, and repairs made
 - Labor productivity/earned value reports
 - Purchase orders
 - Paid invoices
 - Material receiving tickets



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- Bulk material quantity reports
- Canceled accounts payable checks
- Contractor's job cost reports (initial, weekly, monthly, and final)
- Subcontractors' job cost reports (initial, weekly, monthly, and final)
- Contractor's home office overhead reports
- Revenue records
- Progress payment reports
- Change orders cost estimates and change order costs
- Bank loans
- Cash flow projections



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4. RECORDS MANAGEMENT CHECKLIST

The following questions help to evaluate your document control system:

- Are document capture procedures being followed for both internally and externally generated documents?
- Is incoming mail being distributed by the records management center within two to four hours after receipt?
- Is there a standardized list of file headings?
- Is filing being done on a regular and timely basis?
- Is the records management center providing a reasonable turnaround time for document retrieval requests?
- Are non-essential duplicate records identified and eliminated from the files?
- Is there a system that provides that records removed from the records management center are returned in a reasonable length of time?
- Are duplicates of vital records prepared and stored in a separate location?
- Are confidential records being protected against unauthorized use?
- Is there a standardized system to review and purge from the files documents that are no longer useful or required to be kept?
- Are the records management center's procedures, including file subject headings, reviewed and updated on a regular basis to ensure that they adequately meet the needs of the organization as a whole?
- Are records being removed without proper authorization from the records management center?
- Are older records of continuing importance scanned and electronically preserved to optimize the use of space in the records management center?



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About the Author



Richard J. Long, P.E., P.Eng., is Founder of Long International, Inc. Mr. Long has over 50 years of U.S. and international engineering, construction, and management consulting experience involving construction contract disputes analysis and resolution, arbitration and litigation support and expert testimony, project management, engineering and construction management, cost and schedule control, and process engineering. As an internationally recognized expert in the analysis and resolution of complex construction disputes for over 35 years, Mr. Long has served as the lead expert on over 300 projects having claims ranging in size from US\$100,000 to over US\$2 billion. He has presented and published numerous articles on the subjects of claims analysis, entitlement issues, CPM schedule and damages analyses, and claims prevention. Mr. Long earned a B.S. in Chemical Engineering from the University of Pittsburgh in 1970 and an M.S. in Chemical and Petroleum Refining Engineering from the Colorado School of Mines in 1974. Mr. Long is based in Littleton, Colorado and can be contacted at rlong@long-intl.com and (303) 972-2443.