AIA/AGC Recommended Practices

RECOMMENDED PRACTICES OF THE HOUSTON CHAPTERS OF THE

AMERICAN INSTITUTE OF ARCHITECTS

AND

ASSOCIATED GENERAL CONTRACTORS

(Last updated: November 2018)

For over 50 years, the AIA/AGC Joint Committee has provided a forum for the Design and Construction community to discuss pertinent issues related to the construction industry. The Committee's goal is to promote cooperation among all the participants and to develop tools that support a collaborative process. One tool developed by this Committee is the Recommended Practices Manual, which is organized to reflect the typical project delivery flow from early planning stages, selection of construction delivery methods, cost estimating, construction cost proposals, through completion of construction and warranty.

The Recommended Practices Manual has been developed and is maintained by the AIA/AGC Joint Committee composed of members of the Houston Chapter of the American Institute of Architects (AIA) and the Houston Chapter of the Associated General Contractors (AGC). The recommendations represent industry experience of previous and current members and have been ratified by the governing bodies of each organization. The Committee continues to update the manual to reflect progress in both the industry and in technology.

It is the goal of the AIA/AGC Joint Committee that these Recommended Practices serve as a guide and reference for architects, contractors, owners and other industry partners in the planning, designing and construction process. They are not intended to serve as the sole source of information for the undertaking of any project. Design or construction of any project has potential legal consequences and the committee recommends consultation with an attorney, if appropriate.

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1.00- PROGRAMMING FOR FACILITIES DESIGN

Last Updated: May 1996

THE ISSUE

Pre-Design Period, Programming, the Program Statement, the Programming Process.

DISCUSSION

Origins of Design: The 'origin' of design and construction projects is embedded in the ongoing process of using, and managing, facilities, plus the concepts of future needs. Owners and tenants continually adapt their facilities to their changing needs, shifting furniture and equipment, accommodating new activities or other user needs, upgrading systems, making improvements for energy efficiency, and so on.

The Pre-Design Period: In the pre-design period the Owner will make major decisions that will set the purpose, scope, timing, projections, and budget for a Project. The Architect/Programmer is often called on by the Owner to assist in the analysis necessary to support his critical decision making. Pre-design services may include needs assessment, assessment of existing buildings, feasibility studies, site analysis, time requirements and limitations, and facilities programming. This step may be provided by an Owner who has the in-house resources or may be provided by the Architect as 'additional services' under AIA Owner-Architect agreements. All of which must be closely coordinated to provide cohesive criteria for project design. The program is coordinated with other pre-design services to serve as the basis for the Program.

Programming: Is defined by the AIA and National Council of Architectural Registration Boards as "The process of leading to a statement of an architectural problem and the requirements to be met in formulating a solution. Programming is a problem-seeking, analytical process, to identify the problem that the design process must meet."

The Program begins with a statement of what a Project is to do - that is, the Project goals, the activities to be accommodated, and any special requirements or considerations that establish criteria for the design. Programming may be a highly formal process for complex buildings, using sophisticated analytical tools and requiring extensive knowledge of the building type. For more simple building types, the Program may be based on experience or empirical data.

The Program is the beginning of the design process. Requirements, conflicts, priorities among the program needs, and perhaps, as the design develops; new concepts may emerge of how activities may be accommodated. The program is considered as a starting point, to be refined and even modified as the design progresses. However, the purpose of programming is to avoid trial and error design. Therefore, the goal in programming should always be to develop a comprehensive and realistic program the first time. This greatly facilitates the design review and approval process. At the completion of design development the program, as modified, serves as the criteria by which the final Project is judged.

The Program Statement: Must include the Owner's goals, programmatic concepts for how the facility is to be operated and function, space requirement, budget, and growth projections for master planning as appropriate.

The Program should also include supporting data used in the analysis of space needs, site data, how the facility is to be organized and function, space requirements, preliminary code analysis and ADA requirements, and budget.

A program should also include qualitative goals and concepts, such as image, desired flows, and adjacencies.

A statement as to the relative importance of construction cost versus the desirability of low maintenance is a factor to be considered.

The programmer may use graphic techniques to communicate programmatic concepts and site analysis to the Owner/User for verification.

Not all program requirements must be in written form; bubble drawings, spatial studies and diagrams, adjacent relations, flow diagrams, and even design precepts that may be used to convey ideas. A clear advantage in involving the Architect in the programming is that of translating the client's ideas into programmatic concepts and assurance that the concepts can be build within the budget and time restraints.

The Programming Process: Generally involves four steps:

- Develop Owner/User Project goals.
- Collect data relating to site and codes, building use, and occupancy.
- Develop functional and organizational concepts.
- Develop the space program and budget, balance program and budget.

The Client/User: The program must reflect the client/user's needs, aspirations, goals, organization, procedures, and future needs.

Most clients are expert at what they do but have little experience in articulating their expertise in a form that is useful in defining facility requirements.

Most clients have a necessarily limited view of the range of physical possibilities for housing what they do. They can react to what they are familiar with, but they may not be able to generalize from their experience. Therefore the programmer's role is to assist in extracting and communicating the client's and user's goals and concepts.

Some clients are unclear about their goals, values, and needs. The programming process may require them to resolve important questions or make critical decisions about themselves and their organizations.

Some clients are extremely clear about their needs and on how they should be translated into architecture. Here, programming assists the Client in stating his requirements in an appropriate generic form.

When the Owner is not the User: In some projects the Owner is not the ultimate user. Or the Owner may be an institutional or corporate facilities department one step removed from Project's actual user. In these situations, the programmer must understand that the needs and aspirations of the Owner and user may be quite different. Both interests must be recognized in the programming process and the conflicts must be resolved before the design begins.

When the Client is a Building Committee: The "committee client" is a special case. Goals, values, and desires may differ from member to member, and membership of a building committee may change over the long period needed to bring most building projects to fruition. Complete and accurate documentation of the programming process, meeting minutes, and Owner/User decisions, will provide an information audit trail to these early Owner/User decisions. Schools, hospitals, churches, public buildings, and other projects with "committee clients" become a frequent source of claims against architects,

External Requirements and Standards: Planning and zoning ordinances, building codes, regulations, and local restrictions, impose facility requirements. Also, planning and design norms (floor area requirements for auditorium seating, viewing standards for projected media, utilities requirements for laboratories, and handicapped accessibility) will establish certain program requirements. The architect must research these norms as they impact space and functional needs.

The Architect's Experience with the facility type, client type, or the situation faced by the client, can be

invaluable in presenting possibilities and options beyond the client's familiarity. Experienced Architects understand that Client education is central to effective programming.

Securing commitment: Programming is an analytical process requiring good communication and the interactive participation of the Owner/User. Effective programming is far more than a rote process. It includes securing Owner and User commitment to the resulting programming requirements. The Programmer must facilitate this commitment process and bring it to closure before design begins.

The key commitment is, as always, involvement. The programming process should bring all key participants to the table, with particular attention to those responsible for the design and those who must provide approvals as the Project moves forward.

RECOMMENDATIONS

Under the basic services provisions of AIA Owner-Architect agreements, the Owner is responsible for establishing the Program. Programming provided by the Architect is an 'additional service,' which service should be clearly delineated in the Owner-Architect agreement.

The Architect should lead the programming process to conclusion and to balance space, quality and budget before starting the design.

When an Owner develops a program prepared without the advice of the Architect, the Architect should evaluate the program for clarity and completeness, and suggest appropriate coordination and adjustments or completion before beginning the design.

The programming process should project Owner/User's future needs, perhaps involving a programmed master plan concept, and a time schedule as appropriate.

When appropriate during development of the program statement, advice of the Contractor should be sought on constructability, construction scheduling, and construction cost projections as they affect the program. Refer to Recommendation 2.01 - Preliminary Cost Budgets and Estimates.

Prepare a capital budget to project all costs associated with the Project prior to establishing the limit of the construction budget. Use adequate *net* to *gross* area projections. Use adequate contingency allowances at each stage of budget projections.

The Architect should review the program statement with the Owner in full detail, to assure that Owner and Architect have a full and mutual understanding of all facets of the program.

The Architect should maintain a complete and accurate documentation of the program process, meeting minutes, and Owner/User decisions, to provide an information audit trail for Owner/User decisions.

The Architect working with a building committee should take extra care to document decisions and directives, and to emphasize the importance of continuing commitment to decisions previously made.

The schematic Design solution should be tested with the Program. The physical design solution should implement the Project goals. The organization and factional concepts should be achieved in the design solution, and should be within the program budget.

Clients should be advised that no design will meet all of the programmed spaces exactly. As the design progresses, the Client's priorities may also change, requiring adjustments to the initial program.

In considering pre-design services, Architects are advised to check with their insurance brokers to determine which services are covered by professional liability insurance and which are not.

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Note: *Sources of the Discussion portion of this document are derived from both The Architect's Handbook of Professional Practice, Section 3.61 - "Facilities Planning and Programming," written by David Haviland, Hon.AIA, professor of Architecture at the Rensselaer Polytechnic Institute of Troy, New York, and from "Problem Seeking," written by Pena, Parshall, Focke, and Kelly, of CRSS, Houston. Please refer to those publications for a more detailed and comprehensive discussion of programming and related activities*

1.01 - DOCUMENT ORGANIZATION FOR BIDDING AND CONSTRUCTION

Last Updated: May 1995

THE ISSUE

Definition of Contract Documents; Construction Documents; Bidding Documents; Purpose of the Documents; Organization of Documents based on bidding and construction methods.

DISCUSSION

Once a Project design has been developed and Design Development Documents have been approved by the Owner, the Architect prepares working drawings and specifications setting forth Project construction requirements and assists the Owner in preparing necessary information for bidding, or negotiating, and contracting for the construction.

Contract Documents which form the legal agreement between Owner and Contractor are defined in Article I of AIA General Conditions. Contract Documents include all of the Construction Documents except the Bidding requirements. However EJCDC General Conditions 1910-8 of the engineering societies does provide for inclusion of all or part of the bid as an attachment to the Agreement.

Construction Documents are the graphic and written information prepared or assembled by the Architect for communicating the design and for administering the Project.

Bid Documents are all of the documents required for bidding or negotiating the construction agreement. They are the Contract Documents plus the Bidding Requirements. Refer to AIA/AGC Recommendation 3.03 - Information Provided to Bidders, for further discussion of Bid Documents.

The **Project Manual** is that part of both the Construction and the Contract Documents which can be easily bound into book format: The bidding requirements, contract forms, Conditions of the Contract, Specifications, Addenda, and Modifications when they are executed.

The Construction Documents serve multiple purposes:

- They communicate to the Owner, in detail, what the Project involves.
- They establish the contractual obligations of the Owner and Contractor to each other, and define the responsibilities of the Architect, the Construction Manager (CM), and any other entity administering or managing construction contracts for the Owner.
- They communicate to the Contractor the quantities, qualities, and the relation of all work required to construct the Project. The Contractor uses the documents to solicit bids or quotations from subcontractors and suppliers and to price the Work.
- They are the basis for obtaining regulatory and financial approvals required to proceed with the construction.

The project delivery method selected determines the Architect's decision on content, organization, arrangement, and packaging of the Construction Documents for a Project.

The commonly used general construction contract is the award of a single contract on the basis of fully developed Construction Documents. On private work, the contract may be negotiated on the basis of design development or partially developed construction documents.

Multiple prime contract work and fast-track projects require that Construction Documents be divided into multiple Bid/Contract packages. Each package must clearly spell out specific requirements for that portion of the work, and establish the relationships among other contract packages. The Division 1 specification sections Summary of Work, and Coordination, are the major vehicles that clarify the relationships among contract packages. Copies of related packages should be available to all Bidders/Contractors for reference.

Refer to AIA/AGC Recommendations 1.02 - Single Contract vs. Multiple Prime Contract Construction, and 1.03 - Fast-Track Construction.

Coordination among the separate bid/contact packages is particularly important in fast-track construction since the various packages are being bid and constructed at different, perhaps overlapping, times. Refer to AIA/AGC Recommendation 1.03 - Fast-Track Construction for further discussion.

Projects under construction management may require preliminary "scope documents" during document production to organize the various packages and for obtaining a fixed price or a guaranteed maximum price (GMP). When so contracted, the "scope documents" become contract documents since they form the basis for defining the work covered by the contract price or the guaranteed maximum price. Refer to AIA/AGC Recommendation 1.05 - Construction Management.

In some design/build contracts the Architect may be in a joint venture with, or a subcontractor to, the builder. In design/build the Contract Documents are similar to those for other project delivery methods, with certain differences in Conditions of the Contract and Division 1 specifications. When a single design/build entity is employed, the commitment to build the Project may be based on a schematic design or even on a performance specification that involves no design. In such a case, working drawings and specifications are more like contractor's coordination drawings or shop drawings. Their primary role acts as an in-house tool for facilitating construction and controlling the quality of work by subcontractors, and only secondarily do the drawings and specifications legally define the finished product for the Owner. Refer to AIA/AGC Recommendation 1.04 - Design-Build Construction.

A design/build firm may use standard details, as in the case of pre-engineered construction, perhaps bound separately, and the Project be constructed without drawn details. Similarly, if the design/builder routinely works with certain subcontractors who are familiar with the standard details, the specifications for those subcontractors may be less detailed.

RECOMMENDATIONS

The project delivery method to be used for construction should be determined prior to the start of preparation of working drawings and specifications.

Drawings and specifications should be packaged to facilitate the bidding and the organization of the construction process.

Content of working drawings should be arranged in the sequence and according to the relationships recommended in Chapter 2.8 of the Architect's Handbook of Professional Practice published by the American Institute of Architects (AIA).

The Project Manual should be arranged in Division 16 MasterFormat and written in accordance with the Manual of Practice published by the Construction Specifications Institute (CSI).

Refer to AIA Document AIA Document A521/EJCDC Document 1919-16 - Uniform Location of Subject Matter Location in Construction Documents.

END OF RECOMMENDATION

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1.02 - SINGLE CONTRACT VERSUS MULTIPLE CONTRACT CONSTRUCTION

Last Updated: September 1994

THE ISSUE

Contractor responsibilities under single contracts; The use of multiple contracts; Owner control by selection of separate subcontractors; Coordination of Contract Documents; Coordination of the Work.

DISCUSSION

The traditional construction delivery method of bidding and contracting construction work under a single general construction contract clearly defines the direct relationship between Owner and Contractor, and the Architect's responsibilities. The Houston Chapter AGC recommends single contract construction.

However, where the Owner wishes to assume a greater control over the Work, selecting and contracting construction work under several separate prime contracts provides flexibility. Considerations may be: owner control of critical work by selection of contractors such as mechanical, electrical, artistic craft work, or sophisticated technical or electronic work.

Some project delivery methods, such as fast-track, readily lend the process to separate contracting.

Certain political entities and corporations may require separate prime contracts, or separate bids for major subcontracts.

Construction by multiple prime contracts requires significant coordination to define the scope of each contract and the interactions of contractors. Consideration should be given to the services of a Construction Manager, as discussed in AIA/AGC Recommendation 1.05 - Construction Management.

The organization and coordination of Work on a multiple prime contract Project must be performed by a specifically defined entity. This may be the Architect performing an additional service, the General Contractor as expanded responsibilities, or a separate Construction Manager.

The chance for omissions or duplications among the various contract packages, and responsibility for coordination of the Project, both have potential legal problems and may result in additional costs.

When the Owner wishes to select certain subcontractors, separate bids can be incorporated into the general contract by assignment as subcontractors. This practice requires the General Contractor to be responsible for subcontractors not of his choice. It weakens his position in the field, and exposes the Contractor to financial responsibilities which he may not wish to assume. The Contractor may require the assigned subcontractor to provide a performance and payment bond.

RECOMMENDATIONS

Construction under a single prime contract is the best, most direct, most easily administered method of project delivery, and requires the least active responsibility for the Owner.

Multiple prime contract construction work should be chosen only after full consideration of all factors involved, including administrative services of a Construction Manager to coordinate the bidding and field work.

Separate prime contracts may be appropriate for fast-track construction.

For complex projects under separate prime contracts, the additional services of a Construction Manager may be mandatory.

During preparation of Contract Documents the scope of each contract must be clearly defined, as discussed in

AIA/AGC Recommendation 1.01 - Document Organization for Bidding and Construction.

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1.03 – FAST-TRACK CONSTRUCTION

Last Updated: January 1995

THE ISSUE

Definition of fast-track construction; Its use with other project delivery methods; Advantages and disadvantages of fast-track construction; Precautions.

DISCUSSION

Fast-Track construction is a project delivery system which compresses the design-award-build process into overlapping design-build phases. Construction begins on portions of the Work prior to construction document completion. Fast-track requires selecting the Contractor in the early development phases of the Architect's services, and requires the Architect and Contractor to coordinate all phases of the process.

Fast-track may be used under various construction delivery methods as discussed in AIA/AGC Recommendation 1.02 - Single and Multiple Prime Contract Construction; 1.04 - Design/Build Construction; 1.05 -Construction Management; and 1.07 – Cost-Plus Fee Contracts. Variations on those methods can be used to adapt the project delivery process to the particular Project and to the Owner's specific requirements.

Advantages of fast-track construction:

- A Contractor selected early in the design document phase can contribute to cost control of the project during document preparation.
- Critical materials and equipment may be ordered early in the process to expedite delivery.
- Joint development of a critical path schedule for design, purchasing, and construction, provides for earliest completion and Owner occupancy.
- Time consumed during the normal bidding process is used for construction.
- Project delivery time is shorter because the project is being built while the design and document preparations are being accomplished.
- Earlier Project completion reduces the Owner's interim financing costs.
- For projects with strictly imposed completion deadlines, fast-track methods may be the only solution.

Disadvantages of fast-track construction:

- Early decisions on final design and details of the Project risk being altered later if new criteria arise or circumstances change.
- The Owner is required to project his program and to visualize the final Project without complete information.
- The start of construction of phases of the work prior to completion of working drawings and specifications risks the possibility that later decisions may require revisions to executed contracts, and changes to work in place, resulting in delays and additional costs.
- Multiple contract construction, often used in fast-track, poses unique problems which require a particular expertise.
- The problem of financial budgeting and loss of control of construction costs and quality of Work is an inherent problem which must be faced in early stages of planning and construction.
- Public agencies which issue building permits in the area may not allow partial permits on incomplete construction documents.
- There are inherent litigation risks in construction using incomplete contact documents.

RECOMMENDATIONS:

Those entities (Owner, Architect, Project Manager, and Contractor) with long experience in fast-track construction and the related delivery methods are best qualified to deliver a successful fast-track Project.

The Owner must have a full understanding of the risks in fast-track construction, and should agree to such methods only with the full advice of an attorney experienced in such contracting methods.

The Owner should have control of the various stages of preparation construction documents, contract negotiations, award, and the successive stages of construction.

Construction Management, either Architect, Contractor, or other qualified entities, may be mandatory for fast-track projects, and should be directly responsible to the Owner to keep him fully informed on financial costs.

Guideline budgets should be established at the onset of the planning, and should be strictly monitored throughout all phases of the design, document production, awarding, and construction process.

A combined CPM schedule for production of Contract Documents and for phasing and coordination of construction is recommended for successful fast-track construction.

END OF RECOMMENDATION

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1.04 - DESIGN/BUILD CONSTRUCTION

Last Updated: May 2018

THE ISSUE

Definition of design/build project delivery; The players in design/build; Forms of design/build contracting; Establishing criteria for bidding design/build documents.

DISCUSSION

Design/build is a project delivery system in which a single entity contracts for both the design and construction of a project.

The entity may be a Design/Build firm who is qualified to perform both the design and construction. Or, the entity may be a Design firm who employs a construction Contractor or contractors, or a construction Contractor who employs the designers. For major projects a consortium of qualified firms may join together in one organization to perform the Work.

In establishing a design/build relationship, the Design team and Contractor should especially recognize there may be more group meetings than in other delivery, but these meetings and the collaborative dialogue and information will be beneficial to the process and the project. Additionally, there should be dialogue and written agreement on how the design/build team will handle among themselves, possible disputes with the Owner over scope, cost, project timing, warranty risk, profit sharing or other topics; who defends the design/build team and/or is liable for valid claims against the Design/Build team by the Owner? Who is in control during design then construction? What is the Designer's role during construction administration? What are the payment and retainage terms? If the relationship is a joint venture, what are the banking agreements? Is there a defined set of general conditions relating to staff and how are additional services handled? To whom do the Designers owe their professional duties?

Historically, a large percentage of design/build contracts are negotiated. The form of contract may be a stipulated-sum, or other contract forms including cost-plus, as discussed in AIA/AGC Recommendation 1.07 - Cost Plus Fee Contracts, Guaranteed Maximum cost. Unless the design/build contract is lump sum, the design/build delivery method usually requires and involves an even more open book relationship among all of the parties than does the CM@Risk delivery method. Efforts to bid such work competitively, if based on schematic criteria developed by the Owner, involve a tremendous amount of preliminary planning from incomplete Contract Documents on the part of the bidders.-

In considering design/build, the Owner should employ experienced personnel to prepare comprehensive criteria before negotiating with or requesting competitive proposals from the Design/Build team. The Owner must evaluate the proposals based on pre-determined, objective judgmental factors. There should be a careful prequalification of the Design/Build team based on financial responsibility, satisfactory experience on similar projects, staff and management capabilities, and current capability for handling the Project under consideration.

The design/build delivery method can result in less burden on the Owner, faster project starts and shortened time to market of the completed project with multiple phased design packages, bridging documents and a clear and documented understanding of the basis of design. The design/build delivery method can also provide significant benefits in complex projects where systems or Owner's facility needs, or equipment are highly sophisticated and require extreme amounts of coordination between parties knowledgeable with those topics. This is especially so if there is poor Owner definition of facility, system or equipment requirements. Additionally, even in less complicated facilities, with design/build the Contractor and/or its trade subcontractors may be able to suggest alternate proven systems that might save design research, time and costs.

The Parties insurance advisors should be consulted on the question of the appropriate form of professional liability insurance and performance bond. Is the Contractor covered in his exposure to design responsibilities? Who is responsible for professional liability? Can the Designer provide performance bonds? Should there be separate coverage for each type of operation?

While there are many examples of government design build in the name of "privatization", design/build construction is not generally used in public work and may be prohibited by law in some jurisdictions. It is difficult to meet requirements of competitive bidding because of the subjective judgements made in the selection of the low bidder in design/build. In Texas, public project Owners are required to hire their own independent design professional separate from the Design/Build team, if this method of project delivery is chosen.

RECOMMENDATIONS

While design/build does provide the Owner with more of a single source responsibility and turnkey contracting method, it may compromise the traditional system of checks and balances, which exist in a separate Owner-Architect-Contractor relationship. There can be a potential shift in responsibilities, loyalty and professional duties when the design team is working for the Contractor.

Design/build construction should be undertaken only after full consideration by all parties of the options and responsibilities.

To promote a successful project, communication and documentation should be clear and understood regarding what services the Owner is buying from the design build team.

The Contractor and Design team both need to have staff familiar and experienced with managing design build projects.

If either the Owner or the Lender do not have qualified staff they should consider employing an independent firm to review the design documents, to administer the construction, and to approve progress payments. A project manager may be considered to assist the owner on large projects.

Consultation with insurance and surety advisors is advised regarding professional liability, builder's risk, commercial general liability, excess liability, bonding or any other type of insurance or security.

The Design/Build team should make the Owner aware of problems of bonding the design portion of the work.

Both the Owner and Design/Build team should develop and include contingency budgets and protocols to handle items that do not go as planned and/or scope misunderstandings.

The Design/Build team should develop and educate the Owner on the preconstruction and construction schedules, responsibility matrix and other expectations the parties have of each other.

Establish clear responsibilities for the geotechnical testing firm and reports, construction testing and any required commissioning.

Establish how and when a warranty work protocol so the Owner only has to contact one party for resolution of any items.

The Contract should address if, how and when Subcontractor and Supplier warranties should be assigned to Owner especially if the Design/Build team is set up as a single project entity.

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1.05 - CONSTRUCTION MANAGEMENT

Last Updated: June 1996

THE ISSUE

Definition: Two levels of Construction Management; AIA and AGC Documents; The Construction Manager as advisor to the Owner (CMa), and as constructor (CMc); Application; Variations in practice; The roles of Construction Manager, Architect, and Contractor; CM exposure to construction liability.

DISCUSSION

AIA documents define Construction Management as "Management Services provided to the Owner of a Project during the Design Phase, Construction Phase, or both, by a person or entity possessing requisite training and experience. Such management services may include advice on the time and cost consequences of design and construction decisions, scheduling, cost control, coordination of contract negotiations and award, timely purchasing of critical materials and long-lead items, and coordination of construction activities."

Over the past number of years, the concept of Construction Management has been refined and coordinated by agreement between the AIA and AGC. For joint documents which define the functions of the CM on two levels: One, the Construction Manager-Advisor (CMa) (Previously known as Project Manager), and Two, the Construction Manager-Constructor (CMc). The distinction is in the limit of advisory services the Construction Manager (CMa) provides as a member of the team of Architect-Owner-Construction Manager during the design and contract document phase services compared to the bidding and construction services contracted by the Construction Manager-Constructor (CMc).

The CMa provides services to advise the Owner and Architect on design and materials decisions during the design and document development phases. The CMa coordinates the entire design process using his skills and knowledge of construction to clarify cost and time considerations of design decisions, to advise on feasibility of single, multiple-contract or fast-track delivery systems, recommend the construction process, and to handle the bidding and award, as well as to manage the construction of the Project.

The CMc, in addition to acting as an advisor to the Owner during the design period, assumes responsibility for the construction of the Project. The CMc provides the Owner with a Guaranteed maximum Price proposal, which the Owner may accept, reject, or choose to negotiate. Upon the Owner's acceptance of amendment No. 1 of the two-part AIA A121/CMc - AGC 565 agreement, the CMc becomes contractually bound to provide the labor and materials for the Project. The CMc may also serve as administrator of multiple prime contract construction; however, some states prohibit that practice.

The role of the Construction Manager as an advisor to the Owner (CMa) may be performed by an independent firm or individual, by an Architect, or by a General Contractor serving apart from the construction Contractor. AIA Documents A101/CMa, A201/CMa, A511/CMa, and AIA B801 parallel the usual documents of those numerical designations, and AGC joint documents also address the role of CMa.

AIA and AGC jointly publish broadly stated Owner-Construction Manager Agreement forms for both CMa and CMc usage. Variations in local practice, in project requirements, in responsibilities and relations with Owner and Architect, require tailoring those standard provisions to reflect the specific requirements of the Project.

Services of the Construction Manager should be seriously considered for multiple prime contracting and for fast-track projects, as discussed in AIA/AGC Recommendations 1.02 - Multiple Prime Contracts and 1.3 - Fast-Track Construction. Single-contract work of a highly technical or complex project may well benefit from services of a Construction Manager. An experienced Owner with Construction Management capabilities may provide the services.

An entity (CM) providing management of construction services should be alert to rulings of the Occupation Safety & Health Review Commission that Construction Managers are subject to OSHA construction safety regulations. While exposure of a Contractor acting as CM is no different from his normal exposure, an Architect or other entity engaging in construction management should carefully assess the liabilities involved and verify that liability insurance provides proper coverage.

Functions of the Construction Manager as an advisor to the Owner (CMa):

- Recommendations on design, bidding, and construction decisions.
- Oversight and coordination of the bidding phase.
- General management and coordination of the construction.
- Coordination of testing and controlled inspections.
- Processing and review of submittals.
- Review of progress payment requests.
- Review and coordination of change order requests.
- Scheduling of construction progress administration.
- Coordination of closeout of the Project.

Function of the Construction Manager as constructor (CMc):

- Recommendations on design, bidding, and construction decisions.
- Contracting for certain defined portions of the construction work.
- General management and coordination of the construction.
- Coordination of testing and inspections.
- Processing and review of submittals.

Function of the Architect when a Construction Manager is used:

- Interpret Contract Documents.
- Interpret variously prepared documents to verify coordination.
- For CMc, review progress payment requests and change orders.
- Approve requests for payment and change orders.
- Stay informed of changes made by CM, especially those which require changes in Contract Documents.
- Verify that responsibilities being assumed the CM do not exceed contractual authority.

RECOMMENDATIONS

Construction Management should be seriously considered for fast-track and multiple prime contract construction.

Published Owner-Construction Management Agreements should be amended to tailor the documents to the specific requirements of a Project and to the working and legal relationships among the Construction Manager, the Owner, the Architect, and separate Contractors.

Contract Documents should inform the Contractor(s) of the duties and authority of the Construction Manager and the Architect, and the Contractor's responsibility to each.

An Architect or other entity engaging in construction management services should assess his liability for Project safety and for the insurance coverage required.

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1.06 - APPLICATION OF PERFORMANCE SPECIFICATIONS

Last Updated: January 1995

THE ISSUE

Definition, types of specifications - Performance specifications; The concept; Usage in the Houston Area; Problems in specifying; Problems in bidding; Problems in evaluation; Problems in contracting.

DISCUSSION

Specifications are defined as Proprietary, Reference Standard, Descriptive, or Performance. A performance specification is defined as:

- A statement of required results with criteria verifying compliance, without unnecessary limitations on the methods of achieving the required results.

- *A statement of required results* means that all desired end results must be spelled out. An incomplete performance specification can result in a major loss of control of the quality of materials, equipment, and workmanship going into the project.

- *Criteria for verifying compliance* means that the criteria are capable of measurement, test evaluation, or other acceptable verification.

- *Without unnecessary limitations on methods for achieving the desired results* means that only essential restrictions are placed on the system. Limitations on methods should be avoided. Performance specifying should keep material and process descriptions to a minimum to encourage new means to achieve end results.

A core requirement for performance specifying is the development of an objective method of Architect's evaluation and acceptance before the price is established. Such evaluation occurs when the Architect participates in the evaluation, or pre-qualification of a product/system, and may also occur in some forms of construction management contracting.

In Concept: It is possible to specify virtually any construction element by performance, be it a single product, a component or an assembly of a system, an entire system, or an entire Project. The CSI Manual of Practice lists 9 levels of performance specifying; the Owner/Architect should be aware of which levels are applicable to the specific project needs.

In Usage: Unfortunately, performance criteria are often used without a clear understanding of complexity of the entire process. This causes confusion, and repeated problems in implementation and/or in enforcement, with unacceptable results.

The practice of determining construction cost prior to Architect's acceptance of the product/system falls far short of the original concept of performance specifying. The result can only be confusion, misunderstandings, frustration, delays, and perhaps legal action between the Architect/Owner and Contractor/Supplier.

Performance specifying for simple, non-critical items, is standard industry practice. It is common to specify temporary construction facilities as end results. Mass concrete is specified by the required strength of material in place. Or, a power plant may be specified primarily by the output required.

Pre-engineered specialty products are often - and perhaps better - specified by performance. In addition to the research and development of an original design of a product/system, an experienced Manufacturer should be able to responsibly adapt a product/system to specific project configurations and coordinate details in

relation to other, related, project systems. Such usages include curtain wall systems, building elevators, fire suppression systems, and HVAC-integrated ceilings.

Provisions for product substitutions (erroneously called "or equal") are mistakenly considered by some to be a form of performance specifying. Published data of the specified product(s) is considered to be criteria by which "equal" products are judged. However, strict evaluation of submitted "equals" is difficult when several products with differing data are named. Manufacturers, other than those specified, may achieve the end results by different criteria. Furthermore, published product data is rarely stated in performance terms, or are not adequately complete to serve as objective criteria. Refer to AIA/AGC Recommendation 5.05 - Product Substitution, for further discussion of the subject.

Problems in Specifying: Preparing an effective performance specification is a challenging exercise. Valid performance criteria must establish function, appearance, quality, compatibility with other materials and systems, plus life expectancy and maintenance requirements. There may be a multitude of other requirements for complex systems, and objective criteria for evaluation must be clearly stated. Care must be taken to avoid over-specifying standards that have no real value.

The role of the Architect in performance specifying is a significant departure from traditional architectural responsibilities as a designer, since required results - not configuration or products - must be defined. The specifier must know levels of performance that will produce satisfactory results, and must be knowledgeable of standards, tests, and methods of verification. Often casually cited industry standards do not truly define the requirements the Architect has in mind, and broad (minimal) standards are often open to unintended interpretations.

A basic problem is that a so-called performance specification is often casually written without a clear understanding of the impact of performance criteria which is different from the manufacturer's standard. Non-standard criteria should not be simply overlaid on a product or descriptive specification in an effort to allow for competitive bidding or to obtain a desired result. Such use of mixed methods of specifying leads only to confusion and may well require modification of a standard product which no manufacturer can or will provide.

For items or systems to be designed by the Contractor, the Architect commonly requires the seal of a professional registered Engineer certifying the design. This can be a problem when the Engineer must certify to the adequacy of stock details, especially when the normal usage must be custom adapted for the Project. Often the manufacturer may not be able to provide the custom design, and frequently submit disclaimers on custom design.

The possibility of liability claims when the Architect transfers his design responsibility to the specialty subcontractor/supplier, may necessitate a requirement that Contractor carry liability insurance, including design errors and omissions to protect all entities involved. The prudent Architect will require such insurance as a part of specifications for that element. Even when not specified, the Contractor would be well advised to consult with his insurance advisor regarding proper coverage for the specific risks, and to require such insurance from the specialty subcontractor/supplier.

Problems in Bidding: In competitively bidding under performance criteria, the Contractor becomes an evaluator of design proposals. This is a role with which the Contractor may not be familiar, or which he must pass on to specialty manufacturers/suppliers. In addition, that evaluation may entail design judgments by others, which is the Architect's responsibility. The Architect and the Contractor may find themselves involved in legal disputes should the actual results be less than expected.

Pre-design by manufacturers of systems such as elevators, curtain walls, and fire-suppression systems are common practice and the Contractor generally has little problem in bidding such areas. However bidding complex systems such as exterior wall structural framing systems require detailed design entailing a great expenditure during bidding time that is difficult to justify.

Under pressure of a bidding deadline the Contractor must often rely on the subjective judgment of the subcontractor/supplier who may not be knowledgeable in the full requirements of other elements of specifications, and who may be unaware of interrelations required with other building elements. Also the subcontractor/supplier may be under pressure to sell a product. Acceptance of the proposal of a subcontractor/supplier based only on price may well expose the Contractor to future problems when the product/system is submitted for the Architect's evaluation.

Problems in Evaluation: In the purest concept of performance specifying, the Architect should objectively evaluate compliance under the specified criteria, and make the selection based on those evaluations in relation to the total Project. Criteria may arise under the submittals which merit additional consideration, and which was not a part of the original specification. The Bid amount and the Contract Sum should be established only after the Architect's evaluation and acceptance of the product/system.

However, in competitive bidding without prequalification, the Architect's evaluation takes place only when the submittal is reviewed, after the Contract Sum has been fixed. Often that is after construction is well underway. A term in common usage refers to this practice as 'design by submittal', implying that the Architect's approval is subject to criteria not originally specified, which may now govern acceptance. The delays due to rejection and resubmittal, disputes on interpretation of criteria, time spent in resolution of the matter - often with disputes and claims for extra cost and extension of the contract time - can only be detrimental to the success of the Project.

Problems in Contracting: In the best use of performance specifying - for unique applications often beyond state-of-the-art construction practice that may require unexplored technology - the question of constructability is ever present. Such unique conditions require the utmost coordination between Architect and Contractor to assure a full understanding of desired results and the proposed methods, and greater coordination between Contractor and subcontractor/supplier. For specialty work, where the design is provided by the subcontractor/supplier, early communication is advisable between the Architect, Contractor, specialty work designer, and subcontractors/suppliers, because of related work which must be integrated with the specialty.

RECOMMENDATIONS

A decision on which elements, if any, should be specified in performance terms depends on the range of available options which will be advantageous to the client. Where a range of options is available, conditions which point to performance specifying are:

- *No single, distinct solution calls for an exclusive choice of materials, configuration, or technique.*
- *Costs of options are reasonably competitive.*
- *The element does not demand a prescribed configuration which precludes options.*
- Performance specifications may realize advantages when:
- *A project element embodies a technology where state-of-the-art does not provide a standard solution for a given requirement.*
- *Development is required beyond state-of-the-art of an existing product or construction item.*
- *Nothing exists on the market that will satisfy the design or construction needs.*

The Architect should undertake performance specifying only when the design team is qualified in the techniques required to establish performance criteria and to evaluate submitted proposals.

The Architect's additional time and expertise in specifying and evaluating performance criteria should be considered, and often premium professional fees are warranted.

The Owner should fully participate in the decision on using performance specifications, should be involved in the evaluation and final selection process with full knowledge of the pros and cons, and should be fully aware of the additional time and effort required to develop criteria and to analyze submitted products/systems.

The current practice of using performance specifications in competitive bidding without prequalification should be avoided. Performance specifying should be used only under an impartial system of evaluation and acceptance by qualified professionals before the contract sum is established, with the full understanding by the Owner of the complexities and extra time and effort required.

Do not use non-standard criteria in proprietary or descriptive specifications.

A performance specification should be clearly identified, so that the Bidder/Contractor will have no doubt as to governing criteria. A statement such as "The performance criteria of this [Paragraph] [Article] [Section] shall govern selection of this [product] [component] [system]" clearly defines the basis for selection and acceptance.

When a Contractor is required to provide design, especially of non-regulated products/systems involving life-safety, the specification section should require certification by a registered Engineer, and professional liability insurance to protect all entities. Non-regulated systems involving life safety include: structural steel connections, precast concrete products, structural stud exterior wall systems, curtain wall systems, and miscellaneous metals.

Prior to a decision on bidding performance specified work, the Contractor should evaluate the risks involved in Contractor-provided design and the resulting liability. Problems of gaps in contractor's normal liability insurance coverage in relation to the professional liabilities, and potential problems with bonding coverages, must be considered.

Evaluation and acceptance of a product/system should be done in scrupulous detail by the Architect before the contract sum is established. This may be done by pre-qualification of the product/system, or by some form of Construction Management contracting with the Architect's full participation.

The Architect should be aware of potential liabilities arising from prequalification of acceptable products/systems, and from analyses and selection of submitted elements. Detailed records of comparative analyses of the product/system should be retained in case the decisions are challenged.

References: *For a fuller discussion of Performance Specifying refer to the Manual of Practice of the Construction Specifications Institute, Module SP/090.*

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1.07 - COST PLUS FEE CONTRACTS, GUARANTEED MAXIMUM COST

Last Updated: December 1994

THE ISSUE

Definition of cost-plus contracts; The need for cost-plus work; Negotiation or bidding contracts; Benefits to the Owner; Risks in cost-plus contracting.

DISCUSSION

Cost-Plus construction contracts provide for payment for the Contractor's cost of the Work plus a fixed or percentage fee for the Contractor's services. While the cost-plus contract lacks the financial certainty of a fixed price agreement, it may be desirable when fixed prices on portions of the Work cannot be determined, when construction must start before working drawings and specifications are complete, or during periods of escalating building costs and high interest rates, or when economies of time can be achieved by early award with the benefit of the contractor's advice on construction methods and costs during development of contract documents.

Cost-plus-fee contracts are useful when the Owner needs to have a project priced within limited funding based on incomplete documents, and where the Contractor can assist in controlling costs by participation in design and material selection decisions during progress of the architect's preparation of documents, as discussed in AIA/AGC Recommendation 1.03 - Fast-Track Construction.

The basis of a cost-plus a fee contract is usually a negotiated agreement, where the Owner selects the contractor based on his reputation for construction of the particular type of project, mutual trust, respect, and confidence. However, it is possible in private work to take competitive bids from a small number of selected bidders, with the award generally based on the low fee quoted. Under these circumstances the bid documents are basic scope documents, which should stipulate the terms and conditions of the contract in as much detail as the status of design decisions and incomplete Contract Documents allow.

Since the Contract Price is at times established from incomplete documents, it is vital that the Owner, Architect, and Contractor completely understand the scope and quality of work anticipated to be covered by the contract, and the limits of incomplete documents, such as:

- Items identified and described completely.
- Items partially identified.
- Items not identified, but covered by allowances.

Another indeterminate in assessing proposals based on fee is the hidden costs to be reimbursed. AIA Document A111 - Standard Form of Agreement Between Owner and Contractor - Cost of the Work Plus a Fee, contains broad listings of "Costs to be Reimbursed" in Article 7, and "Costs Not to be Reimbursed" in Article 8. But, those Articles only identify the items of cost to be reimbursed, with the actual costs not stated. The actual costs to cover the "Conditions of the Contract," and "Division 1" requirements, and related items, and may be variously interpreted by different bidders. Costs to be reimbursed such as wages or salaries of the supervisory personnel stationed at the site, at workshops or on the road, facsimile and computer equipment (owned or non-owned), now commonly used, temporary facilities and related items, are unknown costs at the time of bid assessment which may vary to the point that ratings among various proposals are difficult. Contract Documents should be amended to establish the basis of cost parameters to further expand on provisions of those articles, or the Bid Documents should provide for stating the costs of those items.

In addition to those considerations, in order to budget the total Project cost, the Owner must include other costs not covered in construction such as: financing fees, professional fees, utility assessments, testing and inspection fees, and products or work which the Owner may wish to provide outside of the contracted construction.

Often as an incentive for the Contractor to minimize the cost of the final construction, the Owner may wish to incorporate into the Agreement a provision for contractor participation in any savings below the guaranteed maximum cost.

RECOMMENDATIONS

When negotiating or bidding a cost-plus-fee contract, the scope of work and the quality of construction to be required in final contract documents should be defined as comprehensively as possible, with stated cash allowances for undefined items of work.

Further, Articles 7 and 8 of the AIA Agreement A111 should be modified in Supplementary Conditions, or provisions made for bidding those costs, to establish finite parameters of costs for items to be reimbursed as a basis for assessing the Contractors' proposals.

When possible, the Contractor should be involved in decisions on materials and methods during development of the Architect's final documents.

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1.08 - SHELL BUILDING CONSTRUCTION

Last Updated: September 1994

THE ISSUE

Definition; The purpose and use of shell building projects; Provisions in Contract Documents for defining responsibilities and limits of services; Scheduling various phases of construction and tenant finish work; Use of unit prices for finish work; Contractors' separate responsibilities.

DISCUSSION

A shell building project is the construction of a functioning building, including site work, the building envelope and public areas, with operating elevators and core utility systems, but excluding work in the areas reserved for tenant occupancy. Partitions, doors, finishes, mechanical, electrical, and other services within the tenant areas may be purchased under unit prices provided for their installation, or may be contracted separately. For a successful Project, detailed consideration must be given to the unique requirements of planning, contract provisions, insurance, timing of elements of construction, and finishing and occupancy of tenant areas.

RECOMMENDATIONS

The scope of Architectural services should distinguish between services for the basic shell building and services for individual tenant spaces, and Architectural services and designs provided by others. The duration of the Project Architect's services, during and after shell construction, should be clearly defined. Ground rules for the Owner, Contractor(s), and tenant area development and occupancy should be established.

When separate contracts for the building shell and for tenant work are contemplated, those provisions should be clearly stated in construction contract documents.

Construction contract for the basic shell building should set criteria for establishing completion dates and warranties for site work, exterior envelope, core lobbies, MEP systems, elevators, and life safety systems.

Payment of retained amounts on the shell building should be made on substantial completion of the shell portion of the work. The Owner should then provide property insurance on the shell and on stocked materials. Security should be provided by Owner on substantial completion or when Owner occupies portions of the building.

For single contract work, the duration of the shell contractor's obligations during tenant work or finishing of unoccupied areas should be defined: __ months after shell building completion; __ months for performing tenant work at unit bid prices, and __ months at escalated prices; plus reimbursement for jobsite overhead cost on a time and material basis.

Unit prices should be stated: 1) for materials stocked in tenant areas, and 2) for completion of the tenant areas.

For multiple prime contracts, when tenant finish work will be awarded as separate contracts, a clear line of demarcation must be made on the division of work, and on responsibility for jobsite overhead costs, as stated in AIA/AGC Recommendation 1.02 - Single Contract versus Multiple Prime Contract Construction. Materials provided under the shell contract and responsibilities of the finish contractor must be clearly spelled out. A method of sharing the cost of utility consumption and temporary facilities, hoists, and elevators should be established. Cooperation with other prime contractors in mobilization areas, for ingress and egress, access to storage, staging, and work areas are critical items, as well as permits, supervision, cleanup, and jobsite security. Prime responsibility for safety must to be clearly established, as well as responsibility for insurance coverages. The extent of warranties and interface with other warranties should complimentary.

Note: *Refer to the 1983 AIA/AGC Study S6.01 - Contractual Procedures on Shell Building Contracts where*

there are Unfinished Areas (Offices, Condominiums, and Retail Buildings).

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1.09 - PRIVATIZATION

Last Updated: November 1994

THE ISSUE

Definition of privatization in public work, its purpose; Composition of the entity contracting for such projects; Financing the project; Architect and Contractor roles in privatization; Advantages and precautions.

DISCUSSION

Privatization is an arrangement by which the private sector provides the financing, design, construction, ownership, and at times the operation of, public facilities. It can involve straight leasing, lease purchase, or purchase of a facility from a private group for a public entity. In the many variations of the arrangement, the public entity may own the land, may operate the facility, or the agency may prefer a short-term or a long-term lease. It may involve the sale of an existing public facility and a leaseback arrangement.

The private sector group is usually a joint venture between private firms: Developer, financial consultant, long-term financing source, Architect/Engineer, General Contractor, and a law firm; some but not all of those may necessarily be in an equity position.

Privatization involves the marshaling of a full range of public and private resources, and all parties involved should have well-defined roles and responsibilities. Many public entities are not well informed on the private sector process and would be well advised to have a broad-range feasibility study done by a knowledgeable firm. All parties involved in such a project should study the details of the process thoroughly before becoming involved.

There is an inordinate amount of front-end time and money involved in developing a privatization project. There are multi-phase studies, and requests for proposals and interviews, prior to the selection of the construction group. The process is time-consuming, and may take months to develop. All interviews with the public agency are public and the process can become politicized.

Architects' and contractors' involvement in such a project is primarily in design-build roles. An equity position entails long-range risks and liability of ownership. Architects and Contractors may prefer to work in one of the more usual Owner-Architect or Owner-Contractor arrangements.

The advantage of privatization is the expectation that a public facility may be provided at lesser cost of money and time, since capital is not required, and construction can be fast-tracked. Often, entrepreneurs can move faster than public entities in accomplishing some phases in the process. However, the process is extremely complex and often frustrates the speedy action of even the most well organized private team.

Privatization is not a panacea. It does not lend itself to universal application, nor is it always faster and cheaper. It is, however, a viable option for providing the financing for local public works where public funds are not readily available. Privatization is a possible market for architects and contractors which should be carefully studied before commitment.

RECOMMENDATIONS

Participation in privatization entails long-term complex relationships in the team effort, and all aspects of the responsibilities to other members of the team, and to the public body, should be fully evaluated.

Involvement in privatization commits the participant to long-term risks which should be fully understood in all ramifications prior to commitment.

Note: For further information refer to the 1987 AIA/AGC Study S6.02 - Privatization.

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1.10 - COPYRIGHT OF CONSTRUCTION DOCUMENTS

Last Updated: June 1995

THE ISSUE

The Architect's (and Consultant's) ownership, copyright of documents; The copyright process; Client/Owner's rights; Contractor's use of documents; Subcontractor/supplier's use of documents; Builder/Developer's use of documents.

DISCUSSION

The services of the Architect (normally ownership of a Consultant's services passes to the Architect) in the design of a Project, expressed through his physical (and media-driven) documents, are recognized as a unique service, and various laws entitle the professional to protection against unauthorized use of the Architect's documents. Dissemination of professional documents to the many entities involved in the construction of a Project exposes the Architect's documents to unauthorized use and to possible financial liabilities for use not under his control. Recent developments in automated production of professional documents have further complicated the problem. Refer to AIA/AGC Recommendation 1.11 - Automation of Construction Documents, for further discussion.

Architect's Ownership/Copyrights: While the Architect's ownership of documents provided as instruments of service are clearly stated in AIA Owner-Architect Agreements and in Owner-Contractor General Conditions, the establishment of a copyright provides additional protection against unauthorized use of documents. The 1990 Architectural Works Copyright Protection Act provides more extensive protection for professional's service than previously. The owner of a copyright has the exclusive right to reproduce the work, to make derivative use of it, to grant licenses to use the work, to sell the work and to otherwise deal with the copyright through the life of the copyright owner and for fifty years beyond. Note that courts have held that there are also limitations on the Architect's reuse of a design which might infringe on Client/Owner's rights.

There are certain rights granted under federal law which are not otherwise available, such as the right to file for an injunction, to claim statutory damages, and perhaps to recoup reasonable attorneys' fees should the Architect prevail against someone who infringes on the copyright.

While the rights have been strengthened by new regulations, it is up to each individual to act in his own behalf. The Architect may inadvertently give up his rights by provisions in a client-written contract which give the ownership, and perhaps copyrights, to the client. Should the Architect contract away his rights, it is possible that he may not then be able to use derivatives of his own design in his later work.

Copyright of the Architect's work is a fairly simple process. A copyright notice must be must be placed on the work prior to "publication," consisting of: 1) The symbol of the letter C in a circle, the word "copyright" or the abbreviation "Copr," 2) the year of first publication of the work, and 3) the name of the owner of the copyright. It is recommended that the notice be placed on each sheet of drawings, in the body of the work rather than in the title box which may be deleted in future usage. Specifications should carry the same notice on each page of each section. Filing and registration of the copyrighted material and claim with the U.S. Copyright Office, Library of Congress, Washington, DC 20559, must be done within three months of the date of publication. Should the Architect fail to register the copyright, there is still some protection. Although some rights may be forfeited, the Architect may add or amend the copyright up to five years after publication.

Client/Owner's Rights, Responsibilities: A Client/Owner may erroneously assume that the fee paid for architectural services entitles the Client/Owner to possession/ownership of the documents. Some Clients/Owners may insist on that provision in the Owner-Architect Agreement. While the Client/Owner is normally restricted from the reuse of the Architect's design/documents for completion of the Work by other than the Architect, and against use on other projects, the

Client/Owner may well have a legitimate need for copies of the Architect's documents for space planning and in the operation and maintenance of the facility. Refer to AIA/AGC Recommendation 5.12.1 Construction Record Documents, for further discussion on the subject. Variations of ownership and copyrights require close attention to provisions of ownership at the time of entering into the Owner-Architect Agreement. While the Client/Owner may acquire ownership of documents by specific stipulation in the Owner-Architect Agreement, the Architect normally retains the copyright, which should specifically be stated in the Owner-Architect agreement. Consultation with an experienced attorney is recommended.

Contractor's Use of Documents: Conditions of the Contract stipulate the number of Construction Documents the Owner will provide, the Contractor's right to obtain additional copies for his use in the construction process, and the Contractor's right to retain a copy of documents as a permanent record. All other documents should be returned to the Architect on completion of the Work. Other stipulations in AIA General Conditions clearly state the limitations on Contractor's use of documents for other purposes.

Subcontractor/Supplier's Use of Documents: The Subcontractor/supplier works under the same rights and limits as the General Contractor. He is entitled to receive one or more complete set of documents from the Contractor for use in bidding, in the preparation of submittals, and in performance of the Work. The Subcontractor/supplier should be entitled to retain a record copy of documents relevant to his work.

Developer/Builder's Use of Documents: The practice of purchasing a design and a set of documents from an Architect for development purposes exposes the Architect to uncontrolled use, and reuse, of the documents. Limitations on reuse should be carefully spelled out in the agreement for professional services, and copyright of the documents is particularly recommended.

RECOMMENDATIONS:

Any variations from the standard AIA provisions of Architect's ownership/copyright of design and documents should be carefully spelled out in the Owner-Architect Agreement, with the advice of a qualified Attorney.

While normally the ownership/copyright of the Professional Consultant's documents passes to the Architect, this is a matter of negotiation, and should be clarified, both in the Architect-Consultant Agreement, and in the Owner-Architect Agreement.

Client-prepared Owner-Architect agreements should be carefully reviewed for unwanted ownership and copyright provisions.

Conditions of the Contract of the Owner-Contractor Agreement should spell out the Contractor's, and Subcontractor/suppliers' limitations of use of Architect's documents, as those in the AIA standard provisions.

Architect's documents should be copyright marked and registered with the U.S. Copyright office, especially when the Owner/Client acquires ownership of the documents.

Architect should delegate copyrighting responsibilities for all office documents to a specific member of the firm.

END OF RECOMMENDATION

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1.11 – ELECTRONIC CONSTRUCTION DOCUMENTS

Last Updated: December 2003

THE ISSUE

The proliferation and implementation of computer software and systems in the design and construction industry presents issues for the Client/Owner, Architect, and Contractor in the use of electronic document and drawing files.

DISCUSSION

As discussed in other sections within the Recommended Practices, issues related to ownership of documents and copyright infringement become key issues in the distribution and use of electronic files for the purpose of contractor's shop drawings, record drawings, consultant base sheets, tenant build-out drawings, vendor/supplier drawings, owner consultant drawings, etc. Based on the language in the Owner/Architect Agreement the distribution and use of such files may vary or may not be permitted. Unauthorized distribution and use of the Architect's electronic files may constitute copyright infringement and breach of contract. Refer to Recommendation 1.10 – Copyright of Construction Documents for further discussion.

The use of electronic media for record documents provides the Owner and Design/Construction team with greater durability and functional project documentation. Refer to Recommendation 5.12.1 – Construction Record Documents, for further discussion on this topic.

The use of various computer software applications have yielded two types of electronic documents, those that can be edited, such as AutoCAD, Excel, and Word, and those that cannot. The files that cannot be edited, such as scanned images .PDF files for Adobe Acrobat, JPEGS, TIFS and such are not the focus of this section. Document copiers scan images and create unalterable files in the copying process that cannot be edited unless translated with specialized programs.

Problems with the use of electronic documents in bidding and construction of the Work and for Record Drawings can be avoided with proper planning and communication between all parties involved in the project. It is the distribution and use of editable files that presents the greatest opportunities and issues within the industry. The availability and use of electronic drawing files is increasing document accuracy and in certain applications increasing accuracy in the construction process.

Client/Owner Considerations:

The Owner and Architect should establish and be aware of the legal, application, contractual, and procedural limits of the media. Some of these issues include:

- Does the Owner have a specific need for the entire set of documents in electronic form or only a certain portion of the documents for a specific purpose? The purpose should be identified.
- Have the additional costs of preparing and recording the documents in a specific form or media been contractually addressed by the Client and Architect?
- In building renovations or additions, will the Owner be providing electronic documents for use by the Architect? If so, in what form will they be provided and what will the cost be to translate such files into a useable format? Who will be responsible for discrepancies that might arise?
- The Owner's rights and limitations of use should be established.

Architectural/Engineering Considerations:

This conundrum presents issues that may contractually and financially impact the Architect and other

design professionals, such as the following:

- All applicable drawing layers not being turned on by the receiver of the document, who may be an untrained or negligent user, could create the absence of critical information.
- Altered information, whether intentional or unintentional, might be overlooked or go undetected.
- Inaccuracies or alterations in original drawings could lead to incorrectly fabricated components or inaccurate construction layout.
- Information may be inserted, distributed and used for unauthorized purposes.

Construction Process Considerations:

This presents issues that may contractually and financially impact the Contractor such as the following:

- Will there be a Project website where the drawings will be posted?
- As shop drawings are created, will they be added to the website?
- What will be the review and approval process before, and after, posting?
- Who will have access to which items on the site?
- Who will have read-only access, or the right to edit?
- How do you balance the differing interests of preserving intellectual property rights, and liability for alleged errors and omissions in the documents?
- Who will have overall coordination responsibility?

RECOMMEMDATIONS

Although not contractually tied together in most cases, the Owner/Client, Architect, and Contractor each have the responsibility for understanding not only the advantages inherent in the use of electronic documents, but also the limitations.

Starting with the negotiation of the Owner/Architect Agreement the ownership of documents and copyrights should be established. The Agreement should define the authorized uses and users of the documents. Protection of the Architect as well as limitation of use by third parties, procedural issues, Owner's rights, etc. should be included in the Agreement from the unauthorized use of these documents by the Owner, its consultants, or agents. This affects the distribution and use of these documents throughout the project duration and into the future based on the terms of the Agreement. Legal counsel should be sought to assure the proper wording of such clauses.

Based on the Agreement, the Architect should make clear the contractual issues regarding the distribution and use of the documents to its consultants. Included in documents issued for the project, the Architect should set forth the requirements and limitations for the distribution and use of electronic files. Conditions for the release of such files should include disclaimers and indemnifications protecting the Architect from unknown changes and uses of the files. The Architect should have established written policies addressing this issue.

The Architect and Owner/Client should address and agree upon policies related to the release of electronic documents to Contractors for the pricing and construction of the project in the Project Manual. The Construction Documents should include the requirements and limitations that must be met prior to distribution of the files to Contractors, suppliers, or fabricators.

With the increasing use of computer driven construction processes, Contractors should clearly understand the Owner/Client's and Architect's policies and limitations on the distribution of electronic files. The policies and limitations should be clearly defined in the Project Manual and through the use of transmittals specifically addressing electronic file distribution and uses. Assumptions on the availability, cost (or lack thereof) and use of the files should not be made.

The Architect's standard of care allows for and assumes there may be inaccuracies in the Architect's original documents. It is these inaccuracies that may be transmitted to third parties and have the potential of developing and/or escalating further problems.

If the policy on the use of electronic files is not clear, Contractors should clarify this with the Architect prior to submitting their proposals.

SUMMARY

Computer applications continue to revolutionize our industry. The industry has accepted and benefited from the use of electronic plan rooms. Clearly established and followed procedures for the distribution and use of electronic files will eliminate conflicts and enhance their availability and implementation.

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1.12 - THE PARTNERING PROCESS

Last Updated: February 1996

THE ISSUE

The Partnering concept; Commitment; Potential pitfalls; Costs; Initiation of the process; The Participants; The Facilitator; The Architect/Engineer; The Partnering Charter; Progress evaluation meetings; Cost Savings; Resolution of issues; Relation to contractual agreements; Legal aspects.

DISCUSSION

The concept of Partnering can be the replacement of the common adversarial relations of the Participants in the Owner-Contractor Agreement with recognition that every contract should include an implied covenant of good faith, where an environment of trust and teamwork fosters a cooperative bond with shared goals in open communications, to everyone's benefit. Partnering facilitates the completion of a successful Project, and minimizes legal disputes. It has been used successfully by Federal and other public agencies, as well as by the private sector.

The process requires the voluntary commitment of all Participants involved in the construction contract at all levels of management, including the CEO of each of the firms, to cooperate with each other in resolving all matters affecting the Project and the resolution of issues and conflicts at the lowest possible level. The process can be as simple as a handshake agreement between the Owner and Contractor or a formal, written agreement signed by all participants. This Document discusses the more detailed, formal approach suitable for a large Project; the principles stated will serve as guidance in usages at all levels of the process.

Potential difficulties include the lack of legally enforceable provisions (unless made a Part of the Contract Documents), clearly defined team leaders, sincere commitment by all Participants, the commitment of major up-front time, lack of senior management involvement, questions of exclusion of certain Participants, and the sharing of responsibilities and benefits by subcontractors and suppliers.

Direct costs involved in Partnering are the fee of the Facilitator (when used), administrative costs, and any fee for the additional services of the Architect/Engineer. An Owner who is confident of the benefits of the process should bear the entire direct cost of Partnering; alternatively both Owner and Contractor, considering the mutual benefits to each, may agree to share those direct costs with no change in the Contact Sum. However, all Participants must commit themselves to the additional expenditure of the major time and effort needed to fully participate in the ongoing process throughout the duration of the Contract.

Initiation of the process: The process may be initiated by the Owner: For design-build construction, during the Project design development phase; For Projects to be bid, prior to bidding with appropriate notice in Instructions to Bidders or provisions in Conditions of the Contract, and by detailed presentation of the process at the pre-bid conference.

Alternatively, the process may be agreed to by Owner and Contractor in negotiating a contract or it may be negotiated at any time after award of the contract at the instigation of either Party. The details of the established process should be as informal or as formal as the size and complexity of the Project warrant.

Participants: The key Parties to the Owner-Contractor Agreement - The Owner and Contractor. Other Participants are the Owner's Project Representative and staff, the Architect/Engineer, and the Contractor's key administrator and Resident Superintendent, plus major subcontractors and suppliers.

The Facilitator: On a large, complex Project an experienced independent Facilitator is essential to the process to: Objectively administer meetings, establish Partnering goals, draw up the Charter Agreement, administer the ongoing evaluation process, and the resolution of conflict, changes, and other issues - similar to the functions of Mediator. *(In this Document the term 'Facilitator' designates the organizer and administrator of the Partnering process, whoever that entity may be.)*

The Architect/Engineer: Performs the usual duties set forth in the Owner-Architect Agreement and in Conditions of the Contract, plus the addition services of participation in the Partnering Meeting, progress meetings, in the ongoing evaluation process, and revision of Contract Documents.

The Partnering Meeting: Agenda for the meeting should be tailored to the size and complexity of the Project. The Facilitator arranges a one or two-day workshop involving all Participants, attended by the decision-makers; the senior and field level management of each entity, to establish the relations of personalities involved, team orientation, to build a team and establish a Mission Statement: Common interests, goals and objectives, communications, cost savings considerations, with limitations and restraints, issue resolution methods, and related operative concerns. Should the Participants fail to reach a mutually satisfactory agreement for enthusiastic support of the Partnering Charter, the process will not be successful, and should be abandoned.

The Partnering Charter: The agreed-on Mission Statement is incorporated into a written Partnering Charter signed by all Participants, certifying to their full participation. Specifically the Charter should:

- Identify the responsible representative for each of the Participants in negotiating changes and in resolving issues and conflicts.
- List the Project expense/cost limitations under which each major Participant function in the three-step Partnering negotiation process or which is incurred by cost savings considerations.
- Establish criteria for consideration of cost saving, including the limitations such as: Design and safety standards, Desired appearance, Economy of operation, Service life, and Ease of maintenance
- Establish procedures for resolving conflict, changes, or other issues, at the lowest possible level, including the time frame or other critical procedures.
- Establish the matrix under which each Participant acts to resolve issues and conflicts.
- The Charter does not directly affect provisions of the Owner-Contractor Agreement or the responsibilities of Parties to that Agreement, unless incorporated into Conditions of the Contract.
- Should cost savings or other consensus of the partnering process indicate a change in provisions of the Owner-Contractor Agreement, those changes will be made by Change Order. (Refer to AIA/AGC Recommendation 5.11 - Changes in the Work).

Progress Status Evaluations: Formal, periodic progress meetings, appropriately scheduled, provide a forum for improving communications and discussing issues. Conducted by the Facilitator, meetings require the full cooperation of the management and field representatives of all major Participants. Standard evaluation forms, filled in by all Participants, serve to identify problems at an early stage and provide agenda for the meetings. The forms should be comprehensive, covering all aspects of the relations of the construction team: Tone of communications, overall trust/candor, quality of the Project, key issues, progress on goals, resolution of jobsite problems, and similar aspects affecting the Project.

Cost Savings: At times Participants may be encouraged to develop innovations which would improve the progress and economy of the Project, such as alternate means or materials, and scheduling, without impairing in any manner the essential functions or characteristics of the Project. Limitations on innovations should be clearly defined in the Charter. Suggestions for changes should be fully discussed at the periodic evaluation meetings, and given full consideration by the Architect/Engineer, including the cost of revision of Contract Documents, prior to developing detailed submittals.

Conflict, Change, Issue Resolution: A key benefit of the Partnering process is the speedy resolution of

issues which invariably arise on any construction Project: Interpretation or discrepancies in Contract Documents; Responsibilities for coordination; Quality of the Work, Questions of scheduling and submittals, and a other problems which arise on even the best organized Project.

The principle concern is the resolution of issues at the lowest possible level, beginning with the Contractor's - Superintendent, foremen, and subcontractors. If not resolved there, three levels of negotiation between Owner and contractor provide for resolution of the issue. Each level works under the specific time and cost restraints established in the Charter. Should the problem not be resolved at that level within the designated time, the Issue automatically moves to the next higher level:

1. Jobsite Resolution: Owner's Field Representative, Resident A/E, and Contractor's Resident Superintendent, strive to amicably resolve the issue within the allotted time (two days?) and spending limits. Should they be unable to resolve the problem, the issue moves to the next level:
2. Owner's Project Representative, Project A/E, and Contractor's Project Manager, strive to amicably resolve the issue within the allotted time (three days?) and spending limits. Should they be unable to resolve the problem, the issue moves to the next level:

3. Owner's CEO, A/E Principal, and Contractor's CEO, strive to amicably resolve the issue within the allotted time (one week?). Should they be unable to resolve the problem, the issue then moves to the negotiation alternatives. (Refer to AIA/AGC Recommendation 5.10 *et seq.* - Dispute Resolution Methods).

Legal Aspects of Partnering: Conceived as a volunteer process, and considered apart from the Owner-Contractor Agreement, there should be no legal involvement to be adjudicated. The principle of Partnering is precisely to avoid the legal process. Should the Partnering steps in resolving disputes be followed, the issues are expected to be resolved by consensus. Should that prove to be not possible, the final resort is to Alternate Dispute Resolution methods - not legal action. The Courts have not as yet developed instances which define the boundaries of Partnering - Legal action represents a failure of Partnering.

However, Partnering can be incorporated into the Owner-Contractor Agreement by provisions in Conditions of the Contract - but mandatory requirement for voluntary cooperation is questionable.

Perhaps a preferable approach is a provision in Instructions to Bidders of the Owner's intent to use the Partnering process, eliciting voluntary commitment from Contractors, subcontractors and suppliers.

RECOMMENDATIONS:

Partnering may be incorporated into the Owner-Contractor Agreement by provisions in Conditions of the Contract, and in subcontracts. However, as a concept based on the voluntary consensus of Participants, it may be preferable to keep the process on a noncompulsory basis.

All members of the Participants' organizations, including the CEO of each, must be educated to the Partnering concept before attempting participation in a Project using the process.

Each prospective Participant should develop a comprehensive understanding of the requirements of the Partnering process, and give full consideration to the obligations and constraints of the process prior to making the commitment to participate in Partnering.

The role of subcontractors and suppliers in participation in the process and sharing of any financial benefits should be clearly established as a part of the Partnering Charter.

Should all Participants on the construction Project fail to make a sincere commitment to Partnering, the process will not work, and should be abandoned.

After initiation of the Partnering process, should a Participant fail to fully comply with requirements of the Partnering Charter, the status of the process should be reviewed by all Participants and a decision made on whether to abandon the process or to proceed with the Partnering under modified provisions.

The Facilitator should maintain records and provide minutes of meetings to Participants.

The role of the A/E is critical to the process, to clarify the intentions of the Project design, assess proposed value engineering or other changes, and to assist in resolving problems along the way.

All Participants; Owner, A/E, Contractor, and others entering into a Partnering Charter must consider, and allow for, the considerable expenditure of the extra time and effort required.

The Architect/Engineer, as a Participant, may share expenses and additional services required for participation in the process; or may be compensated for the additional services not normally covered by standard AIA Owner-Architect agreements.

REFERENCES:

AIA/ACEC Publication: "A Project Partnering Guide for Design Professionals," 1993.

AGC Publications: "Partnering - A Concept for Success," 1991
"Partnering - Changing Attitudes in Construction", 1995

END OF RECOMMENDATION

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1.13 – ERRORS & OMMISSIONS IN CONSTRUCTION DOCUMENTS

Last Updated: November 2008

THE ISSUE

While new technical tools for the preparation and coordination of construction documents are available to the design professional, errors and omissions still occur. The conflicts in architectural and engineering construction documents often cause additional costs and time delays while exposing the design professional and other parties to liability risks. The following discussion is intended to provide an overview of definitions, causes, legal concerns, and actions to be considered in managing errors and omissions issues. This document is not intended to provide legal advice.

DISCUSSION

Due to the complex nature of design projects, high expectations of owners, volatility of the construction market, and the litigious environment in the design/construction industry, errors and omissions in architectural and engineering construction documents may expose the design team, owner, and contractor to significant costs and delays in completion of a project. While these issues are inevitable due to the imperfect nature of the preparation of construction documents and the construction process, it is important to understand some of the causes of conflicts and approaches to mitigating their presence and impact.

Definitions

- Standard of Care: The degree of judgment and skill that is ordinarily possessed and exercised by a similarly situated design professional of good standing practicing in the same locality at the time. This is similar to the standard of care applied to other professionals such as accountants, doctors, and attorneys.
- Error: The inclusion of conflicting or incorrect information, specifications, or drawings that lead to the removal of construction in place or the reordering of materials required to correct the conflict.
- Omission: The inadvertent absence of information, details, and/or specifications of materials or scope required to build the building and complete the contract.
- Claims Made Insurance Policy: A policy which only covers claims which are brought to the insurance company's attention during the policy period. This is different from an "Occurrence" Policy, which covers damages occurring when the event occurs, rather than when the claim is asserted. This distinction is important, because the Claims Made Policy will not cover a claim that is first made after the policy period has passed. The designers' liability policy will be a Claims Made Policy. The contractor's commercial general liability policy will be an Occurrence Policy. They are very different in their coverage's and exclusions. It is important to become familiar with these differences.

Professional Liability Insurance (PLI)

- While required by almost all Owner/Architect agreements, the PLI policy is typically considered the last line of defense in resolving errors, omissions, and other covered issues once all other dispute resolution options are exhausted. These policies are "claims made" and have high deductibles intended to keep policy costs lower and to encourage alternative dispute resolution outside of claims against the policy. The negotiated Owner/Architect agreement should align with the PLI policy to assure that coverage required by the Owner can be provided and not include unattainable requirements such as "additional insured" parties, or unreasonable indemnities, on the policy. A review of the proposed agreement by the architect's PLI carrier can assist in identifying issues such as these. It should be noted that the PLI is not a General Liability Policy.
- Many projects are partial design-build, such as where the contractor's MEP subcontractor furnishes the design of that portion of the project. This raises PLI coverage issues. The contractor will typically need to furnish design liability insurance to cover this risk, in addition to customary contractor's liability insurance.

Sources of Errors and Omissions Claims

- A/E Issues: During the design phase of the project a number of elements can adversely affect the quality of the design and construction documents such as poorly defined scope/program, overselling, poor client relationships, under staffing/unqualified staff, lack of coordination between design disciplines, project complexity, and the lack of a thorough quality management process. Errors and omissions during the preconstruction/construction phases of a project can also be brought on by accelerated schedules (fast track) requiring that documents be issued for bid/construction ahead of the completion of the entire design phase. Extensive value engineering/cost savings can impact a project when changes are not properly implemented and coordinated in a timely manner. This is especially critical when changes are made during construction. Implementing a well organized approach to managing risks inherent in this phase of the process should reduce problems in the documents.
- Contractor Issues: The most prevalent sources of claims for errors and omissions against the design team and contractor involve projects with financial difficulties, compressed schedules (Fast Track), unreasonable expectations by the Owner, excessive scope and construction document changes that impact schedule and costs, and the lack of early involvement of the contractor in the overall project delivery process.
- Owner issues: The risk of conditions conducive to errors and omissions claims by an Owner are created by frequent or ambiguous scope changes, indecision by the owner, financial instability of the project or owner, lack of focus, knowledge of the design or project delivery process, unreasonable expectations by the owner, and the absence of knowledgeable, experienced Owner representation. The Owner can also negatively impact the project by being indecisive about or changing the construction delivery method.

Project Personnel

- Personnel assigned to the project by all three parties should be experienced in the project type and the construction delivery methods selected. The turnover of project staff and leaders adversely affects the flow of a project and increases the risks of problems due to the loss of project knowledge and experience.

Legal Concerns

- It is important that the Architect and Contractor agreements with the Owner align and are consistent in addressing the responsibilities of each party. Inconsistencies and ambiguities will confuse the resolution process by implying responsibilities and services that are neither feasible nor professionally deliverable.
- Early identification and timely resolution of issues and claims are important to minimizing the adverse impact of errors and omissions. If addressed promptly and handled professionally, few errors or omissions issues will become legal claims.

RECOMMENDATIONS

- Architects and contractors should select projects that match the skill sets of the firm, consultants, and the individuals managing and producing the project.
- Be realistic and open about the preparation and purpose of the design documents, project budgets, construction schedules and what the client can expect in the process. Avoid overselling. This is especially true in fast track construction projects and the design of high performance, sustainable buildings.
- Good, clear, effective communications help build a strong project relationship and will be the key to dealing with problems when they arise.
- Establish a proactive, organized quality management process that involves every phase of the project and all parties, including the consultants, the owner, and the contractor. Consider including major subcontractors on projects where these have already been selected.

- Select consultants knowledgeable in the building and project type, have qualified staff available, and who are known for providing quality services.
- Select contractors based on the experience and qualifications of the company and the staff assigned to the project, especially when using Design-Build and Construction Manager at Risk delivery systems. Selection based solely on low price may create exposure to unreasonable risk to the design team and client.
- Establish the scope of the project clearly and early. Changes in the scope must be managed carefully and be fully coordinated into the final construction documents.
- When confronted with errors or omissions in the documents, be proactive to avoid project delay costs and potential claims against the parties involved in the project.

END OF RECOMMENDATION

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1.14 - COMMISSIONING

6/14

THE ISSUE

A greater desire to verify and ensure a facility performs as intended and indicated by the contract documents.

DISCUSSION

Commissioning is a formalized process used during the design, construction and sometimes occupancy of a facility to help verify that the specified design performance of a number of systems and products was actually achieved.

In the past, performance deficiencies were often determined after facility occupancy; potentially resulting in frustration, disruption and sometimes remedy only through dispute resolution. Where commissioning is appropriate, it is highly recommended that a qualified commissioning agent (CxA) be engaged as early as possible in the design process to aid in assuring the initial design concepts, materials and details will achieve the MEP and other consultants' desired performance.

The history of commissioning is rooted in the governmental requirements for verifying that products perform as designed. The practice was later adopted by other public owners and specific private owners for the same purpose. This practice is performed best by a party independent of the design and construction team. Systems appropriate for commissioning include but are not limited to:

- MEP systems
- MEP system controls
- curtain wall and other building envelope components
- roofing
- fire alarm
- fire sprinkler or other fire protection systems
- major pieces of equipment
- entire sequences of operations

There are many commissioning formats widely available to aid the project team in setting up member responsibilities, protocols, reporting and documentation. For example, the commissioning agent may set up a commissioning plan for the project, which would include, but is not limited to the following documentation reviews:

- Owner Project Requirements (OPR)
- Basis of Design (BoD)
- Pre-Functional Checklists (PFC)
- Functional Performance Testing (FPT)
- Integrated Systems Testing (IST) – Sequence of operation testing

Sample Questions that should be asked when commissioning is being considered:

1. What is the expected result of the commissioning effort?
2. What are the desired qualifications and responsibilities of the commissioning team?
3. What level of commissioning is appropriate; fundamental (completed with construction) or enhanced (including review of facility operation after occupancy)?
4. Is commissioning a LEED project requirement?
5. What components of the facilities systems will be commissioned?
6. What are the commissioning agent's responsibilities compared to the design team, consultants, builder and subcontractors?
7. Are commissioning cost budgets established for all of the parties involved?
8. How does substantial completion and facility occupancy relate with final commissioning efforts?

RECOMMENDATIONS

Owners should fully acquaint themselves early with the commissioning process and cost so they can evaluate the effort, resources required and anticipated benefit before proceeding.

Care should be taken by the owner in selecting a design team, consultants, builder and subcontractors that are receptive and/or experienced with the commissioning process.

It is highly recommended that the full team and their responsibilities be established before the design process begins.

A process for avoiding and resolving conflicts needs to be established as well.

Clear lines of communication, information review and documentation should be established early and rigorously maintained.

Efforts to verify facility performance should carry through commissioning into the property management phase in order to assure continuing long term facility efficiency and performance.

END OF RECOMMENDATION

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2.01 - PRELIMINARY COST BUDGETS AND ESTIMATES

Last Updated: March 1995

THE ISSUE

The need for preliminary budgets; Types of estimates; Preparation; Accuracy; Architect's responsibilities.

DISCUSSION

During the conceptual and preliminary stages of project design, a total Project budget and a construction cost budget are established by the Owner with the advice of the Architect, Contractor, or Construction Manager. The Architect must incorporate budgets of the probable construction cost into the total Project Budget, to determine the scope and quality of construction based on such budgets.

A preliminary construction cost budget is the anticipated total cost of construction. To determine the total Project Budget there must be added the indirect costs for land, legal fees, architectural, construction manager, and any special consultants' fees, interim financing costs, surveying, utility assessment, governmental fees, testing and inspection services, plus a contingency allowance. A comprehensive checklist should be prepared to ensure that all indirect related costs are included in the total project budget. Viable financial feasibility studies can be made only if a reasonably accurate preliminary construction budget estimate has been prepared. The skill of the preparer and the care taken in preparation are of the utmost importance.

Preliminary construction cost estimates are conceptual in nature, and should be carefully prepared by a skilled entity with a sound understanding of the quality of work anticipated. While generally quantities and parameters of work can be established from schematic drawings and specifications; systems and subsystems can be more accurately estimated from design development documents. Final quantities and accurate estimates are possible only from completed working drawings and specifications. The types of estimates to be provided, based on the stage of design and document preparation, are:

- Units of occupancy - from budget or program documents.
- Square foot or cubic foot - for schematic scope control.
- Systems - for concept design stage evaluation of design variations.
- Subsystems - for refinement of system estimates and evaluation of subsystem variations.
- Unit prices of materials - based on a detailed quantity survey.

Detailed construction estimates can be prepared by experienced professional offering services for a fee, or by architectural firms which have that in-house capability. Architectural service contracts require the Architect to provide a statement of probable construction cost to the Owner at each stage of document development. However, should the Owner require a detailed cost estimate, that is an additional service. When a Contractor is awarded a negotiated construction contract early in the design stage, the Contractor is normally obligated to provide detailed construction cost estimates through the various design stages, and a final cost estimate only on completion of final working drawings and specifications.

Most contractors will provide unit cost data to Architects they know. Architects may call on contractors for such estimates, or for more detailed preliminary estimates, but such requests for services should not become an imposition on the Contractor. Unless otherwise agreed, the final responsibility remains that of the Architect.

Well prepared preliminary construction cost estimates are invaluable in making decisions during the design development stage and can significantly reduce the risk of construction costs drifting out of budget. The benefits are normally well worth the cost of carefully prepared estimates.

RECOMMENDATIONS

Emphasis should be on development of carefully prepared, reliable preliminary cost estimates rather than on square foot or cubic foot units.

Contingency allowances should be provided in all preliminary cost estimates, larger allowances in the earlier stages, reduced as greater detail is determined by more complete development of the Project documents.

Architects should advise Owners of the range of accuracy of preliminary cost estimates and of the length of time for which the estimate is valid.

Experienced cost estimators should be engaged by Architects when the firm does not have the capability to produce a reliable estimate for the type of project under consideration.

Estimates should be updated as the project progresses through the design development and contract document stages of the Architect's services. The Owner should be notified immediately of any significant variations so that action may be taken, with his full understanding of the merits and options involved.

All information which could alter the previous estimate should be made available to the estimator for periodic budget updates.

Provide a contingency allowance in all estimates made from incomplete documentation, of an amount consistent with the status of completion of the documents.

NOTE: Refer to the AGC publication 'Budget Estimating and Control Before and During the Design Phase', available from the local AGC Chapter office.

END OF RECOMMENDATION

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2.02 - BIDDING FROM PRELIMINARY DOCUMENTS

Last Updated: March 1995

THE ISSUE

Construction cost control during the preliminary stage of document preparation; Bidding from preliminary documents; Hazards of competitive bids based on incomplete documents.

DISCUSSION

Preliminary construction contract documents are, by definition, incomplete. The scope of construction work may be roughly defined by schematic or design development drawings and specifications, but the quality of work, the final details of construction, details of mechanical and electrical systems, accessories, and finishes are not known, even to the Architect. Furthermore, detailed information on site conditions and other factors affecting the construction process may not yet be known. Preliminary construction cost estimates may be prepared, as discussed in AIA/AGC Recommendation 2.01 - Preliminary Cost Estimates, but a number of assumptions must be factored into the cost estimates, a contingency allowance must be provided, and the degree of inaccuracy of such preliminary estimates should be considered.

An Owner, under the pressure of time may wish to lock in a firm construction cost, and may request that competitive bids be taken on incomplete documents. That practice should be discouraged. Erroneous bids based on faulty assumptions which each bidder and sub-bidder may make to arrive at a total bid amount, can result in delays, misunderstandings, and claims during the construction process. The final contract price is always greater when incomplete documents are the basis for bidding.

Complete Contract Documents will result in the most competitive bids. Contractors, subcontractors, and suppliers, can estimate the scope and quality, and can arrive at an accurate contract amount which can be sustained throughout the construction process.

RECOMMENDATIONS

Avoid competitive bidding based on incomplete working drawings and specifications.

Provide a comprehensive preliminary cost estimate prepared by qualified estimators as recommended in AIA/AGC Recommendation 2.01 - Preliminary Cost Estimates.

Alternatively, consider negotiating a construction contract with a reputable contractor during the early stages of document preparation, and rely on his estimates during successive stages of document preparation.

Provide a contingency allowance for bidding from incomplete documentation, of an amount consistent with the status of completion of the documents.

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2.03 – MANAGING COST ESCALATION

Last Updated: March 2007

THE ISSUE

Escalation of construction material and labor costs are typically due to local and global market conditions such as shortages, natural disasters or events, transportation problems, or energy shortages occurring outside of the control of the Owner, Architect and construction team. This requires that the parties involved in a project work together to mitigate or minimize the impact of these additional costs through research of current construction material cost trends, planning, communication, and prompt action.

DISCUSSION

During times of rapidly rising labor and material costs, shortages, and slow product delivery the project is vulnerable to escalating costs that exceed budget contingencies. Managing the impact of these costs requires careful planning, different construction delivery methods, close schedule coordination, and expediting all phases of the planning and construction of the project by the Owner, Architect, and Contractor.

RECOMMENDATIONS

Prior to project kick-off, it is recommended that the design team discuss with the owner the current and anticipated construction cost environment. During times of rising material and labor costs, timely decision making by the Owner becomes more critical in order to avoid delays in the project schedule. The Architect must efficiently manage the design process to provide the best information possible to the Owner for effective decision making. These reviews and decisions should be formally documented with distribution to all parties.

During the design phase, the Architect and Owner should periodically review project budgets with anticipated construction market forecasts and make adjustments to the project scope or budget as appropriate. The use of construction cost consultants or project delivery methods that allow direct participation by the contractor should be considered during this phase.

As the design phase schedule is developed, the timing of the project issuance for pricing/bid should take into consideration the approval process and timeframe for acquiring building permits and such. Avoiding extended time periods between pricing, contract approval, and the notices to proceed with construction could minimize potential claims for additional costs related to materials and labor escalations.

Understanding and adhering to the requirements of the governing authorities related to building permits and other required approvals will also influence the progress of the project. In some jurisdictions, the process of applying for and acquiring, building permits has become a lengthy process and can be a significant factor in causing project delays. As soon as construction documents are complete, the Architect (or other designated representative) should immediately apply for the building permit. For larger projects, or those being done on a "fast track" basis, permitting separate scope packages may be effective in gaining approvals required to expedite starting work.

As the Architect works with the Owner and its legal counsel in preparing the terms and conditions of the contract for construction, issues surrounding cost escalation should be addressed with clarity and fairness. If the construction agreement is ambiguous about payment for escalation of costs, a great potential for cost and delay claims may exist adversely affecting the project.

Identification of certain construction materials experiencing price fluctuations is also important in planning the pricing/bid strategy for the project. This may result in either temporarily postponing the bid process or requiring extended price guarantees from the proposers.

Pre-purchasing construction materials that can be stored safely and securely for use later in the project can be effective in controlling rising costs. The Owner, Architect, and Contractor should establish procedures and requirements for the purchase, storage and payment for materials during the contract negotiation process.

Once the construction process is underway, exposure to cost claims due to market escalation can be reduced by the timely processing of submittals, answering requests for interpretation and/or information, and quickly resolving issues that arise including change requests and change orders. Decisions made during this phase must be quickly and clearly documented and distributed. Payments by the Owner should be made consistently within the timeframes stated in the construction agreement to avoid claims for late payment charges.

END OF RECOMMENDATION

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Additional Resources

"Amendment No. 1, AGC Document No. 200.1 – Potentially Time and Price Impacted Materials", 2004, The Associated General Contractors of America

2-04-09 BUDGET CONTINGENCIES

Last Updated: June 2008

THE ISSUE

Even with the best design and construction planning, cost items will surface that could not have been reasonably anticipated. On lump sum or competitive sealed proposals the construction manager or design builder has the option of including funds in his estimate for these unanticipated costs. Due to the nature of those business terms no one except the construction manager or design builder may ever know the value of the contingency funds included in the construction manager or design builder's estimate, if any. Due to the higher disclosure nature of CM@Risk and Design Build projects, the construction manager or design builder's contingency budgets for unanticipated costs should be visible and therefore sometimes become a source of discussion. In addition to the construction manager or design builder's contingency the owner should have a separate contingency for reasons explained below.

DISCUSSION

The goal of this recommended practice is to document the merits of construction manager or design builder and owner contingency budgets and offer suggestions on how to manage and document expenditures charged to either.

RECOMMENDATION

The construction manager or design builder contingency budgets for CM@RISK and Design Build projects are initially a buffer against unknown site, design or other unanticipated costs. Those costs may or may not include additional overhead and fee as negotiated and controlled by the contract language. The construction manager or design builder contingency budget should not be used to offset cost creep from changes in scope, materials or quality. The appropriate amount of contingency will vary depending on particulars such as fast track, design then build,
new or remodel, easy or difficult. Contingency amounts are generally greater with preliminary plans and become smaller as plans and specifications are developed and more is known about the project scope.

Once design is complete and the project cost has been determined, it is common for a portion of the remaining contingency to still be carried by the construction manager or design builder into the contract value. This contingency may be used in any reasonable manner to facilitate the progress of construction but is not intended to be used for unknown conditions, unexpected municipality requirements, scope upgrades or design errors or omissions. The expenditure expectations of this budget should be in writing and clearly understood by all parties. Depending on prior contract negotiations and final contract document language, the construction manager or design builder may not be required to obtain prior approval for expenditures charged to the contingency, but he should advise the owner at least monthly in writing of expenditures charged against the contingency.

In addition to a construction manager or design builder's contingency budget, it is always advisable for the owner to have a separate contingency budget for unknown conditions, scope creep or upgrades, unexpected municipality requirements, inflation, reasonable errors and omissions in the design documents or other costs not covered in the construction manager or design builder's estimate or contingency budgets or owner budgets. This owner's contingency allowance is in addition to the construction manager or design builder's contingency amount. The owner's contingency budget should be established very early in the design phase and often ranges from 5% - 10% of the total project cost. The owner's contingency budget amount generally remains unchanged throughout the design phase and initial construction phase. During construction appropriate amounts of the owner's contingency budget are transferred with owner's approval to the construction manager, design builder or design consultant's contract amount to offset additional work scope not previously contemplated. Some owners place their contingency amount in the construction manager or design builder's contract amount as an allowance subject to the allowance

expenditure rules.

The contract terms for CM@Risk and Design Build projects should identify the percentage of unused construction manager or design builder's contingency to be returned, if any, to the owner. Often any unspent construction manager or design builder's contingency is subject to the contract's cost savings sharing language, if such language exists. If the owner's separate contingency is contained within the contract amount, 100% of any unspent funds from that contingency belongs to the owner.

Design and construction remain imperfect processes. Separate construction manager or design builder and owner contingency budgets are common and help offset surprises to all parties. On full disclosure projects it is highly recommended to openly discuss and document the construction manager or design builder and owner contingency budget amounts, appropriate expenditures and final resolution expectations and to incorporate those expectations into the terms of the contract.

END OF RECOMMENDATION

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3.01 - PRE-QUALIFICATION OF BIDDERS ON PUBLIC WORK

Last Updated: November 2018

THE ISSUE

Merits of open bidding; The rationale for pre-qualification of bidders; Pitfalls; Responsibility for decisions; Procedures and practice; Notifications; Pre-qualification of subcontractors,

DISCUSSION

Awarding projects based on the lowest bid was the most common award method for many years but that is no longer the case. Industry leaders and public officials used to award projects based on the low bid with the assumption it produced the most economical construction and avoided abuses of discretionary power. Open, competitive bidding of public work allows any Contractor with the financial capability and the ability to provide performance and payment bonds for the construction contract, and who can meet statutory requirements, to submit a proposal and be given full and equal consideration in award of the contract. This seems to preclude any pre-qualification of the Contractors who wish to bid on public construction work. While this procedure is still in use, legislative changes have enabled Public Owners to use other methods of project development and delivery, and to pre-qualify bidders with more factors than just who can post bonds.

The use of a pre-qualification procedure presupposes that the taxpayers' best interest is not always served by open bidding and award to the low bidder. There is also the Public Owner's desire to have construction work bid and performed by competent, responsible contractors. Pre-qualification procedures may result in higher initial cost by eliminating marginal low bidders. Public Owners who express an interest in exploring the use of a pre-qualification procedure should consider all pertinent factors.

Considerable effort and time are required for Public Owners to establish equitable and legal pre-qualification procedures, and for contractors to respond. The Public Owner should establish specific criteria and evaluate interested contractors' qualifications.

3.01 PRE-QUALIFICATION OF BIDDERS ON PUBLIC WORK

Pre-qualification of bidders on most public work projects is now controlled in Texas by Ch. 2269 of the Texas Government Code, which became effective in 2011. There are some exceptions, such as TXDOT projects, that are set out in this statute. Review of this statute is required to determine applicability to a particular project. Counties, municipalities, and school districts are covered, but this statute does not prevail over specific statutes dealing with historically underutilized businesses (HUB). Public junior colleges are covered, but state university systems are not. There are other exceptions in the statute.

When this statute applies, the Public Owner may consider

1. The price
2. The offeror’s experience and reputation
3. The quality of the offeror’s services
4. The impact of HUB requirements
5. The offeror’s safety record
6. The offeror’s proposed personnel
7. Whether the offeror’s financial condition is appropriate for the project, and
8. “Any other relevant factor specifically listed in the request for bids, proposals, or qualifications.”

The Public Owner shall publish

1. The criteria that will be used to evaluate the offerors
2. The weighted value of each criteria, and for state agencies,
3. A detailed methodology for scoring each criterion.
4. Sometimes Public Owners want to include a preference for local bidders. If so, it must be disclosed and given a percentage of weight in the prequalification process.

This statute then sets out several procurement methods

1. Selection of the Architect
2. Competitive bidding
3. Competitive sealed bids
4. Construction manager-agent (not at risk)
5. Construction manager at risk
6. Design build
7. Job order contracts

RECOMMENDATIONS

A decision on the use of pre-qualification procedures is the responsibility of the Pubic Owner, who should give full consideration to the legal implications, and to the responsibilities involved.

The Architect should take part in pre-qualification procedures and process.

Any pre-qualification procedure contemplated should be reviewed by competent legal counsel of the Public Owner, perhaps with the advice of construction professionals for a complex Project.

A pre-qualification procedure should be used only when the Public Owner is willing to use a formal procedure utilizing objective standards for evaluating qualifications. When a pre-qualification procedure is used, that fact must be advertised to all potential bidders in a timely manner and in accordance with statutes.

Reasonable time must be allowed for contractors' preparation and submittal of pre-qualification information.

AIA Document A305 - Contractor's Qualification Statement, may be the basis for any such procedure, and contractors should be required to complete the form in its entirety.

The Public Owner should receive and evaluate contractors' pre-qualification forms, choose the acceptable list of bidders, and notify each Contractor of his standing as a pre-qualified bidder prior to issuance of bid documents.

END OF RECOMMENDATION

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3.02 - ISSUING DOCUMENTS FOR BIDDING

Last Update: December 2002

THE ISSUE

Providing adequate numbers of document sets to bidders; Problems in bidding from separated documents; The use of electronic media during bidding. The arrangement of documents; Bid document deposits; Ownership of documents; Return of documents and deposits.

DISCUSSION

It is in the Owner's best interests to provide an adequate number of sets of documents for use by various bidders and sub-bidders. AIA documents provide that the Owner will reimburse the Architect for reproduction and assembly costs for such usage. Each bidder, including those bidding on only a portion of the work, should be provided access to, or the opportunity to obtain, at least one complete set of bid documents (Advertisement or Invitation to Bid, Instructions to Bidders, supplements to Bid Documents, Contract and Bond forms, and the Contract Documents). Issuance of documents to bidders in electronic media is a possibility which should have full consideration of the merits and potential problems inherent in such usage. Refer to AIA/AGC Recommendation 1.11 - Automation of Construction Documents, for a discussion of the use of Documents in electronic form, and to AIA/AGC Recommendation 3.02.1 - Electronic Quantity Survey for Bidding, for a protected use of electronic documents.

While it is recommended that sets of the Drawings and the Project Manual be assembled so that documents for major portions of work, such as site work, structural, mechanical, and electrical, may be separately identified, the practice of subcontractors/suppliers bidding only from such separate portions of the documents entails the constant risks that related work and administrative requirements shown on complete documents will be overlooked in the preparation of a bid. Sub-Bidders should prepare their bids only from a complete set of documents - minimally a complete set of documents should be available for their review; Front-end documents such as Instructions to Bidders, General and Supplementary Conditions, and Division 1 of the Project Manual, are critical for the bidder to have; each set of MEP Documents should also include MEP site plans.

When a Project is planned for bidding and contracting by separate prime contractors, a complete set of each set of separate bid documents for the entire Project should be furnished to each prime bidder. See AIA/AGC Recommendation 1.02 - Single Contract versus Multiple Prime Contract Construction.

The number of sets of documents for the entire Work issued to bidders, and provided to the construction association plan rooms for the use of sub-bidders and suppliers, will depend on the size and complexity of the Project and the length of time for bidding. The number of sets to be issued to each bidder should be stated in the Invitation to Bid. Should bidders wish to obtain additional sets, the Instructions to Bidders should provide that they may be purchased from designated print shops. Documents for larger projects may be microfilmed, or duplicated in electronic form by commercial services for distribution to their subscribers. However, the control of such documents may be a problem and each situation should be considered in the Architect's decision on such usage.

A document deposit is normally required from bidders to assure prompt return of hard-copy documents in good condition. Generally the amount of the deposit is set at the cost of reproduction and assembly, and the deposit is usually in the form of a company or personal check to the Architect. Some Owners who constantly offer large volumes of work for bidding find that verification of completeness and the reuse of the returned bid documents entails a heavy burden which is more onerous than the reproduction costs, and choose not to require the return of such documents, which fact should be stated in Instructions to Bidders.

General Conditions establish the ownership of documents, and set limits on the Contractor's and sub-

contractor's use of those documents. Each prime bidder should be permitted to keep bid documents until the contract has been awarded, and the Contractor may retain one set of documents when the Work is completed; others should normally be returned to the Architect. Full deposits should be refunded to bidders on return of complete, assembled, undamaged documents to the Architect within the time stipulated in Instructions to Bidders. The cost of replacing missing or damaged documents should be deducted from the deposit if less than full legible sets are returned.

Bidders who decide not to bid should be refunded the bid deposit only if the documents are promptly returned in good condition.

RECOMMENDATIONS

The minimum number of hard copies of Documents provided for bid purposes should be:

- 2 sets to each general contract bidder.
- 2 sets to each major plan room (3 to AGC per AIA/AGC agreement).
- 2 sets to major, pre-selected subcontract bidders.

Assemble drawings in the sequence recommended by the CSI Uniform Drawing System:

- Cover Sheet
- Index Sheet
- Hazardous Materials
- Civil
- Landscaping
- Structural
- Architectural
- Interiors
- Equipment
- Fire Protection
- Plumbing
- Mechanical
- Electrical
- Telecommunications
- Resource

Vendor drawings for special equipment may be issued with contract documents for purposes of coordination, for reference, and for MEP requirements. Architect should stipulate the validity of such documents as a part of the contract, with such limitations as liability risks may indicate.

Assemble the Project Manual as recommended by CSI Manual of Practice:

- Schedule of Drawings
- Bidding Requirements, Investigations, and Bid Forms
- Contract Forms
- Bonds and Certificates
- General and Supplementary Conditions
- Technical Specifications

Front-end documents such as Instructions to Bidders, General and Supplementary Conditions, and Division 1 of the Project Manual, are critical to the bidding process. Sub-Bidders should bid only from a complete set of documents - minimally a complete set of documents should be available for their review.

Extra (un-bound) bid forms should be included with the sets provided to Bidders.

END OF RECOMMENDATION

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3.03 - INFORMATION PROVIDED TO BIDDERS

Last Update: November 2002

THE ISSUE

Definition of Bid Documents; Owner's responsibility for providing full information to bidders; Responsibility for accuracy of data; Architect's responsibility for properly incorporating data into Contract Documents; Contractor's responsibility for interpreting the provided data.

DISCUSSION

Bid Documents include Bid Requirements and the proposed Contract Documents. However, AIA General Conditions, Article 1 - Basic Definitions, specifically states that Bid Requirements (Advertisement or Invitation to Bid, Instructions to Bidders, and Information Provided to Bidders) ***are not*** Contract Documents. Note that EJCDC General Conditions, often used for public work, define bid documents differently.

In addition to project specifications, other Information Available to Bidders, as a supplement to Instructions to Bidders, should include all known data that may bear on the bidder's preparation of his proposal. Failure to provide such known information may leave the Owner defenseless should problems arise that could have been avoided by providing information to the Bidder. Such information may include:

Deed Restrictions

- Site Survey: Legal description of the property, property surveys showing topographical information, boundaries, easements, adjacent property conditions which might affect construction, and utility locations;
- Soil Boring Data: For Bidder's "information only" as it relates to construction, and further investigation, as the Bidder may deem advisable. (Interpretations of design recommendations in soils reports are the decisions of the Architect/Engineer and are incorporated into the Contract Documents.) Texas State law on trench safety requires that specific soils exploration investigations related to trenching shall be incorporated into the Contract and Bidding Documents.
- Environmental Report: Requirements for erosion control (specifically requirements during construction), wetland conditions and endangered species. (The requirements for permanent environmental control are incorporated into Contract Documents.)
- Existing Conditions: Information on existing physical conditions at the site, or previous construction at the site, including underground construction; drawings and specifications should delineate the physical conditions of existing construction and other data obtained from all sources.
- Data on asbestos, lead, or other hazardous substances, and other information bearing on the construction: Such information may be obtained by investigations and explorations made by consultants, or may be obtained from Record Documents or other sources. Note that per Senate Bill #509, some municipalities may require asbestos certificates or surveys prior to permit issuance.
- Geological Data: Indications of known faults or other conditions that might affect the site.
- Archaeological Data: Indications of known or possible archeological conditions which might affect construction;
- Preliminary Schedules: When the Owner requires fixed dates for completion and building occupancy, or requires specific stages of completion of work at owner-occupied sites, or requires partial occupancy during staged construction;
- Project financial information, when appropriate.

Owner and Architect should make every effort to obtain, and provide to Bidders, all available information which might bear on the construction. While such information may not be 100 percent complete, and unexpected conditions may nonetheless arise, the chance of problems occurring during construction is reduced. When possible, information from Record Documents should be verified at the site to assure accuracy. AIA/AGC Recommendation 5.08 - Unexpected Conditions, discusses procedures to follow when problems do arise.

Any information bound in the Project Manual under Bid Requirements, except for information required by state law, is by definition under AIA documents ***not*** a part of Contract Documents. Soils reports and reports of investigations are often the basis of claims, and the Owner or Architect should avoid liability for data provided by others. Also, Record Documents of previous construction are the responsibility of the entity who prepared those documents. Liability for such information in the Project Manual should be avoided by a disclaimer, directing the Bidder to obtain clarifications and further information from the preparer of the data.

It is to the Owner's benefit to provide, and pay for, as complete information as possible. When this information is provided to the Architect early in the document development process, the Architect can design around problems which he can then anticipate and benefits both the project design and the construction process.

Each Bidder has the responsibility to interpret the information provided, and to make further necessary investigations as he deems advantageous. A Contractor, if forewarned of conditions he may encounter, should be able to plan ahead and avoid certain problems before they arise.

RECOMMENDATIONS

Owner should make every effort to obtain all information pertinent to project site conditions and any existing construction, and make it available to the Architect early in the design and contract documents development process.

The Architect should incorporate all relevant data into the Project Manual. Copies of investigations may be included in the Project Manual under Bidding Requirements, preceded by disclaimers relieving Owner and Architect of responsibility for information prepared by others.

However, Texas trench safety law requires specific soils data shall be incorporated into the Contract Documents.

Bidder should take all such data into consideration in preparing his proposal, and should be advised to further investigate the data as the Bidder deems appropriate.

All parties should review the plan notations, especially in the structural sections, the specifications and other contract documents to determine if the Soil Boring Data is identified as "information" or a "contract document" and determine if they are comfortable with the circumstances and check for conflicts. The bidder should seek clarification if the soil, civil, or structural design and the recommendations in the geotechnical report are in conflict.

Example of a Typical Disclaimer:

DOCUMENT 00200 - INFORMATION AVAILABLE TO BIDDERS

Report No._____ of subsurface investigation and analysis of subsurface conditions for the site, prepared by _____(Engineer)_____, dated _____, is bound in the Project Manual for the information of Bidders.

The conditions noted are applicable only to the specific locations, and the times, at which soils investigations were made. Bidders shall inquire of the firm which prepared the report and may make further subsoil explorations to satisfy themselves of the particular conditions which they may wish to use in preparing their proposals.

The data provided, and the opinions stated in that report, are the sole responsibility of the firm which prepared the report.

Neither the Owner, nor the Architect, assumes any responsibility for the content of the report.

END OF RECOMMENDATION

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3.04 - ADDENDA

Last Update: November 1995

THE ISSUE

Definition of Addenda; Different usage in AIA Documents and in EJCDC Documents; Procedures.

DISCUSSION

Addenda are written or graphic instruments issued to clarify, revise, add to, or delete information in Bid Documents or previous addenda.

Typically addenda are issued prior to the opening of bids. However AIA General Conditions define an addendum as a revision to Bid Documents issued prior to execution of the Owner-Contract Agreement. In private work, a negotiated adjustment of the bid is possible by issuance of an addendum, as discussed in AIA/AGC Recommendation 3.11 - Post-bid Procedures, Negotiation/Rebidding, Award.

EJCDC (Engineer's Joint Documents Committee) Document 1910-8 - Standard General Conditions of the Construction Contract, defines Addenda as being published prior to the bid opening. This definition reflects the public works bid practice, which precludes modification of Contract Documents by addenda after the bid opening. Any changes made after bid opening and award of contract, must be by change order after execution of the Owner-Contractor Agreement.

RECOMMENDATIONS

Items in Addenda should be identified in a numbered sequence with the text arranged in the sequence of the Drawings and the Project Manual, with each drawing item identified by the sheet and detail number of the Drawing, and each item of the Project Manual by Section, Article, and Paragraph number.

Addenda should clearly define the scope of work affected by each Addendum. Should the scope cover the work of more than one Section, each affected Section should be identified, with the specific item(s) of work, and the change required, defined.

Addenda should be sent to the holders of Bid Documents and to the plan rooms displaying Bid Documents, one copy of addenda per set of documents issued. No addendum should be issued later than four working days before the scheduled date for receipt of bids, except to withdraw the request for bids or postpone the date for bid receipt. Questions on the Bid Documents should be submitted early enough so the Architect has time to respond with an addendum, if necessary, before the four day deadline.

Major addenda items affecting the bidding may require consideration of postponement of bids; In private work minor items not resolved prior to the bid opening may be negotiated later with the successful bidder, and incorporated into Contract Documents by an Addendum issued prior to execution of the Contract.

The bid form should provide for Bidder acknowledgment of receipt of Addenda, with each Addendum identified by number and date of issue.

END OF RECOMMENDATION

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3.05 - ALTERNATE BIDS

Last Update: September 1995

THE ISSUE

Purpose of alternate bids; Specifying alternates for bidding; Problems in preparing and interpreting alternate bids; Limitations on the number of alternate bids; Acceptance of alternates.

DISCUSSION

Alternative work specified in Bid Documents may delete work, require additional work, change the level or quality of workmanship or materials, or may increase or decrease the construction time. Alternate bids allow the Owner to modify the project after bids are received to ensure that construction costs fall within a fixed budget, or to select between specific materials or design features based on the Contractor's estimate of actual construction cost.

Alternate bids require extra work by Architect and by Bidders, and should be used judiciously. The Architect must design, draw, and specify the work for each alternate, which intrudes on the time spent on basic design and production.

Bidding of construction work is a complex analysis and accounting procedure which is only confused and compounded by alternate bids. Alternate bids lead to confusion during the bidding period and increase the chances of errors in Contractors', subcontractors', and suppliers' bids. Bidders must spend critical time in the final hours prior to bid opening in complex calculations on the scope of alternate work, and its affect on elated work, in lieu of spending the same busy hours analyzing the base bid. Overlapping alternate bids may confuse the bidding to the point that a clear interpretation of the bid requirements by the Bidder, and the Owner, becomes onerous. Such complications of bidding procedures easily lead to bidding errors, to higher bids, or to differing interpretations, and disputes, during construction. Multiple, complex, alternate bids are not in the best interests of the Owner, the Architect, or the Contractors bidding the Project.

RECOMMENDATIONS

Alternate bids should be limited to one major change in scope involving multiple crafts, and a small number of minor alternates such as price comparison for different types or qualities of a product.

When alternate bids cannot be avoided, drawings and specifications must fully and accurately define, in detail, the different scope, and identify all details and specification sections required to price the alternate.

When multiple alternate bids are required, the time for submitting alternate bids should be two hours after submission of the base bid. This allows the bidders to concentrate on the base bid without the distraction of dealing with both the base bid and alternate bids at the same time.

Base bids should not be opened until the alternate bids have been received, then both the base bid and alternate bids should be opened at the same time.

Public agencies may require that multiple alternate bids be accepted in a specified sequence as permitted by the construction budget. That practice is recommended to avoid any appearance of favoritism, which may be suspect when the alternate bids are selected at random.

Bidding Instructions should alert Bidders that those who qualify their bids with "voluntary alternates" (alternate bids not requested, not specified, and not bid by others) will be disqualified.

When a private Owner wishes to receive suggestions for "Contract improvements", such suggestions should be negotiated only with the successful bidder, as discussed in AIA/AGC Recommendation 3.11 – Post-Bid Procedures, Negotiation/Re-Bidding, Award.

Alternate bids should be accepted at the time of execution of the Owner-Contractor agreement.

END OF RECOMMENDATION

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3.06 - BIDDING UNIT PRICE CONSTRUCTION WORK

Late Update: September 1995

THE ISSUE

The use of unit price work in building construction, in engineering work; Defining unit work in Contract Documents; Adjustments of unit prices for excess quantities. Problems of unit prices in lump sum bidding.

DISCUSSION

For stipulated sum contracts, unit prices for defined items of work may be used when the extent of work, or unknown conditions, indicate a need for flexibility in establishing the scope of work and in determining the final Contract Sum. In construction of shell buildings and tenant completion work where the actual use of the spaces is not known at the time of pricing of the construction, the Owner/Developer may need a basis for establishing the total cost of the tenant work, as discussed in AIA/AGC Recommendation 1.08 - Shell Building Construction.

For engineering construction such as utility, street and road work, the unknowns of site and work conditions over a large and varied area require flexibility in arriving at the final Contract Sum. Unit price work is common in such construction. Underground work in building construction poses similar unknowns, and unit prices may be used for such conditions.

The first essential for unit price work is to establish, on drawings and in specifications, the unit of work and to provide a clear definition of the scope of the specific work involved in the unit. A small unit, involving only one trade, may be simple to price and easier to use to arrive at cost of the unit, but may make it more difficult to arrive at the total Contract Sum. A larger, more complex unit involving a number of trades is easier to use at determine the final Contract Sum, however is more difficult to define, and more difficult for the Contractor to price and bid.

The time element in installation of unit price work may be critical, particularly on long-term construction. The conditions of installation, and contractor's flexibility in scheduling the work, must be assumed by the bidder in determining unit prices for installation at some future time. Refer to AIA/AGC Recommendation 1.08 - Shell Building Construction. These, and other factors, create a serious problem for bidders in determining a fair cost for unit price work.

During lump-sum bidding, the preparation of unit price bids prior to bid time creates confusion, and at times unrealistic prices. This is similar to the problem discussed in AIA/AGC Recommendations 3.05 - Alternate Bids, and 3.07 - Naming Subcontractors in Bidding.

RECOMMENDATIONS

An estimated quantity of each unit anticipated should be listed as a basis for the Contractor's bid.

An accurate estimate of the quantities is a key factor in arriving at the cost per unit. Should the installed work substantially exceed the estimated quantity used for bidding, provisions should be made for adjustment of the unit price, and perhaps for an extension of the construction time.

In lump-sum work avoid unit price bidding whenever possible.

When necessary in lump sum bidding, unit price bids should be submitted only 24 hours after receipt of base bids, and where allowed by statute, limited to the three low bidders; Contractors base bids should be held in confidence during that period.

END OF RECOMMENDATION
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3.07 - NAMING SUBCONTRACTORS IN BIDDING

Last Update: June 1995

THE ISSUE

The rationale for requiring bid listing of subcontractors; The problems in determining subcontractors during bidding; Standard provisions in General Conditions; Listing of subcontractors prior to execution of the contract.

DISCUSSION

Some Owners and Architects require that bidders name major subcontractors at bid time. This is a misguided effort to control the quality of work, and may be misused to select the successful bidder. This practice is contrary to the nationally recognized procedure established in AIA General Conditions which require the successful bidder to submit a list of his subcontractors only after award of the contract. This allows the bidder the time to more carefully analyze his subcontract and supplier bids to determine such things as the preferred subcontractors:

- Knowledge and expertise to accomplish the work;
- Financial condition and bonding ability;
- References on past performance;
- Completeness of bid;
- Acceptance of alternates which may determine the best subcontractor.

Bidders' determination of the best subcontract bid during the hectic hours prior to bid opening is difficult. It distracts bidders' attention from other decisions to which they should be devoting their time. On the positive side, the listing of subcontractors whose bids were used discourages bid shopping.

Nonetheless, naming subcontractors at bid time implies that the Contractor's decision is final and not subject to change. This may cause problems with a named subcontractor who later is determined not to be the best selection.

When permitted by law, some architects may wish to restrict major subcontract bids to a selected list of pre-qualified subcontractors in the Instructions to bidders. However, restricting the subcontractors may well imply Owner responsibility, as well as liability for their performance.

When Owner or Architect deems it necessary to know particular subcontractors prior to contract award, the low bidder will usually agree to provide such information.

RECOMMENDATIONS

Do not require bidders to submit a list of subcontractors with bids, but require that the successful low bidder submit his list of subcontractors prior to execution of the contract.

END OF RECOMMENDATION

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3.08 - BID SECURITIES

Last Update: April 1995

THE ISSUE

The need for bid security; Forms of bid securities; recommended use of bid security in the Greater Houston area; Factors to consider.

DISCUSSION

The bid security is the Owner's assurance that the low bidder will enter into a contract on the basis of his proposal, or suffer the loss of the security. The usual form of security is a bid bond provided by the contractor's bonding company, often at no additional cost to the bidder. Alternatively, a letter of credit or cashier's checks may be used as bid security, but this may unnecessarily block the contractor's cash reserves and may adversely affect the contractor's bonding capacity when the contract award is delayed.

The amount of the bond is established in the Instructions to Bidder. Often it is five percent of the greatest amount of the contractor's bid, including alternate bids. Should a successful bidder refuse to execute the contract, the Owner must then consider the next low bidder. The forfeited amount of the bid bond is the actual difference between the two bids up to the total amount of the bid bond. Refer to AIA/AGC Recommendation 3.10 - Errors in Bidding, for possible exceptions affecting forfeiture of bid bond.

A tradition in the Greater Houston Area is that a bid security in not required on private work when invited bidders have been chosen on an objective prequalification basis. The basis of this practice is that selected bidders have been prequalified by the Owner on the basis of his skill, integrity, bonding ability, and reputation in the local construction industry. Requiring a bid security from such a firm is thought not to be necessary.

RECOMMENDATIONS

It should not be necessary to require bid security from prequalified bidders known to the Owner or Architect, who have been selected on the basis of their reputation, integrity, ability, and bonding capacity.

When a bid security is required, such bid security should be returned to the unsuccessful bidders promptly after the bid opening. It may be advisable to hold the security of the second low bidder until the low bidder has executed the Agreement.

END OF RECOMMENDATION

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3.09 - BID OPENING PROCEDURES

Last Update: April 1995

THE ISSUE

The rationale for public bid openings; Tabulation of bids at private bid openings; Scheduling bid dates and times; Problems in bid postponements.

DISCUSSION

Bidders and subcontract bidders who have expended considerable time and effort in preparation of their bids are entitled to an opportunity to assess their work in relation to their peers and to know to whether to proceed with any further effort on the Project, or to proceed with bidding other work. Therefore, it is reasonable for Owner and Architect to provide that consideration in a public bid opening.

RECOMMENDATIONS

Bid opening requirements and procedures should be stated in the Instructions to Bidders and should be strictly adhered to.

Bid openings should be scheduled on Tuesday, Wednesday, or Thursday, except after a holiday, from 2:00 to 5:00 PM. The day prior to bid opening and the morning hours of bid day, are invaluable to the bidders for receiving sub-bids, evaluating costs, and for determining the amounts of their bid.

Prospective bid dates should be carefully selected by inquiring of other scheduled bid dates from industry sources. This will avoid conflict with other project bid dates, which might diminish interest or competition in the Project in question.

The time period allowed for bidding should be adequate to allow bidders and sub-contract bidders sufficient time to analyze Bid Documents, to develop interest and competitive pricing from sub-bidders and suppliers, and to assemble cost data and arrive at their bid amount.

Bid postponements should be discouraged because of complications of rescheduling to another satisfactory bid date and because of the confusion and unsettling conditions created among bidders and sub-bidders who must stop and start again in the complex procedure of assembling a competitive bid. The Owner should:

- Allow ample time for bidding the Project.
- Select bid dates in consideration of bidders' other activities.
- Avoid postponement of bid dates whenever possible.
- Disallow oral or telegraphic changes in bids.
- Provide for public bid openings whenever possible.

When private bid openings are held, bidders should be notified as soon as possible of the low bidder; perhaps the second low bidder should be identified. Lacking such information, until bidders know how they stand in the results of the bidding, their ability to bid on other work, and their bonding capacity, may be reduced.

Bid tabulation should be provided to all bidders, as a courtesy in consideration of the amount of time and effort the bidders have expended. This allows them to evaluate their bidding in relation to the other bidders.

END OF RECOMMENDATION

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3.10 - ERRORS IN BIDDING

Last Update: April 1995

THE ISSUE

Bidders claims of errors in bidding; The validity of claims; Legal concerns; Allowing withdrawal of bids; Disqualification of bidder.

DISCUSSION

The contract should be awarded to the lowest responsible bidder. If however, after bids are opened the low bidder claims a substantial mathematical or clerical error in the preparation of his bid and can support such claim with satisfactory evidence to the Owner and Architect, it is customary to consider whether or not to permit the bid to be withdrawn and the bid security returned. A factor in that consideration is the question of whether the error is a material error or not. Refer to AIA/AGC Recommendation 3.10.1 - Irregularities in Bidding, for further discussion. Legal implications of withdrawal and the conditions of withdrawal should be discussed with Owner's Attorney prior to making such a decision.

A claim that an error has been discovered, and request to withdraw a bid, should be filed by bidder immediately after the error is discovered. A claim may not be considered, and withdrawal not permitted, after the contract is awarded. Also claims of error in judgment as to the cost or quantity of labor or materials usually will not justify withdrawal.

Under no circumstances should a bidder be permitted to alter a bid after all bids have been received, unless it is an apparent low bidder and the Owner, in private work, desires to negotiate minor changes, as discussed in AIA/AGC Recommendation 3.11 – Post-Bid Procedures, Negotiation/Rebidding, Award.

If major changes in bid documents are necessary to obtain an acceptable price, all of the original bids should be rejected and new bids secured from the original list of bidders based on revised Bid Documents.

RECOMMENDATIONS

Claims of errors in bidding should be filed immediately after the error is discovered, but prior to award of the contract.

Legal concerns dictate that permission to withdraw a bid due to claims of errors in bidding should be considered only after consultation with the Owner's Legal Counsel.

When a bidder withdraws a bid or is disqualified, the remaining bids should be considered as though that bid had not been received.

When a bidder is allowed to withdraw his proposal, that bidder should be disqualified from further bidding or negotiation on the Project.

END OF RECOMMENDATION

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3.11 – POST-BID PROCEDURES, NEGOTIATION/RE-BIDDING, AWARD

Last Update: April 1995

THE ISSUE

Evaluation of construction bids; Rationale for negotiation or re-bidding; Rejection of bids; Notification of Bidders; Award.

DISCUSSION

The Architect will usually assist the Owner in selection of the successful bidder by evaluating the bids received. This evaluation includes making a recommendation on acceptance of any alternates, as discussed in AIA/AGC Recommendation 3.05 - Alternate Bids.

The Architect and Owner's evaluation takes on particular significance when all bids exceed the Owner's construction budget. If the Owner-Architect Agreement includes a fixed limit of the construction cost, AIA documents provide the Owner, in private work, with four options:

1. Authorize an increase in the fixed construction cost and proceed with the Project.
2. Negotiate with the low bidder to reduce the project cost.
3. Cooperate in with the Architect in revising the scope/quality of the project in order to reduce the construction cost, and re-bid. Under AIA documents, when a maximum construction cost is stipulated, the Architect is usually obligated to modify the contract documents without additional charge to the Owner.
4. Abandon the Project.

RECOMMENDATIONS

Negotiating, selecting alternates, or re-bidding, to reduce the construction cost should not be used to manipulate the bids, to discriminate between bidders, or to auction the low bidder's price to other bidders. Such practices are unfair to those who have devoted significant time and effort in preparation of their bids, and are considered highly unethical.

When changes to reduce the construction cost are necessary, those changes should be negotiated only with the low bidder, unless it becomes clear that he is not negotiating in good faith - or if the low bidder prefers not to pursue the Project further. In such cases negotiations should be formally terminated with the low bidder and further negotiations conducted only with the second low bidder.

Simultaneous negotiations should never be conducted with more than one bidder. If that is done, original bids and sub-bids become known, and such procedure often becomes an auction rather than an ethical negotiating procedure.

Often it becomes evident that major changes are necessary to meet the Owner's fixed construction budget. If the Owner is precluded by law from negotiating such changes, or if the private Owner is not comfortable negotiating with the low bidder, then all bids should be rejected and new bids secured based on revised drawings and specifications. The original bidders should be invited to re-bid, and other bidders may be added to the original list.

Re-bidding the project with no changes or only minor changes to the scope and quality of work is unfair to bidders and sub-bidders, since the bid prices of bidders and sub-bidders is probably known and provides an unfair advantage to all but the low bidder.

When deciding on whether to negotiate or to re-bid, the Owner should consider factors such as construction cost escalation, delay in the construction completion date; cost and time in re-bidding for the architect, contractors, subcontractors and material suppliers; whether re-bidding will require many small changes or one major change in scope or in quality of the work.

For public work, where statutes or ordinances preclude negotiations or changes prior to executing the contract, re-bidding is the only option.

Re-bidding the Project should be the last step in selecting the successful Contractor rather than the first step in a procedure to pit one bidder against another after the original bid prices are received, and usually known to all.

Ethical and fair handling of bids produces the lowest and best cost. Conversely, those who attempt to pit one bidder against another seldom receive the best value since bidders, suspecting subsequent rounds of bidding, may well hold back cost reductions for the expected later negotiations.

Do not re-bid without revisions to drawings and specifications.

Bid documents customarily provide that the Owner reserves the right to reject any and all bids. Rejection however, should not be used as a means of accepting a bidder who did not submit a bid before the prices of the others were made public, nor should it be used to obtain an estimate of the cost of work in order to award separate contracts or to favor a contractor selected in advance.

After the Owner has determined the successful bidder, all bidders should be informed of the decision as a matter of courtesy. Although it is not necessary, it is helpful to report the relative standing of bidders for privately opened proposals.

In private Work, after modifications to Contract Documents resulting from negotiations and changes are completed:

1. Addenda should be executed recording those changes,
2. The Owner and Contractor execute the Agreement, and sign or initial copies of the Contract Documents, and
3. Owner, Contractor, and Architect should each receive an official signed copy of the Contract Documents, including the Agreement, for use during construction.

END OF RECOMMENDATION

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4.01 - CHOICE OF SURETIES

Last Update: March 1996

THE ISSUE

Owner designation of Surety or Contractor choice; Qualification of Surety Company; Sources of information on Surety Companies.

DISCUSSION

At times the Owner or the Architect will require the Contractor to obtain bonds or insurance only from a named Surety Company, or one of a list of companies. This is contrary to the traditional practice of allowing the Contractor to secure surety bonds or insurance from reputable companies of his choosing which are acceptable to the Owner. Depriving the Contractor of this traditional prerogative may actually be contrary to the best interests of the Owner.

Conditions of the Contract should require that bonds and insurance be provided by a company licensed to do business in the state in which the project is located, be acceptable to the Owner, and meet other criteria stipulated by the Owner. Beyond that, the Contractor should be free to obtain bonds and insurance from his accustomed sources which meet those basic requirements. The Owner's insurance or legal counsel should then review the qualifications of the Surety to verify that the requirements are met. There are several sources of information on Surety Company qualifications:

- A list of insurance and bonding companies authorized to do business in the State of Texas is available from the Texas State Board of Insurance, 1110 San Jacinto Street, Austin, Texas 78701, Telephone (512) 463 169. However the Board does not rate the companies by performance.
- The Texas State Department of Highways maintains a list of approved companies which is available from the Texas Building Branch of AGC, 200 East 10th Street, Suite 615, Austin, Texas 78701, telephone (512) 478 5629.
- The United States Treasury Department maintains a Federal Register, Circular 570 - Surety Companies Acceptable on Federal Bonds, which is available from the Department of the Treasury, Financial Management Services, Surety Bond Branch, Washington, D C 20226, telephone (202) 634 2214.
- The Best Rating Guide is a primary source of financial data on insurance and bonding companies which also in turn lists several financial facts and the most recent operating results of most insurance companies. The Guide is available from A M Best, Oldwick, New Jersey 08858, and all insurance companies and agents have copies available.

RECOMMENDATIONS

Do not designate a specific company, or companies, which the Contractor must use in securing bonds and insurance.

The Owner's insurance or legal counsel should establish, and verify, the requirements to be used in the Contractor's bond and insurance matters.

The Architect should never attempt to establish bond and insurance requirements to be used in the construction contract. This is the Owner's responsibility, with the advice of his professional advisor.

Bonds should be filed in the County in which the project is located

END OF RECOMMENDATION

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4.02 - OWNER'S PROTECTIVE INSURANCE

Last Update: May 1996

THE ISSUE

Owner's liability protective insurance; Provisions in AIA General Conditions; Alternative methods of providing Owner's liability coverage.

DISCUSSION

Owner may protect himself from liability to third parties arising out of his involvement in a construction contract in two ways:

AIA General Conditions (Article 3 of AIA A201) contains a hold harmless provision which is normally covered by the Contractor's General Liability Insurance. This provides the benefits of the hold harmless provisions up through the Contractor's umbrella insurance limits. Since this provision is standardized in the published document, it is a routine matter which requires no further action.

Supplementary General Conditions often require that the Owner be named as an "Additional Insured" on the Contractor's Liability Policy. This provides coverage for the Owner for liability arising from the Project through the Contractor's policy. When properly endorsed to include Waiver of Subrogation, Contractor's insurance designated as "Primary", and a Per-Project aggregate limit, a higher level of protection is afforded the Owner by providing direct insurance coverage.

The highest degree of protection for the Owner may be afforded by an Owner's and Contractor's Protective (OCP) policy written by the same company which provides the Contractor's liability insurance. The disadvantages of this method are that the cost is usually greater, and the insured is subject to all of the policy conditions, including notice. This policy provides a "separate" limit of coverage which is not affected by other claims against the Contractor's policy. The policy will remain in force regardless of any cancellation or non-renewal of the Contractor's insurance coverage. Finally, it provides coverage for the Owner's "sole negligence" when the Owner either has no coverage of his own or is not named as an Additional Insured on Contractor's Liability Policy.

From time to time proposals for Owner Controlled Programs, also known as Wrap-Up Rating Plans, have been put forth for very large construction type of risks. This contemplates that a single Workers' Compensation policy and a single General Liability policy will be issued in the name of the Owner, provided by a single insurance company, in which the Owner usually pays the premium for the General Contractor and all subcontractors. While this is proposed as an over all economy, the complex problems in such coverage suggest that it should not be considered.

RECOMMENDATIONS

The Owner is responsible for establishing the extent and limits of Contractor's insurance coverage, with the advice of his insurance/legal counsel, along with recommendations for his Protective Insurance.

Conditions of the Contract should establish minimum criteria and qualifications for the Insurer as stated in Recommendation 4.1 - Choice of Sureties, along with minimum coverages and deductibles.

The Architect should never attempt to establish insurance requirements to be used in the construction contract.

Owner's Insurance Counsel should review the contractor's submittals to verify that the certificate of insurance provides the proper coverages, and that the policy does not contain exclusions which excessively limit the benefits of the policy.

The purchaser of insurance should control the selection of the qualified insurer and the agent.

Use the standard provisions in AIA General Conditions whenever possible, supplemented as necessary to comply with the Owner's requirements.

Provide in Supplementary Conditions that Owner be named as an "Additional Insured " ***and*** require Contractor to purchase an OCP policy.

The so-called Wrap-Up Rating Plans should not be considered.

END OF RECOMMENDATION

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4.03 - CONSTRUCTION PROJECT PROPERTY INSURANCE

Last Update: October 2015

THE ISSUE

Property insurance coverage; the General Conditions; Insurance provided by Contractor; Insurance provided by Owner; Separate prime contract projects.

DISCUSSION

The Contract Documents provide that the Owner shall furnish property insurance on a construction project. "Property Insurance" typically takes the form of "Builders Risk Insurance" which should be written with limits at least equal to the full value of the construction contract amount. The Owner should clearly define coverage and which party will provide the insurance.

Any variations, special coverage, and the amounts, limits, and deductibles (and which party is responsible for paying those deductibles) should be stipulated in the Contract Documents.

When defining limits for the property insurance, special consideration should be given to the potential loss of "soft costs" and "business income" in the event of a covered loss, since those costs may not be included in the construction contract amount. For example, "soft costs" such as permits and architectural fees may be incurred to rebuild the project after a covered loss. For commercial projects, a delay due to a covered loss may prevent the Owner from receiving rent payments during a rebuild, and, therefore, cause the loss of expected gross revenue. Despite the covered loss and during the rebuild period, the Owner may incur additional, unexpected interest costs on their construction loan. Including an appropriate amount of coverage for potential "soft costs" and "loss of business income" may prevent serious conflicts and problems in the event of a covered loss.

Regardless of which party purchases the Builders Risk Policy, verification that the policy covers all parties involved in the construction project "as their interests may appear" is critical. It is also important that all parties, (Owner, General Contractor and Subcontractors of every tier) waive their rights of subrogation (except to their right to payment of insurance proceeds), in writing and in each and every contract written for the project, in the event of a loss covered by insurance. Mutually waiving subrogation rights by all parties will allow all parties to avoid unnecessary protracted legal battles in the event of a covered insurance loss.

Property Insurance Coverage under the Contract Documents is required to be on a broad form policy which covers all perils except those specifically excluded. When particular perils, such as flood, earthquake, named storm and wind storm need to be covered, the specific requirements must be spelled out in full detail.

The start of coverage for a Project Property Insurance policy should be timed closely with the actual start of construction since the coverage is based on actual construction time and duration of work. The costs of these policies can be impacted by duration of the construction schedule and high risk weather occurrences such as hurricane season. Project delays, schedule extensions, and change orders affecting construction duration can also impact policy costs both in time and by extending the project into another high risk weather season.

Owner may elect to assume responsibility for property insurance through self-insurance. In this case, Contract Documents should contain a hold harmless provision whereby the Owner holds the Contractor free and harmless from liability to the Owner as a result of loss or damage to property of the Owner, contractors, subcontractors, or vendors, intended to be or incorporated into the work, if damage or loss is the result of the perils normally covered by property insurance. Wording of that clause should specifically outline perils, including reasonable legal defense and court costs, for which the Contractor is held harmless along with exclusions and any deductibles or sub-limits that may apply.

On projects with either owner or contractor controlled insurance programs, the insurance provisions in Article 11 of the A201 General Conditions need to be completely rewritten.

RECOMMENDATIONS

The Owner and Contractor, with their respective insurance counsel or risk management professionals, are responsible for establishing the coverage, and limits, of insurance required, and the party responsible for providing that insurance, to confirm indemnity and insurance coverages. Care should be taken to coordinate the coverages and obtain the broadest coverage available.

The purchaser of Property Insurance should control the selection of the qualified insurer and the agent.

Contractor purchase of Property Insurance from his regular source is often at a lower rate than is available to the Owner.

Who provides the Property Insurance policy for any construction project should be a point of negotiation with the result being stipulated in the Contract Documents.

Insurance covering the perils of "Earthquake", "Named Storms", and "Flood" usually involve lesser "sublimits" on coverage, and higher deductibles. Great care should be taken to verify that the coverage for these perils is available prior to bidding on or agreeing to provide this coverage.

Depending on the specifics of the project and as additional protection for the unknowns that can occur, the merits of Business Interruption (Business Income) insurance, and insurance for "Soft Costs" should be discussed, considered and purchased by the Owner or Contractor as determined appropriate.

Regardless of whether Owner or Contractor provides Property Insurance, Contract Documents must state in detail the acceptable coverage, exclusions and deductibles, and which party is responsible for payment of any deductibles. Care should be taken to fully understand common coverage exclusions including but not limited to EIFS, terrorism and civil unrest, mold, asbestos, lead and other hazardous materials.

For construction involving a renovation or addition, a clear contractual understanding of which party is insuring the part of the building under construction, and which party is insuring the portion not under construction is critical. Insurance claims could actually differentiate a loss payment based on one side of a wall being covered, and the other side not being covered.

Owner-furnished equipment or materials should be included either in an installation floater or in the Property Insurance, and the responsibilities of the Owner and the Contractor should be stipulated in the Contract Documents.

Contract Documents may specify subcontractor insurance requirements, and the Contractor should require subcontractor insurance as he deems appropriate.

The Contract Documents should also be clear in stating which parties must be added to the Property Insurance policies as "Loss Payees".

The Contractor has the ultimate responsibility for delivering the project and will normally provide broader insurance coverage against more perils when purchasing the Property Insurance.

Even when the Owner provides the insurance, Contractor may elect to purchase additional coverage to broaden the Owner-furnished coverage or to reduce the liability for deductible amounts. This is an extra cost added to the Project.

When the project site is in an area subject to perils which are uninsurable or insurable only at above-standard

rates for the area, the Owner should provide the Property Insurance.

For projects with separate Prime Contractors, supplementary Property Insurance and waiver of subrogation between the contractors is provided in the contract documents. The Owner should verify that such procedures are followed.

Insurance policies should be in effect, and proof of insurance should be provided to the Architect and Owner, before the first materials are in transit or before work commences at the site. In Texas, it is recommended the specific endorsements be secured and distributed to appropriate parties.

Endorsement of the Property Insurance may be necessary if partial occupancy occurs before substantial completion or permanent insurance is obtained. The insurance agent should be notified prior to partial occupancy.

END OF RECOMMENDATION

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4.04 - PERMITS REQUIRED BY GOVERNING AUTHORITIES

Last Update: October 1995

THE ISSUE

The permitting process; Preliminary permit department plan check; Permits during the bid period; Responsibility for obtaining permits, for permit fees; Permitting services; Compliance with architectural barrier codes; Storm water regulatory compliance.

DISCUSSION

The familiar building permitting by local authorities is now complicated by the complexities of construction technology, handicapped access, health, and ecological concerns, some of which are administered locally, and some by other layers of governing agencies.

Building permits are required by municipalities, counties, and State to assure compliance with governing ordinances. The cost of the permit fee is usually based either on the building area or the project construction cost. Building permits, and the additional permit fees for plumbing, air conditioning, electrical, and other construction work are typically the responsibility of the Contractor (and subcontractors) as a part of the Contract Sum Conditions.

Typically the Contractor is responsible for obtaining all building permits, however, due to the complexity of a Project and the workload on the permitting agency, the process can be quite involved and time-consuming, perhaps 30 days or so, and the start of construction of a Project can be seriously delayed, affecting construction schedules and cost, when the permit process is initiated by the Contractor only after award of the construction contract.

Preferably the permitting process should be initiated by the Owner, through the Architect, at the time when Contact Documents are completed, or not later than time the documents are issued for bidding. This may provide the opportunity during the bidding/negotiation phase to resolve the building code issues, which may require redesign and modification of working drawings and specifications, and issue appropriate Addenda. After award of the contract it is difficult to accommodate changes required to obtain a building permit, further delaying the start of construction.

Construction on historic building sites generally requires special permitting, and the process may well take an extended time, perhaps 90 days or so.

Federal and State requirements for compliance with statutes governing architectural barriers are separate from the municipal permitting process, and Architect should consult with those authorities to assure compliance prior to bidding and award.

Requirements for the prevention of construction storm drainage runoff of should be determined and incorporated into Contact Documents prior to bidding/award.

Assessment fees for utility services are a separate matter, in addition to building permits. Refer to AIA/AGC Recommendation 4.05 - Utility Assessment Fees.

RECOMMENDATIONS

The Architect is responsible for producing Contract Documents which comply with governing building codes and other statutory regulations.

The Architect should initiate review and permitting of requirements for handicap accessibility and the Owner

should pay cost of any fees required.

Prior to the start of final contract documents, Architect should consult with proper authorities for plan review and for clarification of code interpretations to avoid later disruptive changes.

The Owner, through the Architect, should make application for permits at completion of Construction Documents, certainly not later than the start of the bidding/negotiation period, to assure compliance with code requirements prior to award, and to expedite the permitting and the start of construction.

Fees for permits obtained prior to execution of the contact may be paid by Owner, in which case Supplementary Conditions should inform the bidder of that fact; or the Contractor may pay the fee when he obtains the permit after award of contract.

For phased construction, when certain work begins prior to final completion of Contract Documents as discussed in AIA/AGC Recommendation 1.03 - Fast-Track Construction, the City of Houston Permit Department will issue conditional or partial permits for work packages such as excavation, foundation, and structural work, conditioned on preliminary documents which define the scope of the total Project with complete documentation of the Work package for which a partial permit is sought.

EPA storm water discharge requirements pose a problem on certain projects. Some requirements fall under the responsibility of the Architect as a part of the project design. Other requirements are the responsibility of the Contractor during the construction process. And, still others are the responsibility of the Owner in the operation of the completed project. Owner, Architect, Civil Engineer, and Contractor, should cooperate to comply with governing requirements.

Architects, Engineers, and Contractors should continue to improve liaison with City building officials to improve communications within the construction industry, and to assure that officials are kept abreast of the needs of the industry.

Consideration should be given to the use of commercial permitting services for pre-permit coordination with building authorities in clarification of code interpretations, and in expediting the final permitting process, particularly when application for the permit is made by the Owner.

END OF RECOMMENDATION

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4.05 - UTILITY ASSESSMENT FEES

Last Update: October 1995

THE ISSUE

Responsibility for building permits; Responsibility for utility assessment fees; Responsibilities for application, and for payment for assessment fees.

DISCUSSION

Utility Assessment Fees are not Building Permit Fees within the meaning of AIA Contract Documents, in which the building permit fees are the responsibility of the Contractor. Therefore in current construction practice Utility Assessment Fees are not an obligation of the Contractor or subcontractor. Assessment Fees are applied against the property, and are the responsibility of the Owner. The costs of Assessment fees should not be considered a part of construction costs, and should a separate item in the Owner's budget for total Project cost.

Municipalities, Utility Districts, and Water Districts routinely charge property assessments for water and sewer service, which assessments are usually based on acreage, sewer capacity, or the costs of extending the service to the property. These are normally levied at the time of issuance of the Building Permit as a means of assuring payment before connection of the service.

Normally the costs of assessments are not known prior to the time of the governing authority's receipt of complete Contract Documents, usually at the time of application for building permits. When Architect or Owner applies for the building permit, as discussed in AIA/AGC Recommendation 4.04 - Building Permits, the Owner can arrange for the payment of assessment costs directly. This responsibility should be stated in Supplementary Conditions.

Utility costs for extending service to the project, like municipal assessment fees, are generally not known at the time of bidding, and should be similarly arranged by the Owner.

RECOMMENDATIONS

Supplementary Conditions should modify General Conditions (Paragraph 3.7.1 of AIA A201) to provide that the Owner will pay permanent property assessment and utility extension charges.

When the Owner requires that assessment fees and utility service costs be included in the Contract Sum, a cash allowance should be specified to cover the cost of the fees to the Contractor.

Contractor should pay all temporary utility charges, tap charges, and meter charges.

Architect should determine from the utility district which fees should be paid by Owner, and which fees are properly a part of construction costs. Also, the Architect should provide for allocation of responsibility for fees and utility extension costs in Supplementary Conditions.

END OF RECOMMENDATION

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4.06 - CASH FLOW CONSIDERATIONS ON CONSTRUCTION PROJECTS

Lasts Update: July 1996

THE ISSUE

The need for prompt payment of progress payments; Procedures for expediting payments; Responsibilities of each of the entities involved; The Lender's authority to rule on payments.

DISCUSSION

There is a direct relationship between the prompt payment of the Contractor's monthly Applications for Payment and the rate of productivity and quality of the Work. Interruptions and delay in payment of payments to the Contractor can seriously affect the efficiency of the work, and negatively affect all entities involved in the Project: Architect, Contractor, subcontractors, and material suppliers.

Delays in progress payments may be caused by a number of factors, which concern all entities involved in the routine paperwork involved in processing payment documents, such as:

- Contractor's prompt preparation and submittal of accurate requests;
- Architect's prompt review and certification of the Application for Payment;
- Owner/Developer's processing of the lender's forms;
- Internal processing operations of the Lender;
- Timely inspection of the work by Architect or an independent inspection service, verification of the accuracy and completeness of the paperwork, and lender's receipt of Owner's authorization prior to issuance of the funds.

A clear understanding by all entities involved in the payment approval process is essential to efficient action. The provisions of the loan agreement which affect the construction payments requirements of the Lender should be fully discussed prior to execution of the Owner-Contractor Agreement. The pre-construction conference discussed in AIA/AGC Recommendation 5.03 - Construction Project Meetings, is the time for the Lender, Owner/Developer, Architect, and Contractor to review together the pertinent provisions. This is recognition that the Architect and Contractor have a direct interest in information relating to the timing and processing of the monthly Applications for Payment.

Considerations to be clarified:

- Limits on the amounts of additive change orders which may be authorized by Owner/Developer' representative;
- The amount of any contingency fund, and the Owner/Developer's Project Representative's authority in administering those funds;
- The total amount of the construction loan, any set-asides covered by the financing for separate contract Work, Work provided by the Owner/Developer, other commitments covered by the loan; and
- The line item values of the Contractor's Schedule of Values.

While it may not be appropriate for others than the Owner/Developer to know all provisions of the loan agreement, all are concerned with information relating to the details of processing and timing of the Applications for Payment. Once those procedures have been established they should not be changed throughout the life of the Project; changes only cause confusion and delays.

When the orderly agreed-upon flow of funds is interrupted or delayed, it will likely cause a slowdown of construction work, and may cause the business failure of financially weak firms involved in the Project. The resulting delays, plus the time and financial burden on others can be enormous, and detrimental to all entitles.

Experience has demonstrated that the efficiency, production, progress, and quality of the work of contractors, subcontractors, and suppliers is greater when their rightfully expected receipt of funds is made in a timely manner; and lesser results on projects where there are chronic delays in payment for work performed. There is a direct relationship between prompt payment and the productivity and quality of the Work.

- Delay of progress payments may be caused by any of the number of entities involved in the process. Various conditions which cause a delay in payment may be:
- Contractor's Application for Payment may over report the percent of completion of work or materials in storage, the application may be incomplete, may be lacking proper documentation, or fail to include the latest change orders.
- Architect's delay in approval of the payment request may be due to questionable items included in the request, or office overload.
- Delay may be the result of Owner/Developer's failure to process and submit applications to the Lender in the proper form, unilaterally altering line item amounts without notice or discussion, or exceeding the authorization for additive change orders.
- Failure of the Lender's independent inspection firm to perform in a timely manner may cause delay. Such firms are often overworked with inspection request inspections from various lenders at the same time of the month. (Some method of staggering inspections at various times of the month could help solve this problem.)

Conditions may arise which indicate that the cash flow of funds to lower entities has been interrupted, and is a possible cause for the Owner/Developer, Architect, or Lender, to investigate and perhaps take corrective action, when:

- Contractor, Subcontractor, or supplier is rumored to be in financial difficulties.
- There is evidence that any of the entities are using received funds for other purposes.
- Architect, Owner/Developer, or Lender receives an inordinate number of requests for verification of funds authorized or disbursed.
- Unexpected liens are being filed on the Project by subcontractors or suppliers.
- Work on the Project is far behind schedule for no apparent cause.

RECOMMENDATIONS

The Lender should inform Contractor, Architect, and Owner/Developer, of the requirements for processing Contractor's applications for Payment.

The Contractor's schedule of estimated progress payments should accurately as possible project the progress expected throughout the period of construction.

Clarify the Lender's payment process: Whether to the Owner/Developer, or directly to the Contractor on Owner/Developer's authorization.

Clearly establish the Lender's any authority to control the payment of funds; To pass judgment on the amount of payments; On additive change orders.

At contract execution time provide a clear understanding to all entities of the procedures and timing to be followed; either at the pre-construction conference, in writing to all involved in the process, or both.

On Substantial Completion the amount of any retainage should properly reflect the value of the actual Work to be completed or corrected; excessive withholding of funds is not tenable, and is an unjustifiable burden on a responsible Contractor.

END OF RECOMMENDATION

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4.07 - RETAINAGES IN CONSTRUCTION PROGRESS PAYMENTS

Last Update: September 1996

THE ISSUE

The practice of withholding retainages from monthly progress payments; Provision in AIA Documents; Texas State laws; The effect of Performance and Payment Bonds on retainages; Reduction of retainages; Retainage at Substantial Completion.

DISCUSSION

In common practice, a percentage of the Contractor's monthly Request for Payment is retained by the Owner as assurance that the Work will be completed and debts for labor and materials will be paid prior to Owner's final payment of the Contract Sum.

AIA Owner-Contractor Agreements provide for a retainage to be stated in the contract (Document A101 - Agreement Between Owner and Contractor, Article 5). AIA General Conditions make no mention of retainage in monthly Progress Payments, but do refer to possible reduction of retainage (Document A201, Paragraph 9.8.3). The prescribed amount of retainage should be stipulated in Supplementary Conditions for each Project.

For public work, the Texas Property Code requires that the public entity shall invest the entire retainage in an interest-bearing account when the agency withholds more than five percent on a public work contracted for greater than $400,000, with the interest going to the Contractor. Consequently, most public agencies now withhold only five percent retainage.

Texas Law codified in the Texas Property Code (Section 53.101) limits the Owner's liability for liens to the ten percent retainage. In Texas, the Owner's statutory immunity from liens against the property is waived should the Owner withhold less than ten percent retainage from progress payments and for fewer than thirty days after the work is completed. However, when Contractor has filed with Owner and recorded with County Clerk a statutory Payment Bond and the construction contract, in compliance with Section 53.201 of the Property Code, the Owner is fully protected against liability for liens regardless of the amount of retainage withheld.

For private projects without a payment bond, typically ten percent is retained throughout the life of the Project. For large projects extending over a long period of time the cumulative amount of retainage becomes a burden to the Contractor, particularly at times of high interest rates. This may reflect negatively on bids received when Contractor tends to compensate for the reduced revenue represented by the large amount of the retainage. Similarly, subcontractors involved in early stages of work who must wait until final completion of the Project to receive the retainage withheld from their work may be prone to compensate for the delay by increasing their bid amounts.

For large projects, it may be in the Owner's best interests to provide Contractor/Subcontractor relief from that burden by reducing the amount of retainage when there is a payment bond, once the progress of the Work indicates satisfactory performance and the financial stability of the Contractor has been demonstrated. That possibility should be discussed with the Owner, and when acceptable, provided for in Supplementary Conditions. Once retainages have been established, any reduction in the retainages should be made only with the consent of Surety (AIA Document G707A - Consent of Surety to Reduction In or Partial Release of Retainage); otherwise the Performance and Payment Bond may be at risk.

One method commonly used to for reduction of retainage is provided in AIA Document A511 - Guide for Supplementary Conditions, paragraph 9.3.1, which gives an example of wording to provide for retainage reduction, stating that after 50 percent completion of work and satisfactory performance by the Contractor, monthly Requests for Payment will be certified by Architect for full payment for the remainder of the Project.

However, such wording has posed certain problems: a) Subcontractor/supplier work executed in early stages of the Project is subject to the full retainage until final completion, while later subcontractor/supplier work requires no retainage. b) The procedure may be misused, and the wording may be subject to misinterpretation; c) Contractors may continue to withhold the retainage from subcontractor/suppliers despite provisions of General Conditions that require that Contractor shall pay subcontractors and suppliers in proportion to that received from the Owner; d) Contractors must promptly pay purchase orders in the face amount with no retainage. An AGC committee studying those problems has, of this date, failed to reach an equitable solution.

Furthermore, a difficulty arises in the use of standard AIA forms, such as Document G702 - Application and Certificate for Payment, which provides in Item 5 - 'Retainage', for a percentage on which the dollar amount to be deducted from the dollar amount of the line item 4, 'Total Completed and Stored to Date'. Under Item 5, sub a), a percentage of Completed Work, and sub b) a percentage of Stored Material, convert to dollar amounts deducted from the payment. When such standard forms are used under a fixed amount of retainage previously established, the forms must be modified to accommodate the non-standard practice.

RECOMMENDATIONS

Verify that provisions for retainages, and protection from liens, comply with current requirements of the governing statutes of the State wherein the Project is located.

Verify that Contractor has filed with the Owner and recorded with the County Clerk the required Statutory Payment Bond

The Texas Property Code provides optional Affidavits of Commencement (Section 53.124) and Affidavits of completion (Section 53.106) of the Work.

Although the State of Texas Property Code contemplates 10 percent retainage throughout the Project, it is common practice to adopt alternate retainage arrangements, such as ten percent until 50 percent completion, then 0 percent retainage thereafter.

State the provisions for retainage in Paragraph 9.3.1 of Supplementary Conditions to A201.

At Substantial Completion retainage should be appropriate to the scope of Work to be corrected or completed. Excess retainages are unethical, and an unfair burden to the Contractor.

The Owner should provide legal review of Contract Documents relating to payment, to retainages, and to lien laws.

END OF RECOMMENDATION

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4.08 - CONTRACTOR-SUBCONTRACTOR AGREEMENT FORMS

Last Update: July 1996

THE ISSUE

Principles of Contractor-Subcontractor relationships; AIA Document A401 - Contractor-Subcontractor Agreement; AGC position on use of A401; Local AGC subcontracting forms; Contractor's Forms.

DISCUSSION

In principle the method of contracting between Contractor and Subcontractor is an internal function of the Contractor, and AIA General Conditions clearly state that there is no contractual relation between Owner and Subcontractor. Therefore Contract Project documents should not attempt to require any specific form of agreement between Contractor and Subcontractor; Such requirements expose the Owner to unnecessary liabilities.

The American Institute of Architects publishes a standard Document A401 - Contractor-Subcontractor Agreement Form, as a part of its series of Owner-Contractor forms; Provisions and terminology in that form are coordinated with other AIA documents. However, the Associated General Contractors of America does not endorse the current edition of A401 for use by its members. While the AIA Document A401 is available, its use is neither urged nor required by AIA.

AGC has developed Contractor-Subcontractor forms jointly with various construction subcontracting organizations, including a form developed by the Houston Chapter of AGC and the Houston Chapter of the Association of Subcontractors of America (ASA), the Houston Area Standard Subcontract Agreement, for local use. The Houston AGC-ASA Document is available for the Contractor's use. Similar standard forms may be used, provided they are compatible with provisions of, use the same terminology as AIA documents which comprise the Owner-Contractor Agreement, and state that the Subcontractor will comply with provisions of the Owner-Contractor Agreement.

A parallel document, the Houston AGC-ASA Joint Document on Temporary Site Facilities, stipulating the temporary facilities to be provided by Contractor or Subcontractor, is discussed in AIA/AGC Recommendation 5.06 - Temporary Construction Facilities and Services.

Contractor's individual sub-contract forms, complying with requirements of the Owner-Contractor Agreement, will vary in specific requirements; Significant requirements should be interpreted to the Subcontractor.

RECOMMENDATIONS

Contract Documents should not mandate a Contractor's subcontract agreement form.

Subcontracts should require that provisions of the Owner-Contractor Agreement (Contract Documents) will govern subcontract work.

Provisions of the Owner-Contractor Agreement that govern Subcontract forms should be provided to the Subcontractor, including arbitration provisions of the Owner-Contractor Agreement.

Provisions for portability of Subcontract requirements will alleviate problems in case of a takeover by other Contractors.

Any Contractor requirements for insurance by Subcontractor should be clearly established.

The question of the Contractor requiring a performance and payment bond from the subcontractor is normally a Contractor decision. However, when Contract Documents assign a subcontractor, selected by other than the Contractor, provisions requiring a bond from the subcontractor to the Contractor may be appropriate. A

prudent Contractor may choose to require a subcontract bond even when not specified.

END OF RECOMMENDATION

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4.09 - Liquidated Damages

Last Update: April 2006

THE ISSUE

A liquidated damages clause may be inserted into a construction contract by an Owner in an effort to establish the value of damages that may be incurred by the Owner should the project not be completed on time.

The presence of liquidated damages in a construction contract influences the interaction of the Owner, Architect and Contractor and how the contract is administered.

DISCUSSION

There are many decisions to be made when reviewing and drafting an appropriate liquidated damages clause. The following items should be discussed with all parties:

- What are liquidated damages and their purpose
- How do current applicable laws view liquidated damages and penalties
- How are liquidated damages addressed contractually
- What is the difference between liquidated damages and penalties
- How are liquidated damages calculated
- How are liquidated damages enforced
- How do liquidated damages influence the A/E Design team
- How do liquidated damages influence the overall project team dynamics and interaction
- When should they be applied or avoided
- Is a bonus clause appropriate and if so, how should it be structured and implemented

A liquidated damages provision in the construction contract generally provides for the payment of money for damages to the Owner in the event of late completion of the work. It is used to indicate damages that are agreed to or settled in advance. Usually a statement is drawn up as to the urgency involved and the amount of liquidated damages the Contractor shall pay to the Owner for each and every day the work remains substantially incomplete.

The purpose of the liquidated damages clause is primarily used as a means of avoiding litigation by settling, in advance, on an agreed figure to be used in computing damages for delay in performance beyond the scheduled completion date.

It is important that the amount of liquidated damages stated and agreed should be a realistic estimate of the real and actual damages the Owner would suffer from delayed completion. One defense against payment is a claim that they are not representative of actual damages suffered and interpreted therefore as a penalty.

Before an amount for liquidated damages is prescribed in a contract agreement, the Owner should carefully estimate the amount of actual damages per day the Owner would suffer in the event of delays in completion of the work. A record of this should be kept as evidence should it be needed later. If liquidated damages are exorbitant, courts may construe them as punitive and therefore be deemed as a penalty and unenforceable. The most common type of provision is one embodying a specified dollar amount to be assessed for each day of delay in achieving substantial completion of the construction.

Damages are generally "uncertain" in nature. The justification underlying a liquidated damage clause is that it is a realistic attempt to quantify in advance these uncertain damages.

Projects vary in the degree of importance the Owner attaches to the completion date. When liquidated

damages are specified, the Contractor may increase his contract price to either provide for the additional cost of manpower and expedited materials or to pay liquidated damages if late in delivery of the project. Consideration should be given to the fact that the Contractor is most likely already absorbing additional overhead costs.

Although the damages are supposed to be based on the Owner's estimated damages, the amount selected is more likely determined by what the Owner believes is necessary to make it more economical for the Contractor to perform on time than to delay and pay damages.

Some feel that liquidated damages are not necessary because the costs of financing and general conditions carried by a Contractor are sufficient incentive to finish the work as rapidly as possible. Some of the consideration that must be made is whether the Contractor has a significant track record of completing projects on time and if the Contractor is doing a significant part of the work with his own forces. This would apply less to a General Contractor with almost all the work done by Subcontractors. The contract type should be considered in deciding on the inclusion of liquidated damages. They should not be included without good reason and cause, if only because it is probable that the presence of liquidated damages will cause bidding contactors to calculate the risk of having to pay them and to include an allowance for this risk in their estimate and bid.

Careful consideration should be given to the damage waiver provisions which may be found elsewhere in the contract documents, when considering whether to insert a liquidated damages provision.

A bonus is a monetary reward for early completion. Sometimes liquidated damages clauses are joined with bonus clauses. Such combinations mean the Contractor loses a designated amount for each day of unexcused delay but gains a designated daily bonus if it completes the project in advance of the completion date. While enforceability does not require a bonus clause, attaching a bonus to a liquidated damages clause is desirable. It may also assist in enforcing the liquidated damages clause as it appears to have a mutual attractiveness. Its use may also make it appear that the amount has actually been bargained by Contractor and Owner. The principal determination of whether an effective incentive bonus clause is used should be based upon the importance of obtaining substantial completion in advance of the contract completion date.

Most construction contracts define completion for liquidated damages as substantial completion. The method for collection of liquidated damages should be spelled out. Liquidated damage clauses may give the Owner the right to deduct the amount specified from the final payment or any retainage. In the absence of this provision, the Contractor might be entitled to get paid and the Owner would have to pursue its claim for liquidated damages in a separate action. Other contract forms allow the Owner to begin withholding liquidated damages even from interim payments, if the Owner and Architect act together and believe that the liquidated damages may exceed the contract balance which otherwise would be earned by the Contractor.

If reasonable liquidated damages are specified, they will be enforceable in the event of a dispute. The General Contractor should consider referencing the liquidated damages in subcontracts and purchase contracts. Courts may not enforce liquidated damages against a Contractor where the Owner interfered with the Contractor's progress or otherwise delayed the Contractor.

1. Liquidated damages give the incentive for timely completion of the work by the Contractor and helps bring closure to the project for the owner.

2. Liquidated damages provide a much easier way to solve the amount in question and establishes a clear determination of reasonable damages, rather than being a penalty.

The future of construction is bringing new delivery methods, partnering and continuous open communications, which are proving successful in reducing disputes, claims and litigation. Many groups now consider liquidated damages as unnecessary in certain cases. New agreements speak to the importance of leadership and trust. These attributes are important for overcoming the adversarial relations that tend to breed most claims.

The best alternative is to include provisions for payment to an Owner by the Contractor for delay in completion and to negotiate such provisions, along with other key issues of the entire construction contract.

RECOMMENDATIONS

- Liquidated damages should be utilized only after full consideration of the options, responsibilities and the factors discussed above.
- Liquidated damages should be estimated early and included in the bid documents, and based on a reasonable estimate of actual damages to not be deemed a penalty.
- A record should be kept of such determination of damages.
- Evaluate the importance the Owner attaches to the completion date.
- Review current applicable laws regarding liquidated damages and consult with legal counsel as needed.
- Consider the relationships, delivery methods, types of contract and how other damages may influence whether liquidated damages are needed.
- Seriously consider bonus clauses when it is desired to obtain increased performance.
- Consideration should be given to incorporating liquidated damages in subcontracts, significant purchase orders and contracts.
- The Owner and Design Professionals should be cautioned not to actively interfere with the Contractor's progress of the work. This may cause a delay and prevent enforceability of a liquidated damages provision.
- Establish clear dates for the start and completion of the project.
- Consider milestone or phasing requirement dates if the project warrants them.

END OF RECOMMENDATION

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5.01 - OWNER'S PROJECT REPRESENTATIVE

Last Update: September 1996

THE ISSUE

Definition and function of the Owner's Project Representative; Relation to Architect, to Contractor; The Representative's authority and limitations; The Project Representative's log.

DISCUSSION

The Owner's Project Representative is that entity designated by the Owner who is authorized to act in the Owner's behalf with respect to the design and construction of the Project, and to represent the Owner's interests to the Architect in the ongoing decision-making process involved in the building project.

Building Project design and construction requires a constant stream of decisions by the Owner. While the basis of decisions may derive from various sources within the Owner's organization, a single Project Representative coordinates the decisions, expedites the progress of the Architect's services, and facilitates the construction process. Designation of that single Project Representative should occur prior to the design phase; but should that not be so, Architect should insist on appointment of that Representative prior to the start of the construction phase.

Time is critical to all construction projects. Consequently, the expediting of Owner's decisions, authorizations, contract progress payments, approval of materials and color selections, change order processing, and the many other decisions which require prompt action. Also, final approval and acceptance of the Project at Substantial Completion are simplified when there is a single representative for the Owner who is familiar with the entire history of the decision-making of the Project.

The entity representing the Owner should be designated in writing to the Architect and to the Contractor, stating the authority of the Representative, the extent of the decisions he is authorized to make, and the limits on that authority, such as the amount of additional costs he may authorize.

RECOMMENDATIONS

Owner should designate, in writing, a single Representative at the beginning of the Project programming and design, with his authority and limitations stated in writing to the Architect, and, at a proper time, a copy to the Contractor.

The Owner's Representative, under the restriction of corporate policy, should have the authority to make decisions affecting the programming, design, and construction, with authority to authorize payments and approve change orders.

The Owner, through his Representative, should give instructions to the Contractor only through the Architect.

The Architect and the Contractor in turn, should each designate a single Project Representative to the Owner and to each other, authorized in writing, stating the authority and restrictions on that entity's authority.

Each Representative should maintain a log of the decisions, with dates, throughout the design and construction of the Project.

END OF RECOMMENDATION

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5.02 - ESTABLISHING AND MAINTAINING CONTRACT COMPLETION DATES

Last Update: September 1996

THE ISSUE

Establishing and enforcing the construction completion date; Total Project schedules include document completion as well as construction; Establishing and enforcing a firm start of the construction date; Cooperation of all entities to maintain the construction schedule and completion; Legitimate extensions of time; The use of incentives and penalties. Definition of Substantial Completion

DISCUSSION

Interest, labor, and material cost escalation make on-time completion and occupancy of a building project a critical factor to the Owner, as discussed in AIA/AGC Recommendation 2.03 - Managing Cost Escalation and Material Shortage Problems. Seasonableness of business requirements, expiration of existing leases, and school opening dates, mandate the need for firm completion dates which can be relied upon. A total project schedule should designate the dates for completion of each phase of the design and contract documents production process as well as all start dates and all phases of the construction work. That may include foundation permit drawings, shell building documents, tenant work and other separate contract documents, installation of owner-provided equipment, and staged occupancy. The contractor must have authorization to proceed with Work by the established milestone dates, or the scope of work originally contemplated, or the completion dates, must be adjusted on an equitable basis.

Normally each bidder should be allowed to establish the construction time and completion dates in his proposal. When completion and occupancy dates are part of the criteria for determining the successful bidder, the bidding instructions should so inform the bidders and describe the basis of evaluation of the time differentials.

Construction progress requires the continuing cooperation of the Owner, Architect, and Contractor. The Contractor is responsible for establishing the progress schedule within the limits of the contracted construction times, with timely monitoring and updating controls, and adjustments to the detailed work schedules. The progress schedule should include the dates for receipt, and for return of, reviewed submittals (perhaps after consultation with the Architect), as discussed in AIA/AGC Recommendation 5.04 - Construction Submittals Procedures, and Contractor and Architect should make all efforts to achieve the agreed-on submittal and return dates. Throughout construction, Contractor must provide the management tools to maintain progress:

- An initial schedule of major items of work showing significant milestones.
- A comprehensive schedule of the construction sequences and time frames.
- A scheduled priority of submittal, and review of, shop drawings, product data, samples, and other submittals.
- Periodic progress review with subcontractors and suppliers.

Basic provisions for extensions of contract time are set forth in AIA General Conditions. Causes for extensions are inclement weather, catastrophic events, and other factors beyond Contractor's control. Those provisions require expansion in Supplementary Conditions to establish specific conditions applicable to a particular project. A requirement that Contractor submit a monthly progress report of the status of construction in relation to the approved progress schedule, with required monthly submittal of any request for any extension, is recommended.

AIA General conditions establish a 21 day limit after an occurrence to give notice for claims for extensions of time. Timely action is required of the Contractor to avoid problems with late claims; Also

Architect and Owner must act promptly on such claims to avoid loose ends in closing out the Project. Refer the flow chart for the various steps required in the claims process under AIA General Conditions, which is included in the Instruction Sheet of the A201 document.

AIA documents definition of Substantial Completion "... when the Work...is complete ...so Owner can occupy or utilize the Work for its intended use" may not be properly state requirements for a specific Project. Owner may need to execute certain special work, may have other needs for an uncompleted Work. Supplementary Conditions should modify Article 9.8 of AIA A201 to clearly define the Owner's intent and needs for occupancy.

Liquidated damages are sometimes specified to establish the extent of damage the Owner may claim for late completion of a Project. However, the absence of stated liquidated damages in the contract does not relieve Contractor from possible liability for actual damages, and actual damages may be far in excess of what otherwise may have been established as liquidated damages.

However, instead of penalties, a pro-active approach may well be preferable by providing incentives, both for attracting bidders, and for beneficial results. A bonus for early completion, or by a date certain, may well encourage the Contractor to exert special efforts in expediting the Work for the reward, than to avoid the negative penalties.

In either case, the Architect should resist stipulating unfair and unenforceable provisions which an over-zealous Owner may demand: Overly harsh prohibitions against any extension of time (No one can plan for catastrophic events); Establishing a fixed date for completion without a fixed start date; and otherwise making unwarranted demands of the Contractor. Such demands may well be the basis for voiding a contract which is so one-sided as to be deemed unenforceable.

RECOMMENDATIONS

When contract documents require CPM scheduling, specifications should include a dollar allowance for that service, or should specify detailed criteria for the critical path schedule and updating requirements.

When construction completion dates are established based on Owner's deadlines for occupancy, consultation with potential bidders will provide guidance in establishing reasonable and attainable completion dates.

When liquidated damages are specified, with a calendar completion date, the Contractor is entitled to a firm start for the construction date, which should be enforced.

- Contractor is responsible for developing and maintaining a detailed construction progress schedule with timely revisions during work progress.
- Architect should specify, and Contractor schedule and enforce, an early date for submittals requiring Architect's approval, as discussed in AIA/AGC Recommendation 5.04 - Construction Submittals Procedures.

Contractor should hold regularly scheduled meetings of team members to review progress of the Work, as discussed in AIA/AGC Recommendation 5.03 - Construction Project Meetings.

Contract Documents should establish procedures for extensions of completion time under various critical circumstances.

Claims for extensions of time should be filed within time limits stated in Contract Documents, and should be acted on promptly by Architect and Owner.

While an Architect's decisions on extensions of time may be appealed, initial claims and action on claims should be kept current throughout the contract time.

Supplement Paragraph 9.8 of AIA A201 to clearly define a specific Owner's intent/need for occupancy at Substantial Completion.

When early completion and occupancy of project is of benefit to the Owner, a bonus for achieving early or on-time completion is more likely to produce extra effort of the Contractor rather than the converse effect of liquidated damages.

END OF RECOMMENDATION

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5.03 - CONSTRUCTION PROJECT MEETINGS

Last Update: January 1997

THE ISSUE

Types of project meetings; Purpose and necessity; Responsibility for conducting meetings; Legal implications and pitfalls of meetings; Unnecessary and unproductive meetings

DISCUSSION

Construction project meetings, attended by those directly Involved in matters on the agenda, are the means of coordination of the many details, procedures, and anticipated problems that arise on a complex construction project. Meetings should be scheduled in a timely manner related to the immediate items of concern: Types of meetings are:

Pre-Bid conferences: Conducted by Architect or Owner, should clarify questions of the bidders, and develop items that may require addenda.

Pre-Construction Conferences: Conducted after award of the Contract by Architect, Construction Manager, or Owner; Should finalize execution of documents, exchange basic submittals such as lists of subcontractors, establish job procedures, progress meetings and schedules, including procedures for submittals and progress payments as discussed in AIA/AGC Recommendation 4.06 - Cash Flow Considerations on Construction Projects. The specific representative, and responsibility, of each entity - Owner, Architect, Construction Manager, Contractor, and major subcontractors - should be established in writing, as discussed in Recommendation 5.01 - Owner's Project Representative.

Site Mobilization Conferences: Conducted by Architect, Construction Manger, or Owner, should establish the use of the premises by Owner and Contractor, responsibilities for temporary and use of facilities and other items provided by Owner, and security and housekeeping procedures.

Progress Meetings: Conducted by Contractor, or Construction Manager on multiple contract Work, at stated intervals, should review required progress of the Work, identify problems, consider RFIs (Request for Information), review submittals schedules, requests for substitutions, and applications for payment, plan for any necessary corrective measures to regain projected schedules, and to review Change Orders.

Pre-Installation Conferences: Conducted by Contractor as required by individual specification sections, should review conditions of installations, preparation and installation procedures, and coordination with related work.

Under principles stated in AIA General Conditions, Progress and Pre-Installation conferences are the basic responsibility of Contractor in conducting his own operations, but in fact many of the topics considered at those conferences fall under considerations that are the significant concern of the Architect or Construction Manager. Specialties such as soils preparations, roofing, and special equipment, may fall under the expertise of certain consultants, who will take the lead in discussing technical and procedural concerns.

Such meetings, specified under proper procedures stated in Division 1, properly organized and conducted, give participants in the construction process the opportunity to become acquainted with others with whom they work. They provide necessary information in a timely manner, with the opportunity for clarifying discussions, and establishing deadlines for specific actions. A discussion of RFIs and proposed Addenda provide the opportunity to clarify the intent and coordination to clarify the purpose of the addenda, affect on schedules, and relation to other trades involved.

On the other hand, unplanned, non-productive meetings, held only as a formality, require Architects, Owners,

Contractors, subcontractors, and suppliers to spend countless wasted hours (i.e., pre-bid conferences held before bidders have had time to acquaint themselves with the Bid Documents). Further, meetings in which discussion may modify the obligations of parties to the contract can have serious legal consequences if interpretations of the verbal discussions are considered and given effect by the courts.

The entity in charge of arranging and conducting meetings should prepare an agenda (preferably sent to attendees beforehand), to assure that all agenda items are resolved during the meeting, and see that minutes summarizing decisions are sent to all participants and affected entities. However, participants should keep detailed notes, review the distributed minutes, and promptly raise any questions on items with which they may disagree.

RECOMMENDATIONS

The size and complexity of the project, the types of contracts, whether single or multiple contract, fast-track, design-build, or other, should determine requirements for specifying the number and timing of meetings. Consultation with a contractor experienced in the type, complexity, and scale of the Work will be beneficial in establishing such requirements.

The Project Manual should specify procedural requirements for meetings only once, in Division 1 of the project specifications, then expand on more detailed requirements in individual sections of Divisions 2 - 16, with a cross reference back to the Division 1 section for basic requirements.

- Progress meetings and pre-installation conferences are the contractor's sole responsibility in performing his contractual obligations. While the Architect may be the proponent of specific items on a meeting agenda, he should never conduct such meetings, nor act in a manner to encroach on the Contractor's authority.
- After consent of each entity, it is advisable to tape record meetings which have potential legal consequences, particularly where the obligations of the entities are modified, or may be interpreted to be modified, by the discussions.

Minutes of the meetings, summarizing decisions made at the meeting, should be prepared by the entity in charge and distributed to all attendees and other affected entities, for the record. Each recipient should promptly review the minutes, and any questions on the recorded decisions should be promptly resolved.

END OF RECOMMENDATION

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5.04 - CONSTRUCTION SUBMITTALS PROCEDURES

Last Update: March 2017

THE ISSUE

Purpose of submittals; Types of submittals required by Contract Documents; Contractor's responsibilities for scheduling submittals; Responsibility for compliance with Contract Documents, for accuracy, and for coordination with other submittals; Architects' responsibilities for processing submittals; Owner's submittals.

DISCUSSION

The Contractor's submittals are not Contract Documents. Each submittal demonstrates how one aspect of the work will satisfy the Contract Documents. These submittals complete the information cycle between Architect's documents and the actual construction. Submittals are communications to the Architect illustrating the Contractor's intent for complying with specific items of Contract Documents. Some submittals provide for Architect's selection of textures and colors, and coordination of design items. Submittals fall under two categories:

1. Those which establish construction intent, and which require Architect's response, examples may include but are not limited to:

   Preliminary:
   - Construction Schedules
   - List of Subcontractors
   - List of products

   Construction: Shop Drawings
   - Product Data
   - Samples
   - Mockups

2. Delegated design submittals are certified by a registered professional or engineer for information or for record purposes and require the Architect’s review, examples include:

   - Precast Concrete Components
   - Pre-engineered metal Buildings
   - Prefabricated trusses
   - Fire Sprinkler and Alarm Systems
   - Manufactured Aluminum Canopies

3. Other submittals are informational, for record purposes, and do not require Architect’s response:

   Quality Control:
   - Design Data
   - Test Reports
   - Manufacturer’s Instructions
   - Manufacturer’s Field Reports
   - Manufacturer’s Certificates
   - Contractor’s Certifications (No hazardous substances, etc.)

   Closeout:
   - Record Documents
   - Operating and Maintenance Manuals
   - Spare Parts and Maintenance Materials
   - Service and Maintenance Agreements

The Contractor is responsible for the scheduling, preparation, and transmittal of required submittals, and for compliance with requirements of Contract Documents (Refer to Recommendation 5.05 for a discussion of substitutions). In actual practice most submittals relating to products, fabrication, and installation are prepared by subcontractors and suppliers; however Contractor is responsible for reviewing and coordinating all such submittals and for their compliance with contract requirements. Further, Contractor should provide written notification regarding any information in the submittal which does not conform to contract requirements. Architect's review of a submittal does not relieve the Contractor from responsibility for a deviation from the Contract Documents unless the Contractor has given specific notice in writing and Architect has given specific approval in writing.

Except for informational items, Architect is responsible for reviewing submittals for conformance with requirements of Contract Documents, for taking appropriate action, and for return to Contractor within the scheduled time. Architect is also responsible for coordinating the content of submittal responses processed by his Professional Consultants with other related submittals.

While most Architects tend to avoid the term "Approved" on submittals, the Owner, Contractor, and the courts may well interpret the architect's action as approval. Under AIA documents, that approval is a limited one; contractually, the approval is only for conformance with the design concept of the Project and with the information given in the contract documents. Approval does not extend to shop fabrication processes, field construction techniques, field measurements or quantities, or for coordination of the trades and their work. The wording of Architect's consultants' response and that of the Architect's should be identical.

The scheduling of and prompt submittal and processing of submittals are critical to Work progress and completion, as discussed in AIA/AGC Recommendation 5.02 - Establishing and Maintaining Contract Completion Dates. Contractor-subcontractor agreements should schedule subcontractor's submittals providing due time for Contractor's review and coordination prior to submittal to Architect. Contractor's progress schedule should list dates for delivery of each submittal to Architect and, with due allowance of time for Architect's review (timeframe must align with the Architect's contract), the date for action and return to Contractor. The schedule should identify early submittal (example: 15 days after date of the Agreement) for products listings and requests for substitutions and the Contractor should coordinate the times for delivery of interrelated submittals, such as multiple samples required for selection of color and texture, and those of related design concern for Architect's coordination. Submittal of delegated design documents must allow for the design team's review prior to submittal for required permits.

Approval by all parties of the submittal schedule commits Architect, his consultants, and Contractor, to compliance with the scheduled submittal dates. Architect and the Contractor should maintain a detailed log of submittals and return, both to assure that all submittals are made and returned on schedule and to track the progress of review in the architect's office and the status of review by his consultants.

Owner's submittals: When the Owner provides services or products for the project, which are to be incorporated into the Work, Owner should also provide submittals for the Architect's review, coordination with requirements of Contract Documents, and transmittal to Contractor for his information. Contractor should include in his progress schedule the dates that he requires such information from the Owner, as well as the delivery dates a product is required, and should review Owner's product submittals, received from Architect, for coordination with the Contractor's Work.

RECOMMENDATIONS

The Contractor's progress schedule should commit subcontractors and suppliers to transmittal of submittals within the scheduled time frame, and the contractor's agreement with subcontractors should stipulate the required submittal dates, allowing time for Contractor's review prior to submittal to Architect.

The Contractor is required to review and approve submittals, including coordination with related work, before transmittal to Architect.

The Contractor should designate in his transmittal to Architect any known deviations from contract requirements which may appear in submittals.

The Contractor's transmittal letter should identify each submittal by its specific location in the Contract Documents by referencing to the applicable sheet number to the specific detail on drawings and to the specification section number and the specific item in that section.

When the Architect receives a submittal without a stamp or other notation indicating Contractor's review and approval or indication of substitutions without prior approval, the Architect should return the item for resubmittal, with no action taken.

When the Owner provides services or products for the Project, Owner should similarly make submittals for Architect's and Contractor's review, and for coordination with other work.

The products and/or services provided by the Owner during construction should be included in the project construction schedule and coordinated with established milestone dates for submittal, delivery and installation.

The architect should review and respond to all submittals in a timely manner to avoid delaying the project.

The timely processing of re-submittals by all parties is critical in avoiding project delays.

END OF RECOMMENDATION

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5.04.1 - SHOP DRAWINGS

Last Update: March 2017

THE ISSUE

Definition: Responsibilities of the several entities involved in contract administration for producing and processing shop drawings.

DISCUSSION

Under definitions of AIA General Conditions, shop drawings are drawings, diagrams, schedules, and other data specially prepared for the Project by the Contractor or by a subcontractor, sub-subcontractor, manufacturer, supplier or distributor, to illustrate one portion of the Work. As discussed in AIA/AGC Recommendation 5.04 - Construction Submittals Procedures, shop drawings are not Contract Documents, but demonstrate how the Contractor proposes to execute a specific portion of the Work.

Contractor is responsible for the accuracy of shop drawings, for compliance with requirements of Contract Documents, for field measurements, for quantities, for coordination with other trades which are a part of his contract, and for compliance with requirements of the Contract Documents. Contractor's review and stamp of approval for that compliance, is a mandatory requirement of the submittal process.

The number of copies of shop drawing submittals required is specified in Division 1 under "Submittals"; either by the actual number required, or by a provisions that the number be that required by Contractor plus the specified number to be retained by the Architect for his records, his consultants, and for the Owner's records. Alternatively specifications may require that the shop drawings be submitted in the form of one reproducible transparency and one opaque print. Contractor is responsible for reproducing the marked-up transparency and distribution to subcontractors, suppliers, and other concerned entities.

Processing of shop drawings can be a major burden on the Architect, the Contractor, and on construction progress. Contractor should expedite his submittals by scheduling - and insisting on - early submittals from subcontractors and suppliers, close attention to review, to content, to compliance with Contract Documents. Architect should expedite his review of shop drawings by knowledgeable personnel, and resolve any questions by direct communication with Contractor. When only a few details of lesser importance require resubmittal, the submittal should be accepted with stipulated exceptions to be confirmed later, in order to expedite the construction progress.

RECOMMENDATIONS

Contractor is responsible for compliance with Contract Documents, for details of shop drawings, including field measurements, quantities, and coordination among subcontractors and suppliers.

Architect’s review of shop drawing should be limited to responsibilities stated in Contract Documents.

Architect's review of shop drawings, under definitions of AIA General Conditions, is only for conformance with the design concept of the project and for the information given in the Contract Documents. Architect should monitor his consultants' review to assure that they adhere strictly to that principle.

Experience indicates that problems in the Architect's services which results in liability claims lie to a great extent in review of shop drawings. The Architect's staff member responsible for reviewing shop drawings should be a person who is thoroughly familiar with requirements of the Contract Documents and with all details of the Project.

END OF RECOMMENDATION

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5.04.2 - PRODUCT DATA

Last Update: March 2017

THE ISSUE

Definition; Responsibilities of the several entities involved in a contract for processing product data.

DISCUSSION

Under definitions in AIA General Conditions product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the work. As discussed in AIA/AGC Recommendation 5.04 - Construction Submittals Procedures, product data are not Contract Documents, but demonstrate how the Contractor proposes to execute some specific portion of the Work.

Since Product Data often consists of a manufacturer's printed literature with numerous pages, perhaps illustrate a number of products with a listing of model numbers and data. To avoid confusion, it is critical that each submittal consist only of the page or pages illustrating the specific product, and that each product and data proposed for the project be clearly identified by special markings. Printed pages which illustrate color or texture of a product should be submitted in the original rather than as copies.

The number of product data submittals required is specified in Division 1 under "Submittals"; either by the actual number required, or by a provision that the number of copies be that required by the Contractor for his use plus the specified number to be retained by the Architect for his records, his consultant's use, and for the Owner's records.

The Architect's review of product data is only for conformance with the design concept of the project and for the information given in the Contract Documents. Design selection and coordination of colors and textures are discussed under AIA/AGC Recommendation 5.04.3 - Samples.

RECOMMENDATIONS

The Contractor is responsible for compliance of product data with requirements of Contract Documents.

The Contractor is responsible for the accuracy of product data, for clear identification of the specific product by reference to the Specification section and item, for compliance with field conditions, for coordination with other portions of the Project, and for coordination among the various subcontractors and suppliers.

The Architect's review of product data is only for conformance with the design concept of the project and for the information given in the Contract Documents.

END OF RECOMMENDATION

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5.04.3 - SAMPLES

Last Update: March 2017

THE ISSUE

Definition: The responsibilities of the several entities involved in contract administration for producing and processing samples; recommended procedures for making coordinated color/materials selections; Field samples and mockups.

DISCUSSION

Under AIA General Conditions, samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged. They illustrate forms, colors, and textures. They are needed to supplement information on shop drawings and product data for the Architect's verification of compliance with Contract Documents as stated in AIA/AGC Recommendation 5.04 - Construction Submittals Procedures, and to coordinate selection of colors and finishes with related materials.

Each section of Specifications should designate those products which require submission of samples. Where possible, the actual color and texture of a product should be specified. A particular color or texture of a product may be a premium cost item, and the Contractor should have that information when bidding the Project. When such detail cannot be named, specifications should designate, for pricing purposes, whether the required selection will be from manufacture's standard, or from a premium range, of selections. Each sample should be identified by the reference to the project specification section, and to the specific item in the section.

For coordination purposes, the Contractor should submit at one time, all samples which require selection of color or texture, each properly identified. The samples should be actual samples of the product, not reproductions, and of a size large enough to provide an adequate demonstration of the finished product. Samples should demonstrate the full range of colors and textures of the product, especially for natural materials.

The Architect, within the time stipulated in the progress schedule, should transmit to the Contractor a complete finish schedule based on the submitted samples. This will identify the specific use, location, product identification, and color and texture selected for each material.

Field samples installed or applied at the site during construction, provide to the Architect and Owner an opportunity for final decisions on color, texture, and scale, under the actual lighting and conditions of use.

Mockups, while physically are not 'submittals' per se, are full size field samples of erected assemblies required for review of construction, coordination of the work of several sections of specifications, for testing, or for observance of operation. Specifications should designate the testing or operation to be performed on the mockup in the section specifying the product

RECOMMENDATIONS

Each specification section should identify products which require submittal of samples, with a specific color and texture identification when possible, or a designation of standard or premium color or finish for bidding purposes.

Contractor should provide a schedule to subcontractors and suppliers listing the submittal dates for each item, gather all samples in one packet, and submit to Architect in one transmittal for coordinated consideration.

Architect should make final selections, obtain Owner's approval, prepare a complete finish schedule in

detail, and transmit to Contractor within the scheduled time under the construction progress schedule.

END OF RECOMMENDATION

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5.04.4 - ELECTRONIC SUBMITTALS

Last Update: March 2017

THE ISSUE

Review the practical, legal, and economic issues involved with electronic data transfer, specifically construction submittals and record documents; and address file transfer protocols and electronic document review procedures.

DISCUSSION

Electronic data transmission is quickly becoming a standard in the AEC industry. Many firms have utilized the computer for document preparation, design, project management, accounting and business development. Electronic document transfer, specifically construction submittals, closeout documents and record documents, can help design teams keep up with the complexity and fluidity of the modern construction project. The traditional practice of submittal transmission and review - hand-delivery of multiple printed paper copies - is fast becoming antiquated, time consuming, expensive, wasteful and unnecessarily risky. The process of sharing paper copies has not kept up with current delivery process requirements, methods of documentation, project location and scheduling demands and sustainability issues. A fully paperless practice may be a distant reality; however the reduction in the use of paper and its subsequent storage requirements has extensive economic and sustainable advantages.

Unfortunately, many design professionals and contractors may not have the facilities or resources to develop and transfer submittals electronically. A hybrid process which allows for the conversion of paper copy to electronic copy and back to paper copy may be the interim solution. If so, then it is recommended that the party responsible for the conversion process, either the Contractor or Architect, be designated early in the process to alleviate any confusion later.

Recent times have seen the use of large format scanners and copiers to expedite the review process. The Architect only has to review and annotate one copy, from which numerous copies can be made for distribution to the subcontractors and vendors. Not only does this prevent waste and save time, fuel and manpower resources, it alleviates the potential for transcription and typographical errors; a risk that is unavoidable when annotating multiple copies by hand.

The ideal situation would be for all document transfers to be made electronically. However, this hybrid process will most likely be the norm for the time being while the industry catches up to the technology. Condensing the information electronically to a format that can be easily transferred back and forth between team members is the logical evolutionary step. However, being aware of the legal and copyright implications of using electronic documents is crucial. For more discussion on this matter, refer to the AIA/AGC *Recommended Practices* document 1.11 - Electronic Construction Documents.

Standard business tools, like email and File Transfer Protocol (FTP) sites, have been widely utilized for the electronic transfer of files over the past several years; however, maintaining security of confidential data can be a problem with these types of technologies. New Web-based project management software addresses these concerns, allowing for optimal utilization of real-time access and instantaneous delivery, and for redundant and concurrent review procedures. They also alleviate the wasted effort and manpower, and address sustainability issues such as wasted paper and resources typically associated with normal review procedures. These technologies also address current trends towards abbreviated and fast-tracked construction schedules by allowing for quicker submittal transfer and reproduction turn-around times. The increasing use of Building Information Modeling (BIM) foreshadows the need for integrated documentation procedures and cross-platform software development.

Knowledge of (and experience with) the myriad issues involved with electronic submittals can reduce exposure to misuse and mismanagement of the documents. One should be cautious of using electronic data transfer without reviewing the issues with the other team members. In fact, Section 1.6 of American

Institute of Architects (AIA) A201-2007, *General Conditions of the Contract,* requires the parties "endeavor to establish necessary protocols governing such transmissions." This means answering several questions:

- Who will be the administrator of the information?
- What file format will be used?
- How and where will the data eventually be archived?
- How will the graphic quality, resolution and representation of the original document be maintained?
- How long does the data need to be kept, and what is the most advantageous storage media for the particular requirements?
- How is the data kept safe?
- How is the network kept safe?

Typically, Portable Document Format (PDF) files are used for file transfer within email. The most commonly used system is Adobe Acrobat (www.adobe.com). These files have limited editing, copying and printing capabilities. As an alternative to Adobe Acrobat, Bluebeam Revu ® (www.bluebeam.com) provides similar features to Acrobat with an expanded ability to review, edit, and annotate large scale CAD documents. It includes mark-up features, as does Acrobat, but has enhanced FTP and email capabilities with specialized security features developed to protect CAD drawings. It also has PDF scaling features, bookmarking features, is text searchable, and has wider cross-platform support of other types of documents like Tiff, JPG, GIF, BMP and DWF.

Besides email, an FTP site is often utilized as a simple solution to enable the electronic exchange of business information and data. An FTP site allows users real-time access to each others files by setting up a virtual mailbox through which files are shared. FTP sites are typically password protected. Basic FTP can be a practical and viable method to transfer files if the data being transported is not critical, has no requirement for security and is not considered high risk. However, basic FTP itself is a weak link in the process of transferring confidential data due to its inherent lack of security and data management.

The original specification of the FTP protocol included minimal, if any, security. As FTP protocol use has increased and the Internet has evolved and become more accessible, the security limitations of FTP have been exposed. For example, the standard FTP specification does not include the use of strong authentication, such as encrypted passwords or authentication tokens. Sending the login credentials in clear text allows cyber-thieves to hack login information, which can then be used to gain unauthorized access to data. Even worse, the standard FTP does not encrypt the connection that files and data are being transferred over, nor does it encrypt the files being transferred. Unencrypted file transfer, which can potentially allow a cyber attack and unauthorized viewing of data either during transmission or in storage on the server, has become a huge privacy concern today.

Being aware of the legal and copyright implications of using electronic documents is crucial and should be fully explored as they relate to each individual and project. Maintaining security of confidential data has been problematic. Electronic transmissions are NOT private. Courts have ruled that e-mail is an inherently public means of communication in which users lack any reasonable expectation of privacy. To meet the legal requirements of contractual compliance, data must be managed throughout the file transfer process. Businesses must sufficiently protect information from harm, whether health or financial records, customer accounts, or intellectual property (*e.g.* shop or design drawings). Audit trails that prove the safe management and secure movement of information are now a requirement of auditors. Due to its lack of strong security, data management, monitoring and process control, standard FTP is not enough in such environments.

There are information management software options that are specifically designed to overcome the problems with web-based file exchange for the construction industry. These software options help secure and increase the reliability of data transfer while providing encrypted data, file management and project monitoring, date stamping, tracking and searching and project email management: Attolist (www.attolist.com), Newforma (www.newforma.com) and Submittal Exchange

(www.submittalexchange.com) are AEC-directed programs which assist in the entire design and construction administration phases of a project but more geared from the design professional point-of-view. Autodesk (www.autodesk.com) has a plethora of view-on-demand project management, design management and information management tools, like Buzzsaw and Constructware which standardize, optimize and centralize information storage, retrieval and collaboration during design, bid, construction and facility management. Since they are on-demand collaborative project management tools, there is no software to install and collaborating with project participants outside your firewall is secure and within your control. On the other hand, programs like Prolog Manager are collaboration software and are installed in-house. Prolog delivers in-depth project management tools in the areas of: collaboration, purchasing management, cost control, document management and field administration. Constructware and Prolog are contractor-oriented project management programs which emphasize communication, scheduling and costs as opposed to the design-oriented programs which emphasize document viewing and annotation.

Regardless of which file transfer method is utilized, efficient document download and review procedures becomes imperative. Improper procedures could render the entire process futile. The Architect and Contractor have several options which should be determined at the beginning of the project. Choosing which option to utilize would be based on individual preference, scanning and printing capabilities, size of document and software sophistication.

Most cost effective, the Architect would review the information directly from his PC making annotations directly on the electronic document without altering the original data. They could then return it to the Contractor without producing a single paper copy. Files can be saved and archived with minimal effort. Less economical, but just as effective, the Architect could print the document, mark it up, scan it and return it electronically to the Contractor. The Contractor would then distribute the documents either electronically or printed as a hard paper copy, however, excessive printing will tend to negate the positive aspects of a paperless communication process.

Limiting the size of the electronic document, by either limiting the original paper size or limiting the actual file size is imperative and will need to be assessed in regards to hardware and software capabilities. Also, specifying a minimum resolution will be required to produce legible documents. Newspaper photographs are scanned at a resolution of about 85 lines per inch (lpi) grayscale which is equal to about 150 to 170 dots per inch (dpi), so 200 dpi to 300 dpi should be fine for transferring submittals where printing and rescanning may be required. High resolution photography and line art images may require 600 dpi, but may create files too large for electronic file sharing.

One other potential problem with electronic review may be that with hand mark ups you can always tell the different authors and what changes were made. You cannot do that as readily in electronic documents without the use of an encrypted signature or watermark. A system for initialing and tracking each revision may be necessary to implement in order to keep a running track of successive changes. Digital signatures provide assurance not only that information was encrypted but also that the sender is who he or she claims to be and that the message has not been altered in transit. Each electronic transmission should contain a coversheet or transmittal that has an electronic signature or watermark embedded in the document to prove its authenticity. Individual digital signatures that offer personal and corporate identity and authentication are available from online providers. (www.verisign.com).

Large shop drawing packages which require extensive coordination with other drawings, such as structural steel, casework, curtainwall or engineering submittals may need to be completely printed before they are able to be reviewed and properly coordinated. These large packages may even need to be submitted conventionally as paper copies to alleviate some of the more problematic issues which must be overcome with transferring large scale document files electronically. It may take some practice and training to review drawings on a computer monitor that were meant to be viewed full size. Younger professionals are coming into the industry with these new tech-savvy skills and are more comfortable with these new tools. If printing is the chosen method, then the party responsible for the cost of printing should be determined during the contract period.

It is also important to note that closeout documents, such as the Operations and Maintenance manual and record documents could be submitted electronically to the design professional as well. However, documents that require an actual hand signature or which are required to be notarized, such as warrantees, bonds and affidavits should be hand delivered. Lastly, actual samples and color charts should be submitted conventionally since photo-reproductions of samples and color charts may appear different on the computer and will not give a reliable representation of the material, color, texture or patterns.

It is also important to note that a transmittal will need to be attached to the electronic submittals in whichever format it is delivered. The transmittal should contain an identifying mark or authentication code for each transmission for tracking purposes.

RECOMMENDATIONS

The decision to use electronic submittals should not be made unilaterally by the Architect, Owner or Contractor. The decision should be made in collaboration with the project team with the ultimate goal delineated in the planning stages. If the goal is for the project to be delivered using integrated design and BIM, then requirements for 3-dimensional shop drawings may be in order. All of this information must be included in the Division 01 "Submittal Procedures" section of the Project Manual.

If you choose to use an electronic submittal process, use it with the following in mind:

- Invest in a software package that provides a safe, secure, encrypted transfer platform if you are concerned about copywrited material flowing freely across the internet, otherwise set up a FTP site for "dumping" of documents
- Determine transferred file format, like PDF, and be consistent throughout the project
- It may be helpful and advantageous to submit one hard paper copy with each electronic copy
- It may be helpful to limit original size to 11x17 that can be easily printed, marked-up, scanned and returned
- Use electronic submittals for submission of Shop Drawings, Product Data, calculations and certifications only
- Use electronic submittals for LEED submittals
- Actual samples and color chart/chips should be submitted directly to the Architect
- Submit original warranties and notarized affidavits directly to the Architect
- Require transfer agreements and CAD waivers for use of CAD documents transferred electronically
- Turn-around times should be clearly agreed upon at the beginning of the project

END OF RECOMMENDATION

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5.05 - PRODUCT SUBSTITUTIONS

Last Update: March 2017

THE ISSUE

Contractor's options in selection of products; Provisions for consideration of substitution of products; Contractor's responsibilities in requesting substitute products; Architect's review of proposed substitutions.

DISCUSSION

The Contractor, under his Agreement with the Owner, is responsible for providing the completed construction in compliance with terms of the Contract Documents, including the use of the specific products required by the specifications. When the Contractor wishes to offer a substitute product, he must document the substitution for the Architect's consideration and approval, preferably within 15 days after the Contract time, and prior to making routine submittals for Architect's review.

The criteria for allowing, or limiting, the Contractor's choice of a product (not considered as substitutions) will vary from section to section of a set of specification. The options that an Architect provides for contractor's choice should be stated in the Contract Documents. CSI recommends specifying those options in Division 1 Section 01600; AIA suggests incorporating into the Supplementary Conditions Subparagraph 3.4.3. In either document, the Contractor's options are essentially the same:

For products specified by reference standards or by description only - Any product is acceptable that meets those standards or descriptions

For products specified by naming one or more manufacturers - Only those products of the manufacturers named and meeting the specifications are acceptable, and no options or substitutions are allowed.

For products specified by naming one or more manufacturers with a provision for consideration of substitutions - Contractor must submit a request for substitution for products of any manufacturer not named.

The Architects' conditions for consideration of requests for substitutions will vary from one Project to another, depending on office practice or on the Owner's requirements. Procedures for substitutions during the bidding period, whether allowed or not, should be stated in Instructions to Bidders by reference to that portion of the Project Manual governing substitutions. Specifications, cross referenced from Instructions to Bidders, should state the time after execution of the contract within which substitutions will be considered. Otherwise, substitutions should be allowed only when a product becomes unavailable through no fault of the Contractor. The time allowed should be established in consideration of the size and complexity of the Project. For small, simple projects, perhaps fifteen days should be allowed. A greater time may be required for more complex projects. Fast-track contracts may require yet a shorter time.

The Architect's decision in selecting a product is based on multiple criteria, including compliance with governing codes. Some criteria may be discerned by a person knowledgeable in construction products, some criteria are subjective, based on standards used in the Project design and known only to the Architect. When Contractor requests a substitution he is making a judgment on the appropriateness of the product based only on knowledge of the particular item specified. He becomes responsible for certifying that the substitute product will meet the standards of that originally specified.

The Architect must have complete data in assessing the suitability of the proposed product substitution. Substitutions will not be considered when they are indicated or implied only in shop drawings or product data submittals without a separate written request, or when acceptance will require revisions to Contract Documents.

The question of whether to consider substitutions during the biding period depend on the office practice of the Architect. During the bidding period the Architect is concerned with numbers of questions and time is often too limited to give full consideration to requests for substitutions. If allowed, approved substitutions should be listed in Addenda for the information of all bidders. Many Architects do not allow substitutions during bidding, and will consider substitutions only within the designated time after execution of the Contract.

The Architect should promptly consider the Contractor's documentation of the request for substitution and promptly respond in writing, either acceptance or rejection. Once a request for substitution is disallowed Contractor should provide the product originally specified, with no further requests allowed. Multiple repeated requests will only delay the construction process.

In order to avoid delays in progress of the Work, Architect should require submittal of a complete list of Products the Contractor proposes to use in the Project early in the construction process (within 15 (?) days of execution of the Owner-Contractor Agreement), and establish the same time limit for consideration of substitutions. Late requests for substitutions may well delay progress of the Work.

Contractor's certification of the suitability of a substitute product may well expose him to liabilities should the substitution lead to problems or failure. Contractors should seriously consider carrying insurance for protection against such exposure, since Contractor may be assuming some deign responsibility.

RECOMMENDATIONS

The use of terms such as "or equal" and "or approved equal" in Contract Documents without defining criteria, is discouraged. Use of such terms does not establish responsibility for assurances that the substitute product meets Project requirements.

Contractor is responsible for providing the specified product under the options stated. When a substitution is requested, Contractor is responsible for providing assurances that the product will be appropriate for the particular use.

Contractor's written request for a substitution should provide complete data for Architect's evaluation; The request constitutes a representation that the Bidder or Contractor:

- Has investigated the proposed product and determined that it meets or exceeds the quality level of the specified product.
- Will provide the same warranty for the substitution as for the specified product.
- Will coordinate installation and make changes to other work which may be required for the Work to be complete, with no additional cost to the Owner.
- Waives claims for additional costs or time extensions which may subsequently become apparent due to use of the substitution.
- Will reimburse Owner for review or redesign services associated with re-approval by building permit authorities.

When a subcontractor initiates and certifies a substitution, the subcontractor has the financial responsibility to warrant the product and its performance.

Contractor's review of proposed substitutions by subcontractors' and suppliers' submittals should verify that submitted products comply with the Contract documents, and that any variations from specified products be accompanied by a complete documented request for substitution.

The question of extra cost or credit to the contract Sum should not be a consideration in the basic question of an acceptable substitution of a product. A change in the Contract Sum becomes a Change Order

Contractor's offer of a substitute product in a submittal to Architect, without prior request and approval, should be returned to Contractor without review.

END OF RECOMMENDATION

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5.06 - TEMPORARY CONSTRUCTION FACILITIES AND SERVICES

Last Update: February 1997

THE ISSUE

Specifying temporary facilities; Contractor basic responsibilities on new Work; Responsibilities on Owner-occupied projects; Assignment to subcontractors; Specifying for multiple prime contracts.

DISCUSSION

Under AIA Documents, temporary facilities, controls and services required for construction are the Contractor's sole responsibilities. Types of temporary facilities and services that may be required are:

Facilities: Access roads, parking, field offices, storage, scaffolding, hoists, safety, fire protection, security, job signage, and cleaning.

Utilities: Electricity, water, heat, ventilation, telephone, and sanitary.

Controls: Security, enclosures, fencing, barriers, protection of work, environmental.

AIA General Conditions additionally require Contractor to comply with Federal, State, and local laws and regulations regarding safety, environment, storm water, and sanitation.

For single contract work at a new site with no special requirements, under AIA General Conditions the extent of the Contractor's minimal responsibility is clear. Basically, little further specifications are necessary except when Owner or Architect has specific requirements to be provided, or site conditions impose certain requirements to be provided. Temporary utilities and minimal office and storage requirements are common topics to be covered.

For work at an existing building, Contract Documents must define the extent of use of existing facilities, including payment for energy used, or the denial of use of existing facilities.

For an owner-occupied site, specifications may need to be quite detailed to define the separate responsibilities of each party occupying the site during construction. This can involve questions of responsibilities for provision of, and payment for, temporary electricity, telephones, water, cleanup, site safety, emergency exits, security, maintenance, environmental concerns, and similar considerations. The use of stairs, elevators, hoists, and chutes can be particularly thorny problems during Owner occupancy, and responsibilities assigned.

For multiple prime contract construction, specifications must clearly define the responsibilities and coordination requirements for each separate Prime Contractor by listing in the Division One Section on 'Coordination' the sections of Divisions One through Sixteen covering the topics of each Contractor's responsibilities. Generally, the provisions of certain basic broad-based requirements are assigned to the major Contractor, such as security, environment, site access, temporary office and storage, and utility services. Individual responsibilities are assigned to each separate Contractor, which relate to the specific needs of certain work, such as individual offices, storage facilities, and perhaps special service requirements and scaffolding.

Temporary facilities are specified in Division 1 for the General Contractor's assignment as he wishes; Architect should not attempt to assign temporary facilities to subcontract work. The Houston AGC-ASA (American Subcontractor Association) Joint Document on Temporary Site Facilities generally standardizes responsibilities of each entity, subject to individual project requirements. Some Architects are tempted to incorporate the AGC-ASA document into the Project Manual; however that encroaches on the Contractor's authority and is not

recommended, since it may expose the Architect to unnecessary claims.

RECOMMENDATIONS

Under AIA General Conditions, Contractor is solely responsible for temporary site facilities. Federal and local statutes govern minimum requirements for safety, sanitation, and environmental concerns.

When using AIA General Conditions, specifications for temporary job facilities at a virgin, unoccupied site should be minimal, only enough to cover unique Project or Owner requirements.

Specifications should not attempt to assign temporary construction facilities or services to a subcontractor, that is the Contractor's responsibility.

Contractor should clearly define and monitor temporary facilities provided by both his own forces and by subcontractors.

END OF RECOMMENDATION

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5.07 - PROJECT SAFETY

Last Update: February 1997

THE ISSUE

Responsibility for safety; Contractor's safety program; Compliance with HazCom requirements; Architect's responsibilities; Observing questionable conditions; Procedures after an accident.

DISCUSSION

AIA General Conditions require Contractor to comply with governing laws and regulations which, among other items, cover safety at the job site. The Federal HazCom requirements for reporting should be strictly complied with. Initiation, maintenance, and supervision of safety precautions are the sole responsibility of the Contractor.

Recent OSHA rulings also hold a CM responsible for construction safety, as discussed in AIA/AGC Recommendation 1.05 - Construction Management.

RECOMMENDATIONS

Architect should specifically avoid specifying safety requirements, or volunteering directions and instructions to Contractor, subcontractors, or crew members with respect to safety matters. The Architect may find that he has thereby assumed legal responsibility and may be held liable for an accident or injury.

Architect and his representative should specifically avoid giving directions or instructions which may be a factor in safety conditions.

Contractor should institute a safety program at the start of work, be constantly alert to safety problems and conditions at the site, and maintain a log of activities relating to safety programs. He should assure that others at the site comply strictly with safety program requirements. On large or complex projects, Contractor should assign that responsibility to one individual whose function is to assure safety at the project.

Contractor should refer to AGC publications for recommendations on site safety practices.

Contractor is responsible for complying with Federal HazCom requirements.

Contractor should require in written subcontracts that subcontractors provide Workmans' Compensation coverage.

An Architect or project representative who observes a questionable condition at the site should call it to the attention of the Contractor, but should make it clear it is the Contractor's sole responsibility to decide whether to correct the condition, and the method used to correct it. Professional liability insurance carriers recommend that Architect notify both Owner and Contractor in writing of uncorrected conditions he may observe.

In the event of an accident, generally the Architect should:

- If witness to an accident, report names and addresses of other witnesses, the time, location, and other observed conditions. Do not conduct an investigation.
- If learning of an accident when not present, inform the highest ranking Contractor's representative and ask if he is investigating the accident; note the name and response in a report of the facts.
- Report to responsible entities in writing, and in known detail, all known facts about the accident, being precise as to Architect's limitation of knowledge.
- In an emergency, do everything possible to safeguard human life, and after that, property.

Notify responsible entities as soon as possible.

END OF RECOMMENDATION

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5.08 - UNEXPECTED CONDITIONS

Last Update: March 1997

THE ISSUE

Definition of Unexpected Conditions; Conditions in new work, in existing work; Owner-provided information; Provision in Contract Documents for handling unexpected conditions.

DISCUSSION

The term Unexpected Conditions (also referred to as Concealed Conditions and as Differing Site Conditions) applies to site or project conditions encountered in the construction process which were not known to the Contractor at the time of bidding, or which could not have been anticipated by a Contractor familiar with local conditions and experienced in construction practices applicable to the Project. Weather delays, fire, and strikes, are a separate consideration, this discussion relates only to physical conditions at the site:

In new construction work the unexpected is normally encountered in underground conditions. Should the Project be located on a virgin site the only unknowns are geotechnical conditions not reported in soil tests, or archaeological artifacts. At a site with previous construction there may well be unexpected underground construction, utility lines, or environmental concerns.

In remodeling or renovation work, and additions to existing construction, any number of unexpected conditions may appear once the existing construction is opened in executing the new work.

Record documents from previous construction may be worthwhile tools in planning renovation work, but such documents are inherently prone to error, and the true facts should be verified by the Owner's on-site exploration, as discussed in AIA/AGC Recommendation 5.12.1 - Construction Record Documents.

Information on both of those conditions, as can be determined by the Owner, should be included in the Bidding Requirements as discussed in AIA/AGC Recommendation 3.03 - Information Provided to Bidder.

When unexpected conditions are encountered, documentation and timeliness of notification are critical. When there are contract provisions for dealing with unexpected conditions (as in AIA General Conditions) the time limitations should be followed precisely. The problems encountered should be promptly documented in writing and brought to Owner's and Architect's attention before the existing conditions are disturbed, and a prompt decision made as to disposition of the problem. When Owner requires Contractor to proceed without a decision on any extra costs, Contractor should promptly file a written claim for additional time and expense before beginning that work, as discussed in AIA/AGC Recommendation 5.11 - Changes in the Work.

Contract Documents should contain even-handed provisions for handling unexpected conditions, as in AIA A201, 4.3.6 - Concealed Conditions at an Owner's insistence some contract provisions may unfairly restrict the right to recovery (such as making Contractor responsible for the content of soil reports not available to him for bidding). Such harsh provisions only invite litigation. Attorneys advise that having no contract provision (other than those provided in standard printed documents) for dealing with unexpected conditions may be better than having unduly restrictive or harsh provisions.

RECOMMENDATIONS

Bidding Information should make available to Bidders all data about conditions as can reasonably be determined prior to bidding.

Contract Documents should make even-handed provisions for dealing with unexpected conditions.

When AIA General Conditions are not a part of the Contract Documents, include provisions such as those in AIA A201, Paragraph 4.3.6 in Supplementary Conditions

Contractor-Subcontractor agreements should make the same provisions as in the Owner-Contractor Agreement.

END OF RECOMMENDATION

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5.09 - HANDLING HAZARDOUS MATERIALS ENCOUNTERED IN CONSTRUCTION

Last Update: March 1997

THE ISSUE

Problems in handling hazardous materials encountered; Compliance with Federal HazCom requirements; AIA Documents provisions; Architect and Contractor responsibilities; Owner responsibilities; Delay of Work.

DISCUSSION

The problems of handling hazardous materials, specifically those such as asbestos (ABS), polychlorinated biphenyl (PCB), lead, and others listed by EPA, have been recognized for their hazards to human health only in relatively recent years. Such materials have long been used in the manufacture of various construction products, and have been incorporated into building and utility construction for years. Now that the hazards are known, those materials should be avoided in new construction. The problem of work in existing buildings remains, and the presence of hazardous materials may be largely unknown to Owners, to Architects, and to Contractors engaged in such work.

The Federal Government has established EPA and OSHA standards, regulations, and HazCom reporting procedures which specifically govern such hazardous materials in the workplace, including those in existing buildings. There is civil, and at times criminal, liability for failure to utilize proper safeguards and procedures in the handling of those materials encountered in renovations work. Owners, architects, and contractors must be acutely aware of the hazards and carefully comply with governing regulations.

AIA Contract Documents recognize those problems. Agreements Between Owner and Architect (B141, Paragraph 9.8) and in General Conditions (A201, Paragraph 10.1), specifically exclude Architect or Contractor responsibility for involvement with hazardous materials encountered, and establish procedures for handling such hazards should such hazards be encountered. Both the Architect and the Contractor must be knowledgeable in those provisions, and adhere strictly thereto. Federal HazCom reporting requirements must be strictly observed.

For work in existing building, it is the Owner's responsibility to deal with hazardous materials, known or potential. Information provided to Architect by Owner should include a survey for hazardous materials, provided from investigations of specialty consultants. Architect should include such information in Bid Documents as discussed in AIA/AGC Recommendation 3.03 - Information Provided to Bidders. When hazardous materials are identified, Owner is responsible, under governing regulations, for having them removed prior to the start of Work.

Even with such precautions there is the ever-present possibility that workmen on existing construction will encounter hazardous materials not previously identified. Contractor should train his personnel to recognize those conditions, stop work, and notify Contractor. Contractor should immediately stop all work in the affected area, and notify both the Owner and the Architect. Furthermore the Owner is responsible for notifying governing authorities, engaging responsible specialists to analyze the materials, and if indeed present, engaging specialty contractors to remove or encapsulate the materials.

Only after the area is certified by authorities to be clear of all hazardous conditions and materials, should work be resumed. Such delays of the Work should be accounted for in a Change Order extending the Contract Time as appropriate to the effect of the delay, and any additional work required. The question of compensation for monetary loss to the Contractor for such delays, and for additional any work required, are factors to be given proper consideration.

Insurance for Architects and Contractors normally excludes coverage for working with hazardous materials. Architects and contractors should avoid direct involvement in surveying for, or contracting for, the handling, removal, or encapsulation of, hazardous materials. They must be particularly alert to such conditions and adhere strictly to procedures of governing authorities and the stipulations in Contract Documents.

RECOMMENDATIONS

Architect should review characteristics of products under consideration to be specified to assure that no hazardous materials are specified in Contract Documents.

When substitutions are proposed by Contractor (refer to AIA/AGC Recommendation 5.5), the Contractor should provide assurance that the proposed product(s) are free of hazardous materials.

For work in existing construction, Owner should provide a hazardous materials survey to Architect for inclusion in Bid Documents as information provided to bidders

Where hazardous materials are encountered, Owner is responsible for their removal or encapsulation in accordance with governing regulations.

Jobsite employees on existing construction should be educated to recognize materials that contain potentially hazardous substances.

Contractor, on encountering suspected hazardous materials, should stop work in the area immediately, notify Owner and Architect, and resume work only when governing authorities certify that areas are free of contaminants, either by stating 'No hazardous materials' or 'Hazardous materials removed'.

Hazardous materials contracts should require that contractor to certify that his work area is clear of hazards, and to restore his work site to a condition compatible with that before construction was opened for removal of hazards.

Refer to the 1989 AIA/AGC Study S6-04 - Handling Asbestos-Containing Materials, for further discussion on the subject.

END OF RECOMMENDATION

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5.10 - DISPUTE RESOLUTION METHODS

Last Update: March 1997

THE ISSUE

Resolution of construction disputes; Problems in formal litigation; The alternatives - Arbitration, Mediation, Mini trials, and others.

DISCUSSION

Resolution of construction-related disputes is complicated by issues involving highly technical facts; also the disputes often involve a number of entities participating in a Project. Formal litigation is slow and expensive for all concerned. Alternative methods of voluntary resolution of construction disputes promise speedier, and more equitable, results.

Arbitration: Is the voluntary submission of a dispute to a disinterested person or persons who have the expertise to understand construction problems, are trained in dispute resolution procedures, and are able to render an objective decision based on the facts and evidence presented. Often dispute arbitration clauses are contained in standard contract documents. The Arbitrator hears each side, which may be presented by attorneys, and renders a decision from which there is no appeal. It is binding in a court of law, unless it is specifically designated as "Advisory" Arbitration. Arbitration is the most widely used of the three methods; detailed procedures are discussed in AIA/AGC Recommendation 5.10.1 - Arbitration of Disputes.

Mediation: Is the voluntary submission of a dispute to a neutral, disinterested third party, an expert in the field of the dispute, who will assist the parties to resolve the dispute. The Mediator cannot impose a settlement, but seeks to guide the parties to achieving their own settlement. Mediation does not block the parties' access to arbitration or to the courtroom. Its primary purpose is to resolve disputes early and economically, and to resolve the issues before the parties become polarized in their positions. Detailed procedures are discussed in AIA/AGC Recommendation 5.10.2 - Mediation of Disputes.

Mini-Trial: Is a voluntary procedure to submit the issues to senior officers of each party who are authorized to commit their firms to a settlement. It is a confidential, non-binding exchange of information in the presence of a neutral Advisor, in an attempt to formulate a voluntary settlement. Each party is represented by legal counsel to present the "best case". There is no mandatory settlement, though the Advisor may render an advisory opinion. Procedures are confidential, and nothing in the proceedings may be used in any other procedure; arbitration, litigation and other methods may still be used. Detailed procedures are discussed in AIA/AGC Recommendation 5.10.3 - Mini-Trials of Disputes.

There are several other methods for resolving disputes. Additional information is available from offices of the American Arbitration Association (AAA).

RECOMMENDATIONS

Parties to a dispute should first seek to resolve a problem with the other parties by the most expeditious method in a voluntary effort.

When the parties voluntarily agree to a settlement, mandatory arbitration clauses in a contract do not preclude such other methods of dispute resolution.

Refer to the Houston office of the American Arbitration Association for further information. Phone (713) 739 1302.

END OF RECOMMENDATION

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5.10.1 - ARBITRATION OF DISPUTES

Last Update: March 1997

THE ISSUE

Definition; Governing laws; Contract provisions; Procedures in arbitration; Costs of arbitration; Awards.

DISCUSSION

The definition of Arbitration and alternate methods of voluntary dispute resolution is found in AIA/AGC Recommendation 5.10 - Dispute Resolution Methods. The arbitration process is increasing in usage; Architects, Owners, and Contractors have found it faster and less expensive than litigation. Arbitrators are experts who have knowledge of the problems presented. Judges in Texas courts now appear more amenable to the use of arbitration. Increasingly they issue orders compelling arbitration when an arbitration provision has been included in the contract, finding it a valid way to reduce overloaded judicial dockets. However, there are those who contend that complex disputes in arbitration can be as time-consuming as litigation, can be expensive, and who object that too many arbitration awards may simply be a compromise, leaving both parties dissatisfied.

In arbitration, one of the most difficult problems is joining all of the necessary parties in one arbitration proceeding. Arbitration cannot be compelled unless the parties have agreed to arbitrate in writing. Typically, where the Owner and Contractor have expressly agreed in writing to arbitrate, but if the claim involves the work of others who have not agreed to arbitrate, such as the Architect, a subcontractor, or a supplier, the dispute will have to be resolved in part in the arbitration, and in part in a lawsuit. The Owner will arbitrate with the Contractor, while the Contractor has to sue the subcontractor or supplier whose product is in question. The potential for inconsistent results follows, and significantly increased costs are a certainty. Often an element of the design is being questioned, which would make the Architect's participation desirable. The Owner will also want the subcontractor's surety to participate, but may not be able to compel its participation in the arbitration.

To avoid these problems, either make sure that express arbitration clause appear in every contract and purchase order at every tier, or include in every contract and purchase order at every tier, or include in every contact with an arbitration clause, a waiver of arbitration if necessary parties cannot be joined.

The arbitration clause in the Owner-Contractor Agreement may apply to subcontractors either by specific reference in the subcontract or through broad 'flow down' or 'conduit' clauses such as in AIA General Conditions (AIA A201, Paragraph 5.3.1). For clarity, Contractors should specifically include the same dispute resolution clauses in their subcontracts as those in the Owner-Contractor Agreement.

Federal and State laws governing arbitration require an agreement to arbitrate as a part of the contract before a court can compel arbitration. AIA General Condition includes such a clause (AIA A201, Paragraph 4.5), although specific language of other arbitration clauses may vary from that specific wording. Note that after a dispute arises, the parties may mutually agree to arbitration even when such a clause is not included in the contract.

Construction contracts in Texas could also be subject to the Federal Arbitration Act (9 USC S1 ET seq), which requires only an agreement to arbitrate in the contract, but not a notice on the first page. For the Federal Arbitration Act to apply, the contract must cover transactions involving interstate commerce. Because of the simplicity of the Federal Act, and the lack of a required notice, numerous parties have sought to compel arbitration or to stay litigation proceedings under authority of the Federal Act.

Arbitration rules and processes may either be spelled out in the Owner-Contractor agreement or referenced to the rules of the American Arbitration Association (AAA) or other dispute resolution services. AAA has developed Construction Arbitration Rules that are endorsed by AIA, AGC, CSI, and other construction related organizations, which rules are available from AAA local offices.

An aggrieved party initiates the process by filing an arbitration demand with AAA, paying the filing fee, and notifying the other party. Unless the selection of arbitrators is stipulated in the contract, AAA submits to each party a list of names and qualifications of prequalified arbitrators. Each party ranks the names or may strike out any name. AAA then compiles the two lists to select the mutually preferred arbitrators. Should every name be struck out by one of the parties, AAA appoints a prequalified arbitrator. Commonly a panel of three members, an Architect or Engineer, a Contractor, and an Attorney, serve as Arbitrators to hear the dispute. For small disputes a single Arbitrator may be used. Alternatively, each side may appoint an Arbitrator and either the AAA or the two Arbitrators appoint the third Arbitrator.

Once the Arbitrators have been determined, the AAA designates the time and place for the hearing, or the parties may agree on the place. Each side is entitled to be represented by legal counsel. Often there is a pre-hearing conference at which the Arbitrators will rule on timing of the exchange of exhibits and documents, the number of witnesses to be presented, deposition of witnesses, and the like. Court reporters are not normally used; if one party desires a written record, it pays the cost of the reporter.

Arbitration proceedings are confidential. Each party begins with an opening statement with the claimant first; witnesses are sworn, testify, are examined and cross-examined; exhibits and affidavits are presented. Arbitrators may make investigations and issue orders to safeguard property that is the subject of the arbitration.

The process is similar to courtroom proceedings but is less formal. There are no formal rules of evidence; the Arbitrators mainly listen, rule on objections, and handle procedural matters. Hearings may last several days. When the oral hearing is completed, Arbitrators establish the date for filing post-hearing briefs, and close the hearing. After close of the hearing, Arbitrators will render the award within 30 days after receipt of the briefs, unless otherwise agreed by the parties or required by law. The award is made in writing to AAA, which prepares the award in a standard AAA format, has it signed by the Arbitrators, and transmits the award to the parties. The award may grant any remedy or relief which the Arbitrators deem just and equitable within the terms of the arbitration agreement. It may be all in the favor of one party or it may be a compromise. Should the parties settle the dispute during the course of arbitration, the terms of the settlement may be set forth in the award.

Arbitration awards, under AIA A201 and other documents, are final, binding, and enforceable in court; they cannot be appealed except for allegations of fraud or bias, et al. Under the Texas General Arbitration Act, any application to vacate or modify an arbitration award due to such claims must be made to the appropriate court within ninety days after delivery of the award.

Costs of arbitration vary with the size and complexity of the issues. AAA charges are a filing fee, plus a sliding scale administrative fee paid by each party, which varies with the amount of the claim and counter claim. When more than two parties are involved in the arbitration the base fee is increased by 10 percent for each additional party. Arbitrators' fees are at a daily rate plus travel expenses, each Arbitrator receiving the same fee. Members of the national panel of construction arbitrators serve the first day without a fee; daily rates for subsequent days are paid at an agree-on fee to each arbitrator for each day. Usually the Arbitrators fees and expenses are borne equally by the parties, though the award may assess the costs as the Arbitrators deem appropriate. Each party bears its own expenses of presenting its case; attorney's fees, witness expenses, exhibits, and the like; however the Arbitrators may award reimbursement of attorney's fees.

RECOMMENDATIONS

Architect should have the Owner consult with an attorney to review arbitration requirements in the Conditions of the Contract.

Contractor should provide in subcontract and supplier agreements the identical wording of the arbitration provisions in the Owner-Contractor agreement, preferably by reference to Conditions of the Contract covering arbitration.

When disputes arise, review optional methods of dispute resolution to determine the most expeditious method or provide for AAA administration of procedures for resolving the dispute.

Each party in arbitration should advise his attorney as to his wishes on how the case should be handled, and his range of an acceptable settlement.

END OF RECOMMENDATION

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5.10.2 - MEDIATION OF DISPUTES

Last Update: May 1997

THE ISSUE

Definition of mediation; Contract provisions; Dispute resolution services; Mediation procedures; Costs.

DISCUSSION

The definition of Mediation and other alternate methods of voluntary resolution of disputes are found in AIA/AGC Recommendation 5.10 - Dispute Resolution Methods. While mediation may not be as widely used as is arbitration for resolving disputes, the American Arbitration Association (AAA) recommends mediation as a preliminary dispute resolution method. There are those who may feel that mediation forces a compromise on the disputants; however the method does represent a lower cost alternative for resolving issues quickly.

Mediation is the voluntary submission of a dispute to a disinterested third party expert in the field of dispute, who will assist the parties to resolve the dispute. It is not legally binding. The Mediator participates by clarifying issues by pointing out a party's strength or weakness in private sessions (called a caucus), and occasionally by generating options for settlement. He does not advise, express his opinion, or influence the parties' agreement. Result of the mediation should be an agreement that each party finds acceptable. Mediation is strictly a voluntary process which does not preclude access to the courtroom or to arbitration. It is future oriented and used particularly when the parties desire to maintain an ongoing relationship.

Few construction contracts contain mediation clauses, although AIA Document A511 - Guide for Supplementary Conditions recommends the use of mediation and provides appropriate wording. The American Arbitration Association (AAA) and other Dispute Resolution services will administer the mediation process and can provide skilled mediators. AAA has established Construction Industry Mediation Rules which are endorsed by AIA, AGC, CSI, and other construction related organizations. That publication is available at no cost from AAA local offices.

The mediation process is far less formal than either litigation or arbitration. When one or both of the parties files a written request for mediation with a dispute resolution service, the service appoints a Mediator and establishes the time and place for a meeting. Ten days prior to the first session each party submits to the other party and the Mediator a brief memorandum stating its position on the issue(s). As the hearings each party may be represented by persons of its choice including legal counsel and a list of the representatives is provided to the Mediator.

Mediation sessions are private. Persons other than the designated representatives may attend only with permission of all parties. No stenographic record is allowed. The Mediator may conduct joint and separate meetings with the parties, and may make oral and written recommendations for settlement. Parties may also obtain expert advice concerning technical aspects of the dispute, provided the parties agree and assume the expenses of obtaining such advice. The mediation can be terminated with a settlement, by written declaration of the parties, or by declaration of the Mediator that further efforts are no longer productive. However, the Mediator does not have authority to impose a settlement.

All mediation proceedings are confidential. The Mediator cannot be compelled to divulge any documents or testify in regard to the mediation in any adversarial proceedings or judicial forum. The parties also maintain the confidentiality of the mediation and may not rely on, nor introduce as evidence in arbitration or other proceeding views expressed or suggestions made by the other party with respect to possible settlement, or an admission made by the other party in the course of mediation proceedings. Nor may proposals made or views expressed by the Mediator, or the fact that the other party had or had not indicated a willingness to accept a proposal for settlement made by the Mediator, be introduced as evidence.

Federal Mediation and Conciliation services make no charge for their services; AAA assesses the costs of mediation based on the size and complexity of the issues, plus administrative filing fees based on the size and type of case. Mediators are arranged by AAA, and paid at a daily rate agreeable to the parties. That cost is paid equally by the parties unless they agree otherwise. Each party bears its own expense of presenting its case.

When AAA recommends that a dispute filed for arbitration be mediated first, if the mediation should fail to resolve the dispute the administrative cost of mediation is waived by AAA.

RECOMMENDATIONS

Counselors to the Owner, such as insurance and bonding advisors, should be consulted prior to including mediation in the Contract Documents.

Entities which are not signatory to a Contract, such as a bonding company, may not find mediation acceptable.

Contract Documents should provide for the administration of mediation procedures by professional dispute resolution services.

When disputes arise, review optional methods of resolution to determine the most expeditious method to pursue.

Parties to the dispute should consider mediation prior to arbitration as being more expeditious.

Contractor should provide for mediation in subcontracts identical to that in Conditions of the Contract.

END OF RECOMMENDATION

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5.10.3 - MINI-TRIALS FOR DISPUTES

Last Update: March 1997

THE ISSUE

Definition; American Arbitration Association services; Mini-Trial procedures; Costs.

DISCUSSION

Definition of Mini-Trials and alternate methods of voluntary dispute resolution are defined in AIA/AGC Recommendation 5.10 - Dispute Resolution Methods. While less familiar than other methods, the goal of the Mini-Trial is to encourage prompt, cost-effective resolution of complex disputes. The process seeks to narrow the areas of controversy, dispose of collateral issues, and encourage a fair and equitable settlement. This method brings together senior executives of each party involved in the dispute. They meet in the presence of a neutral Advisor, and after hearing the presentation of the merits of each side of the dispute, attempt to formulate a voluntary settlement.

The format of the American Arbitration Association (AAA) provides guidelines for procedure, or the parties can establish their own written guidelines. Discovery between the parties may take place in accordance with agreed procedures, and the parties also exchange written statements summarizing the issues as well as copies of documents they intend to present at the time of the information exchange. Each party is represented throughout the proceedings by legal counsel whose role is to prepare and present its case. The senior executives of each party with settlement authority are present through the information exchange and the settlement negotiations. After an information exchange the senior executives meet and attempt, in good faith, to formulate a voluntary settlement. An Advisor sits in the discussions to learn the position of each party.

When the senior executives are unable to agree on a settlement, the Advisor renders an opinion as to the likely outcome of the case if it was litigated in a court of law. The Advisor's opinion identifies the issues of law and fact that are critical to the disposition of the case, and gives the reasons for the offered opinion.

After the advisory opinion has been rendered, the senior executives meet for a second time and attempt to reach a settlement. Should they be unable to reach agreement they may either abandon the proceedings or submit written offers for settlement to the Advisor. When the parties submit written offers, the Advisor makes a suggestion for settlement based on those offers. Should that recommendation be rejected by the parties, either party may declare the Mini-Trial terminated and proceed to resolve the dispute by other means.

Mini-Trial proceedings are confidential; no written or oral statement of offer made by any participant in the proceedings may be used in evidence in any other proceedings.

Costs of Mini-Trials vary with the size and complexity of the issues. Those initiating a Mini-Trial under AAA procedures will be able to arrange for administrative fees and the Advisor's compensation through AAA. The Advisor's fee is set at a daily rate plus travel expenses, which are borne equally by the parties unless they agree otherwise. Each party bears its own expenses for presenting its case.

RECOMMENDATIONS

Decision on the use of a Mini-Trial should be made after review of alternative dispute resolution methods.

Provide for AAA or other dispute resolution services to administer procedures to resolve the dispute.

END OF RECOMMENDATION

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5.11 - CHANGES IN THE WORK

Last Update: June 1997

THE ISSUE

The necessity for changes in construction contracts; Methods of handling changes; The effect of changes on progress of the Work; Establishing the cost of changes; Change Orders, Construction Change Directives, and Architect's written order.

DISCUSSION

It is desirable for all entities involved that there be no changes during a construction contract. No one involved in the construction process benefits from change orders. Neither architects, contractors, nor subcontractors can be adequately compensated for the added expense of change orders nor for the negative effect on progress of the Work, job momentum, and coordination.

Some change orders are necessary, for such reasons as for clarification of ambiguities in Contract Documents, changes in building codes or government regulations, or time extensions due to unforeseen delays in the Work.

Some changes may not be necessary, such as constant changes relating to appearance or design. Should an Owner insist on processing this type of change orders the Owner should be warned about the administrative costs associated with such changes.

Often the indirect costs of a Change Order, such as the negative effect on job momentum and sequencing, are greater than the actual increase in the construction costs of the change. This is particularly true when proposed changes would affect work in place or in the process of manufacture. Changes in the work almost always increase job overhead costs by extending the project construction time even though the change may delete, rather than add to the work. Similarly, changes increase the architect's direct and indirect expense. Changes that interrupt the normal sequencing of operations also increase direct and indirect costs of suppliers and subcontractors. Escalation of costs of materials and wages will be reflected in any change order that delays the initial completion schedule.

The impact of change orders involving design cannot always be thoroughly investigated because of time limitations during construction. This increases the possibility of unforeseen design and construction complications.

Minor changes that are consistent with the Contract Documents, are within the contract sum, and not involving an extension of contract time, can be made on the basis of a written order from the Architect (the term 'field order' is no longer used in AIA documents), which is binding on both the Owner and the Contractor.

Change orders are, in principle, issued by the Owner, though prepared and countersigned by the Architect. The Architect has no authority to issue a Change Order unilaterally unless that authority is specifically granted in writing by the Owner, usually with limits on dollar amounts.

The change order process may be initiated by a Contractor's proposal or by an Architect's Proposal Request to the Contractor. The Architect's request is simply a request for information on how the proposed change might alter the contract sum and contract time.

Time is a critical element in making changes, and quotations on changes should be firm only for a limited period of time, which time limits should be stated in the Change Proposal. To expedite processing of Change Order Proposals, contractors should provide in subcontracts that change order quotations must be handled

promptly.

AIA General Conditions provide several methods for establishing the cost of a change in the Work:

An agreed upon lump sum.

Unit prices stated in the Agreement, or subsequently agreed on.

The actual cost of making the change, including contractor's overhead and a fee.

The lump sum method provides for an equitable adjustment to the cost of the work and is the preferred method.

The use of predetermined unit prices in calculating the cost of a construction change is often undesirable, as discussed in AIA/AGC Recommendation 3.06 - Bidding Unit Price Construction Work.

The arbitrary establishment of a fixed or sliding percentage fee for markup on changes is not recommended. Often a very small Change Order, which nevertheless affects many items of Work, should entitle the contractor to a greater total dollar amount than a larger, less complex change. There are so many variables in the effect of a change, that it is impossible to equitably pre-determine a reasonable fixed mark-up for all conditions.

The problem lies in pre-determining a lump sum cost prior to executing a Change Order. Complex changes involving a number of subcontractors and suppliers may result in an extended delay, which may seriously hamper work in progress.

When the amount of a proposed change cannot be agreed upon between the Owner and Contractor, AIA Document G714 - Construction Change Directive, may be used to authorize the Contractor to proceed with the work. The document contains optional provisions for determining the cost of the change, which process expedites the Work prior to final determination of costs for execution of a Change Order.

Architects' written orders, construction change directives, and change orders must be clear and accurate in stating the precise extent, and exactly how, the changes modify the Contract Documents. The changes may be described in the space provided on the Change Order forms. However, if complex or critical changes are made, revised drawings and specifications should be issued showing the changes.

The Owner should be prepared to make prompt decisions on changes, and his Project Representative authorized to commit funds provided as a "Contingency Allowance" in the Contract Documents, as discussed in AIA/AGC Recommendation 5.01 - Owner's Project Representative. When the price quoted is acceptable, the Owner and Architect sign, and the change order is issued.

RECOMMENDATIONS

Provide a Contingency Allowance in the Contract Sum, with Owner's written authorization for his Project Representative to commit funds from that allowance and to execute Change Orders.

Use AIA Document G714 - Construction Change Directive, to expedite changes when the costs cannot be speedily resolved.

When possible, use the lump-sum method of determining the cost of a change.

Avoid the use of unit prices.

Avoid use of pre-determined percentage mark-up for changes.

Contractor should require prompt action on changes from subcontractors and suppliers.

Owner in turn, should provide prompt action to avoid delay in progress of the Work.

Resolve and execute change orders promptly during progress of the Work. Avoid deferring resolution of change orders to the end of the Project

END OF RECOMMENDATION

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5.12 - CONTRACT CLOSEOUT

Last Update: June 1997

THE ISSUE

Contract closeout procedures under AIA General Conditions; Contractor responsibilities; Architect responsibilities; Substantial Completion, Correction of the work; Final Completion, final submittals, and documentation for final payment.

DISCUSSION

AIA General Conditions spell out basic requirements for closing out the Construction Contract. Those procedures define the steps required to complete the Work, to prepare for occupancy and use of the facility, and to ensure that all requirements of the Owner-Contractor Agreement have been fulfilled. Additional details in the specifications section Contract Closeout of Division 1 stipulate detailed procedures for Project closeout.

When Architect is solely responsible for contract administration, he administers the closeout process for the Owner. If a Construction Manager represents the Owner, he will share some of the closeout responsibilities.

Substantial Completion is defined in AIA General conditions as "The stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner may occupy or utilize the Work for its intended purpose".

As the Work of the contract nears the point of Substantial Completion, the Contractor initiates the closeout process. Among the Contractor's responsibilities in initiating Substantial Completion, he should:

Inspect the Work for compliance with Contract Documents.

Notify Architect, submit Contractor's list of incomplete and incorrect work.

Submit the specified Operation and Maintenance Data.

Instruct the Owner's personnel in operation of systems and equipment.

Submit required Record Documents to Architect.

Deliver stock of specified maintenance and replacement materials.

Complete the keying schedule and deliver the schedule to Owner with tagged keys, obtain receipt.

Thoroughly clean all areas of the Project, including sitework.

Restore all damaged finishes.

Submit required inspection certificates, warranties, bonds, and maintenance contracts.

Notify Owner relative to any changes in insurance coverage requirements.

Obtain the Certificate of Occupancy and other regulatory releases that allow the Owner's occupancy and full and unrestricted use of the Project.

Once the Contractor is satisfied that the Project is substantially completed according to contract requirements, he should inspect the Work and present an itemized list of incomplete and deficient items, and request the Architect's inspection for Substantial Completion. Note: Failure to include an item on the list of incomplete and deficient items does not relieve the Contractor's responsibility to complete all Work in accordance with the Contract Documents.

Architect's inspection, with the Owner's Representative, should be comprehensive, including interior, exterior, and site items, Owner-provided items and, with his consultants, all operable systems and equipment. Results of the inspection should verify or add to Contractor's list of deficiencies (the 'punch list').

After deficient items have been corrected, and the Architect determines that Work is substantially complete, the Architect prepares a Certificate of Substantial Completion, AIA Document G704, for acceptance of Contractor and Owner, appending a list of all items to be completed or corrected.

The Certificate for Substantial Completion stipulates the time provided for completion or correction of deficient items, the date on which Owner will occupy the Work or designated portion thereof, and agreement on responsibilities for maintenance, security, heat, utilities, insurance, and other matters relating to responsibilities due to any mutual occupancy. Once the Work is substantially complete, Architect should recommend adjustment of retainage, as discussed in AIA/AGC Recommendation 4.07 - Retainages in Construction Progress Payments.

Should Architect's inspection find that the Work not substantially complete, Architect notifies Contractor of the work to be performed prior to the issuance of a Certificate of Substantial Completion. In that case, Contractor must complete the Work, repeat his inspection and preparation of list of deficiencies, and notify the Architect when the Work is ready for a second inspection for Substantial Completion (Note: Some contracts may require Contractor to reimburse Owner for Architect's additional services for a second inspection due to Contractor's failure to originally state the status of completion.)

Final Completion: After all deficiencies listed on the Certificate of Substantial Completion have been satisfied, Contractor submits a Notice of Final Completion and request for Architect's final inspection of the Work, with a final Application for Payment; including:

> An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which Owner might be held responsible, have been paid or otherwise satisfied. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims, may be used.
>
> Consent of Surety to final payment. AIA Document A707 - Consent of Surety, signed by an authorized official of the Surety, may be used.
>
> When Architect determines that the Work and other obligations of the Contractor are fully completed, Architect issues a final Certificate of Payment, which terminates the contractor's Agreement with Owner.

Other Considerations:

Substantial Completion may be established for a portion of the Work to provide for Owner's early occupancy. In which case the procedures apply as they relate to that portion of the Work. Such occupancy may depend on completion of the total project mechanical and electrical services, access, life safety, security, and other conditions, which must be included in the scope of the extent covered by the partial Substantial Completion.

Substantial Completion inspection may be made for a portion of the Work to provide a final list of deficiencies for separation of responsibilities between Contractor and other separate prime contractors for installation of certain finishes, furnishings or fixtures, but substantial completion inspection should not initiate corresponding certification procedures for separate work.

Prior to issuance of the final certificate for payment, all change orders, allowances, and contingencies must be accounted for. Work of a late Change Order that is incomplete due to no fault of the Contractor, should not delay Substantial Completion or release of retainage on the remainder of the Contract.

Refer to AIA/AGC Recommendation 4.07 - Retainages in Construction Progress Payments, avoid excess retainage at Substantial Completion.

RECOMMENDATIONS

Contractor, on the basis of his Agreement with the Owner, is responsible for certifying that Work is

substantially complete, and finally complete, and that all obligations are satisfied.

Architect's inspection establishes the Date of Substantial Completion - a date with important legal significance, since that is the date from which the one year correction period, the Contractor's warranties, and the 10 year Statute of Repose are measured.

The date for initiation of Owner's property insurance should be clearly established in writing.

It is imperative that the Certificate of Substantial Completion be signed by the Owner, Contractor, and Architect as certification of the Date of Substantial Completion.

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5.12.1 - CONSTRUCTION RECORD DOCUMENTS

Last Update: May 2005

THE ISSUE

Definition, Purpose of Record Documents, Related documents, Extent of Documentation Required, Responsibilities, and Liabilities.

DISCUSSION

Record Documents, by definition, are those documents that the Contractor (or Architect) provides to the Owner at the completion of the construction contract, recording changes from Construction Documents made during construction. Look to the specific contract documents to determine the scope of project Record Documents. Such documents are useful to the Owner for occupancy planning, for operation and maintenance of the facility, and for future modifications and additions to the facility.

Through the years the term "As-Built" was the common nomenclature for such documents. Courts have interpreted "As Builts" literally as certification of the accuracy of the information. When damages have resulted from later use of inaccurate data, courts have held the liability to rest with the preparer of the document. Current terminology is "Record Documents". The content of Record Documents is usually coordinated by the General Contractor, who is in control of operations, and involved in all details of construction.

The Contractor and subcontractor's logs the required information on a daily basis during progress of the Work by noting on dedicated copies of the Construction Documents (including Modifications) the measured locations of underground work, changes in the Work, the specific products installed, other deviations from the Architect's documents, and other detail specified as appropriate to the sophistication of the Project. While the final form of Record Documents may be marked up field documents, often the recorded information is transferred to a form suitable for reproduction. Traditionally the form has been transparencies of contract drawings on which the information recorded during construction is transferred. Currently, with the growing practice of production of Construction Documents on electronic media, the Owner may require the data to be transferred to that media. Refer to AIA/AGC Recommendation 1.11 - Automation of Construction Documents, for further discussion.

Other factors may affect the extent of Record Documents required - Are contractor-prepared drawings involved, such as coordination drawings, or drawings prepared under performance specifying? If so, should they be the basis of Record Documents, or a specific portion of Record Documents? Broad statements in General Conditions can be variously read by the Owner and the Contractor to the point that serious disputes can arise in interpretation of exactly what is required. The General Conditions requirements should be expanded by detailed provisions specified in the Division 1 Section "Contract Closeout", but those details should be used judiciously. Excessive detail required in Record Documents can become a cost factor, which the Contractor is entitled to know at the time of bidding. Architect should consult with Owner, pointing out costs involved, and specifying only that record information which the Owner considers worthwhile.

Are Contractor's mark-ups of dedicated field Construction Drawings sufficient for Owner's purposes?

Is transfer to a reproducible media required? If so, what media?

If a transparency, who provides the transparencies for markup?

What quality of markup is required? Hand lettered notes? / Professional redrafting of changes to the original drawings?
If electronic media, what specific system?

Should technically sophisticated projects such as hospitals and laboratories require extensively detailed documentation, the extent should be agreed on by Owner in writing, and specified in full detail.

Avoid the use of the term "as-built" in referring to the documents. Use the term "Record Drawings" and "Corrected -" or "Record Specifications"

Preferably, other than specifying minimum recording requirements, the final form of Record Documents, and receiving and transmitting the documents at contract closeout, the Architect should not be involved with Record Documents, unless Owner/Contractor specifically contracts for such service.

Should the Owner require that Architect provide final drafting of Record Drawings, the Owner-Architect Agreement should define the scope of records required, the specific media, and identify the source of, and responsibility for, information provided by others.

Architect should make sure the Owner understands the limitations of Record Documents.

Architect should consult with Owner to establish the extent and form of record information required, and obtain written verification. The extent and form of such records should be specified in detail, listing only those items that the Owner considers worthwhile.

Special consideration may be required for sophisticated projects such as hospitals and laboratories, or for site work under EPA mandated storm drainage which Owner must maintain.

Specifications should identify other documents/submittals which Owner requires as Record Documents: Specifications, Addenda, Change Orders, shop drawings, product data, samples, test reports, manufacturers' certifications, or other, which Owner requires.

The Division 1 specification for Record Documents should spell out the responsibility for recording, and for producing, Record Documents, and if final documents are to be provided by Contractor, the form of the final documents.

Contractor-produced documents: Coordination drawings, documents provided under performance specifying, and other, should be specifically identified, and requirements for use as, or transfer to, Record Documents, clearly spelled out.

When required of Contractor, Architect's monthly review of recorded information should be so specified.

Require Contractor's identification stamp noted "Record Documents" on all marked-up and revised drawings and on a dated hard copy of media-recorded information.

Should the Architect provide transfer of Contractor's data to transparencies or to electronic media, he should include a disclaimer that the recorded information (often unreliable, and unverifiable) is the responsibility of the Contractor. Every sheet/page of the Record Documents should contain a warning stamp, such as:

These Record Documents have been prepared based on information provided by others. The Architect has not verified the accuracy or completeness of this information and shall not be responsible for any errors or omissions that may be incorporated herewith as a result.

The Architect should consult with his insurance advisor to determine additional recommended practices.

The prudent Architect, and Contractor, should, so far as possible in using Record Documents, verify record of existing conditions on-site before acting on that information.

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5.13 - LIEN AND BOND CLAIMS IN TEXAS

Last Update: July 2010

THE ISSUE

Guidelines for understanding Liens and Bond Claims in Texas; Governing Statutes; Forms for payment bonds; Recent changes; Notices of claims; Bonding around a lien; Statutory retainage; Lien releases.

DISCUSSION

This document focuses on liens and payment bond claims. The payment bond is usually a separate bond from the performance bond, but they are issued together. A performance bond is given by the surety and the general contractor to the owner, to protect the owner from a default by the general contractor in completing the contract. A payment bond is given by the surety and general contractor to the owner, for the benefit of unpaid claimants who take all steps necessary to perfect a claim on the bond or file a lien. A payment bond does not cover claimants who fail to perfect their claims.

Subguard insurance is sometimes mentioned as a substitute for bonds. This is not correct. Subguard insurance is not a bond, and does not meet the requirements for a bond under Texas law. Subguard is an insurance policy in favor of a general contractor and designed to reimburse a general contractor for losses incurred by the general contractor if a subcontractor defaults before completing its work.

Lien and payment bond claims are common occurrences in construction projects. They affect owners, architects and other design professionals, contractors, subcontractors, suppliers, sureties, and lending institutions. Filing a claim can interrupt the flow of money on a project, with serious consequences.

The procedures for filing a lien or bond claim vary, depending on the type of project. Is it a private project, or public? If public, is it state or federal? The status of the owner as an entity of the Federal Government, a political subdivision of the State or a municipality, or a private owner determines which set of laws and rules applies. Each type of ownership is governed by a different statute, each with specific requirements, and each may require a different response. Contract Documents should clearly identify the owner and type of project. Governing statutes for each type of project are:

> **Federal Projects**: The Miller Act - 40 USC 270(a-c). Generally applicable to all contracts greater than $100,000.00.
>
> **Texas Public Projects**; Cities, counties, state universities, school districts, and water districts: Article 2253 of the Texas Government Code (replaced the McGregor Act, Art. 5160) applicable to all projects greater than $50,000.00.
>
> **Private Projects When a Payment Bond is Required by Contract**: Texas Property Code, Section 53.201 *et. seq.* (replaced the Hardeman Act, Art. 5253). Such bonds are not required by statute, but are discretionary with the owner. Those providing these bonds must comply with specific statutes and recording procedures if liens are to attach to the bond and not to the property.
>
> **Private Projects When No Bond is Required**: Texas Property Code, Section 53.001 *et seq.* provides the requirements for filing a lien on a project.
>
> Note: Bonds furnished by subcontractors are not regulated by statute in Texas. They are a matter of contract only

Forms of Payment Bonds furnished under the different statutes:

Federal Projects: Federal Standard Form 25-A.

Public Projects: Form as mandated by the Public Agency.

Private work: Sections 53.201-208 of the Texas Property Code.

[Note: AIA Document A311 is not recommended because of the potential of expanding contractor's liability beyond that in the Texas lien statutes; also notice and lien requirements differ from, and at times conflict with, those required by the Texas Government Code for public work and the Texas Property Code for private work. Form A312 is better, but still needs modification. All printed form bonds should be modified to incorporate the applicable statutes by reference.]

Texas Government Code Section 2253.021(c) reads:

(c) The payment bond is:

(1) Solely for the protection and use of payment bond beneficiaries who have a **direct** contractual relationship with the prime contractor or a (first tier) subcontractor to supply public work labor or material . . . .

A "subcontractor" is defined in 2253.001(9) as:

A person, firm, or corporation that provides public work, labor, or material to fulfill an obligation to a prime contractor or to a subcontractor for the performance and installation of any of the work required by a public work contract.

Under the Government Code provisions, the class of claimants is reduced to:

1. The general contractor's direct subcontractors and suppliers; and
2. Only those sub-subcontractors and suppliers with a direct relationship to first-tier subcontractors of the general contractor. Lower tier subcontractors and suppliers are excluded.

An architect should consult with the owner and owner's legal counsel on the bond form to be used and should bind a sample of the bond form into the Project Manual or RFP. On receipt of bonds the owner's advisor should verify that:

1. The proper bond form is used;
2. The bond is written by a legitimate and authorized surety company;
3. The bond is signed by authorized officers of the surety company and the contractor; and
4. The payment bond is in the proper amount (may be required to be 115% of the contact amount).

On Private Work: The bond must be signed by the contractor and surety, and approved by the owner with the owner's signature on its face. The original signed payment bond should be recorded at the County Clerk's office along with a copy of the signed contract, prior to the start of the work. (There is no need to record the performance bond as a part of this process.)

Bonds on private work are discretionary with the owner. They do add a cost to the contract; however the benefits obtained can far outweigh the relatively small costs. A statutory payment bond on private work provides:

1. Protection of the property, and the owner, from lien claims and suits from subcontractors and suppliers;
2. Freedom of the architect from making quasi-legal decisions on contractor's statutory and contractual obligation as to lien claims; and
3. More freedom for the contractor to handle and resolve claims.

Notices of Claims and Their Effect**:**

On Federal or Texas public projects neither the owner nor the property is liable. Claimant's only recourse is against the statutory payment bond and the contractor. There is no need to withhold funds.

On private work with a statutory payment bond, the effect is substantially the same, provided owner has properly recorded the bond and contract; as the owner has reduced exposure. An owner may still be liable to hold funds if a funds trapping notice is received.

For private work with no statutory payment bond, a business-like approach is preferred. Generally a good starting point is a conference between the owner or architect and the contractor to review facts and the contractor's plan for handling the claim. The decision on withholding funds should be carefully made. Stopping the cash flow may trigger a series of unfavorable events including delays, disruptions, poor morale, additional lien claims and, potentially a bankrupt contractor or subcontractors. Withholding funds can also create unexpected problems and exposures under the prompt pay and trust fund statutes. Often the problem can be solved in an alternative, less drastic manner.

If the owner withholds the statutory 10% retainage on a private project, that retainage fund limits the owner's liability to unpaid claimants to that amount regardless of whether the total of the claims exceeds the total retainage, and provided the owner does not make payments of non-retainage after receiving a fund trapping notice. On state public jobs, the statutory retainage is 5%, and the public owner cannot be held liable for a lien claim. The claimant's best option is to make a timely claim on the statutory payment bond furnished by the general contractor.

In evaluating the claim, the decision to withhold funds may be influenced by a number of subjective factors:

Architect and owner's relations with the Contractor;

The contractor's history and reputation in the business community;

Contractor's overall performance on the project;

Contractor's responsiveness to architect and owner's inquiries on the claim;

Architect and owner's assessment of contractor's ability to protect owner against the claim;

Specific facts of the claim: contractor or subcontractor's failure to pay? Does contractor have a legitimate defense to the claim?

The amount of funds currently in retainage compared to the lien amount.

On private projects that have not been bonded, an alternative to withholding funds is "bonding around a claim". This concept is the statutory procedure by which an entity in the construction process (owner, contractor, subcontractor) files a statutory bond to remove the mechanic's lien. Requirements for such a bond are set forth in the Texas Property Code, Sections 53.171 through 53.176. Properly filed and served on the lien claimant, the bond clears the owner's title of the claim. An owner should consider "bonding around a claim" when the owner determines that a lien filed against the property is sizable enough to jeopardize the owner's interest in the project. However, some sureties will not bond owners. Time may also be a factor, as this process can take days to accomplish.

Another alternative is a "common law bond", which is an indemnification bond, generally in an amount varying from 100 percent to 150 percent of the lien amount. Such a bond indemnifies the owner and/or his title company from any loss arising from the lien up to the amount of the bond. The procedure for obtaining a common law bond is easier, and no service on either party is required. There is no statutory regulation on this type of bond.

When either of these bonds is provided, there is no further justification for withholding funds, and any funds being withheld should be released.

If a private project payment bond and contract are properly recorded in the county where the project is located under Section 53.201 of the Texas Property Code, then the owner is relived of liability under Subchapters D (obligation to withhold funds after notice) and E (10 percent retainage). In this case, an architect would not be justified in withholding approval of the general contractor's draw for non-payment of a lien claim. Neither the owner, nor the owner's property can be made subject to the claim of lien, if the bond meets the requirements of the statute. However, banks will typically not fund unless a title company provides a report clear of claims.

Caution should be exercised to make sure that the statutory payment bond and contract have been properly recorded, however. A common law bond will not work in these circumstances. It is to the benefit of the owner, the architect, and the contractor to use and record statutory payment bonds in Texas. They should be recommended to the owner. Allow the owner to then make the business decision whether to waive the protection from liens given by the statutes, if saving the cost of the bond is a necessity.

RECOMMENDATIONS

For a lien to be valid and enforceable, certain requirements of the law must be met. Depending on whether the project is federal, state, or private, there are different perfection rules and procedures. Generally, notice must be given by the claimant to those who may be called upon to pay if the claim is valid. But, the notice forms, time limits, and specific persons to be notified vary from claim to claim. Failure to give proper notice or otherwise comply with the applicable statutes can render the lien claim invalid. As a result, many lien claims are unenforceable. Because there are traps for the unwary on both sides of a lien claim, architects should avoid involvement in the process of determining the validity of the claim. In most circumstances, it is the statutory and/or contractual duty of the contractor to resolve the claim.

Purge all old bond forms from office files. Do not accept any old forms submitted, especially those which reference Art. 5160 or Section 5253.

All bonds should contain a paragraph referring to the correct statute under which the bond is issued, incorporating the statute by reference, and prioritizing the statute over conflicting language in the bond form.

On private work with no payment bond, the Texas Property Code, Section 53.101 requires Owner to withhold ten percent of the contract sum throughout the project and for 30 days after the work is complete. After 30 days have elapsed with no unsettled or unresolved liens, the retainage should be paid to contractor. Affidavits of Commencement, 53.124, and of Completion, 53.106, should be executed and filed by the owner. The contractor is required by these statutes to give an all bills paid affidavit upon request, as a condition of final payment.

The mere presence of a lien claim should not give rise to an adversarial relationship between owner and contractor. Dealing with claims on a factual basis and in a businesslike manner protects owner's interests and fosters a harmonious working environment, which is vital to a successful construction project.

The practice of issuing "Joint Payee" checks is not generally recommended for owners because it does not necessarily protect the owner from potential lien exposure. Contractors may use it on occasions under very specific circumstances, after consultation with an attorney.

Lien releases provide some measure of protection to the owner and contractor. However, they are not a panacea since they rarely reach all parties below the contractor or subcontractor level. When lien releases are specified, properly drafted releases appropriate for the project should be included in the Project Manual. They should be notarized and ready for recording.

Bills Paid Affidavits should be required, but are only as good as the integrity of the contractor or subcontractor that signs them. They are simply sworn statements from an individual that he has paid his bills on an individual project. Should this prove not to be so, reliance on the affidavit in making payments is not a defense against subsequent claims. However, there are criminal penalties for giving a false affidavit. Funds held by a contractor or subcontractor are trust funds for a claimant who is due the money under Chapter 162 of the Texas Property Code. The Prompt Pay Act, Chapter 28 of this Code, requires that these funds be paid within 7 days of receipt, or 18% interest and attorneys' fees can be recovered by the claimant.

Retainage is for the benefit of perfected claimants only. If the owner has complied with the retainage requirements, and the sum claimed by perfected claimants exceeds the retainage, the owner is only required to pay out the retainage prorate to the perfected claimants, and is not liable for the excess. So it is necessary for an owner to distinguish between perfected lien claims and unperfected lien claims. A claim is perfected only if the requirements of the statutes have been met, and notices in the proper form were sent timely. Only perfected lien claimants have a right to receive a pro rata share of the retainage withheld by an owner. Payment from retainage to an unperfected claimant, if it reduces the retainage below the level needed to pay each perfected claimant in full, would be improper. In this case, the owner may be compelled to replenish the retainage fund sufficiently to make up that difference.

END OF RECOMMENDATION

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5.14 - WARRANTIES

Last Update: May 2005

THE ISSUE

Warranties in law as they relate to Construction Contracts; Expressed and Implied Warranties; Remedies for Breach of Warranty; One year correction period; Service Contracts.

DISCUSSION

Most construction contracts contain statements of the warranty obligations of the Contractor. These are expressed warranty provisions. Texas state law also governs contracts on Texas projects, whether warranties are stated or not. Warranties which are required by law, even if not stated in the contract, are called implied warranties. In a general sense, warranties are created in transactions between buyers and sellers. Texas law relating to implied warranties is found in three sources: Texas Business and Commerce Code, an omnibus statute covering a wide range of requirements for the conduct of business and commerce within the State concerning the sale of goods, the Texas Property Code concerning residential construction, and the case law, a body of reported court opinions in Texas.

A warranty is a promise by a seller that is enforceable by the buyer. The promise may be specifically stated: For example a warranty may be a statement of quality, a description, and actual samples or models, which are relied on by the buyer for assurance that the product conforms. Governing law applies, whether stated or only implied. Some warranties may be modified or disclaimed entirely; others are mandatory and cannot be disclaimed.

A great deal of confusion is caused by use of the words "guarantee" and "warranty" in various construction documents that could be resolved by dropping the word "guarantee" and using the term "warranty" in all construction Contract Documents. Strictly speaking, a guarantee is a promise to stand behind the undertaking of another, while in construction usage most provisions labeled "guarantee" are in fact promises to stand behind one's own work and thus are actually "warranties". Note that AIA General Conditions use only the term "warranty".

Expressed Warranties: Expressed warranties are specifically written into the Owner-Contractor Agreement, both in Conditions of the Contract and in the specifications. General warranties are usually stated in General Conditions, such as those in AIA Document A201 - General Conditions, subparagraphs 3.5.1 – Warranty 9.3.3 - Applications for Payment, and Article 12, Correction of Work. More detailed warranties in specifications, as part of the Agreement, often require specific warranties on such items as roofing, special coatings, specific products, or equipment. Usually such warranties are longer than the normal one-year correction period. Warranties for manufactured products are usually based on manufacturer's warranties. The General Contractor may be required to secure specified extended warranties and may be required to guarantee performance of the extended warranties, unless the contract makes it clear that the General Contractor only was obligated to furnish the supplier’s warranty.

Implied Warranties: Implied warranties, such as good and workmanlike construction and habitability, are inserted into the contract by operation of law, and may be in addition to any expressed warranties. They are implied by law, and are just as binding as those written into Contract Documents. Implied warranties are a part of every construction contract unless expressly excluded. By law, they are implied even when not expressly stated. The implied warranty of good and workmanlike construction may be disclaimed, but only if a different expressed warranty is substituted in clear language. The failure to include an expressed warranty does not relieve the Contractor from implied warranty responsibility, even after the work has been completed and final payment received. The implied warranty of habitability may not be disclaimed.

Subcontractors should be aware that language in Contractor-Subcontractor Agreements usually incorporate

provisions of the Owner-Contractor Agreement by reference, which also makes the Contractor's warranty obligations to the Owner applicable to the subcontractor. Subcontractors owe their implied warranties to the General Contractor, not to the Owner, unless the subcontract specifies otherwise.

Remedies for Breach of Warranty: Warranties, both expressed and implied, are legally enforceable against a Contractor. The legal remedy for failure to perform warranty obligations is, in most cases, to bring suit or arbitration against the Contractor for damages for breach of warranty, provided the failure falls within the time limitation period for litigation.

A breach of an expressed or implied warranty can subject the seller (Contractor) to provisions of the Texas Deceptive Trade Practices Act, with possible exposure to punitive damages.

One-Year Correction Period: In addition to the Expressed Warranties and Implied Warranties, AIA and other General Conditions provide that the Contractor shall correct defective Work within the one-year period after the Date of Substantial Completion, aside from any other warranty provisions. Unless limited by the Contract, the Contractor may also have a warranty obligation for a period of time longer than one year. The warranty in A201 Paragraph 3.5.1 does not have a time limit. Only the obligation to make a repair as specified in 12.2 is limited to one year after substantial completion. This apparent conflict is resolved by the courts, which have concluded that the obligation to repair in 12.2 is a personal obligation of the Contractor to actually do the needed work, while the longer obligation imposed by 3.5.1 is just a financial obligation to pay for the necessary repair.

Service Policies: These also are not warranties. They are contracts between the Owner and a specific supplier or subcontractor under the Contractor, for providing services for a stated period of time after the date of Substantial Completion.

RECOMMENDATIONS

Use the term "Warranty", not "Guarantee" in Contract Documents.

Know the Expressed Warranties contained in the Owner-Contractor Agreement, and the Implied Warranties that are inherent in any construction work.

Do not use the term "one-year warranty"; use "One-year Correction Period".

Manufacturers' and subcontractors' warranties should be assigned to the Owner, not the Contractor.

Should there be any extra costs involved in providing a warranty, that cost should be included in the bid/contract amount.

Some specifications require the general contractor to obtain extended express warranties from manufacturers naming the Owner as the beneficiary of these expressed warranties. Other specifications make it the obligation of the general contractor not only to obtain the extended express warranties on behalf of the Owner, but also to perform the extended express warranty if the manufacturer fails to perform. Some specifications are unclear on this point. It is recommended that the specifications clearly state what is intended.

END OF RECOMMENDATION

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