CONTRACTING FOR CONSTRUCTION MANAGEMENT SERVICES

RICHARD D. CONNER*

I

INTRODUCTION

While many owners continue to favor the traditional "design then bid" delivery process of construction,[1] other owners, both private and public, under increasing pressures to save time and money, have begun looking to the "phased" and "design-build" delivery processes for results. Construction management lends itself to phased design and construction, and this approach to the delivery of a construction project appears now to be established and accepted. A third of the "owner giants" surveyed report its use.[2] The following statement, made in the *Harvard Business Review* in 1973, applies today with equal force:

> The construction management concept has been touted by some of its more evangelical proponents as a major breakthrough in the history of building, but it is really not a single new discovery. Instead, it is a mixed bag of techniques and procedures, dating back to antiquity, which have been fused together under the pressure of the present building crisis. The catalyst for this fusion has been the owner's determination to force the construction industry to regard a highly fragmented series of discrete decisions and events as a single process. In other words, the owners have argued that the building process *can* be effectively managed.
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> It now appears that they are correct. The construction management concept has been applied—and has worked—in many cases and under a wide variety of circumstances. Some of the results have been spectacular; others have been mediocre; and some have undoubtedly been failures. Obviously the use of a construction manager does not guarantee successful project management, and in some cases the costs of this approach may exceed the benefits. But the construction management approach is one of the more exciting and promising developments in the field of facilities construction, and it represents an alternative to traditional procedures of which all potential construction *owners* should have the right to be aware.[3]

The wide applicability of construction management, implied by the passage above, springs from the variety of construction management services available and

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* Attorney, Foster, Conner & Robson, Greensboro, North Carolina.

1. *See* Keller, *Owner Giants: Grand Masters of Strategy,* BUILDING DESIGN & CONSTR., Dec. 1981, at 42, 45. *Compare* COMPTROLLER GENERAL, U.S. GEN. ACCOUNTING OFFICE, PLRD-82-1, REPORT TO THE CONGRESS OF THE UNITED STATES, CONVENTIONAL DESIGN AND CONSTRUCTION METHODS ARE MORE APPLICABLE FOR CAPITOL HILL CONSTRUCTION PROJECTS (1980) (Architect of the Capitol would save time and money by using traditional methods) [hereinafter cited as COMPTROLLER GENERAL] *with* Letter from George M. White, FAIA, Architect of the Capitol, to Donald J. Horan, Director, Procurement, Logistics and Readiness Division, U.S. GAO (July 28, 1981) (response to said report, recommending phased construction for Capitol Hill projects depending on the nature of the project), *reprinted in* COMPTROLLER GENERAL, *supra*, at 61, app. IV.

2. Keller, *supra* note 1.

3. Davis & White, *How to Avoid Construction Headaches,* HARV. BUS. REV., Mar.-Apr. 1973, at 87, 93.

the many alternative methods of contracting for and using such services. Thus, it is important for an owner to judge each project individually rather than apply a stereotyped and unvarying perception of construction management. This article discusses the basic services provided by a construction manager (CM), the CM selection process, and CM contract types and forms. It also deals with the importance of establishing clear lines of responsibility and authority between owner, CM, architect, and contractors for *control* over project coordination and design review, particularly as such control may determine CM liability for trade contractor losses arising out of the construction process.

II

CM SERVICES AND SELECTION

The owner wants the highest quality product for the least cost, and he wants it delivered in the shortest time. Achieving such a result requires a project delivery process which maximizes control over the thousands of details inherent in a construction project. Professional construction management firms—those established and operated for the sole purpose of construction management—are staffed with individuals experienced in the various disciplines involved in the construction industry. They provide a broad range of management services for controlling all phases of project development. Various construction management services have been identified and are listed on Schedule A.[4]

The construction management delivery system is a team approach with project planning, design, and construction being treated as integrated tasks. Typically, the CM works with the owner and design professional from the beginning of design until project completion; his responsibilities include engineering design review, constructability considerations, contracting strategies, and project control.

A. Predesign Phase

During the predesign phase, the CM assists the owner in determining project scope and financing requirements. Often a planning document is prepared to formally define the project, to provide a site layout, to establish a master schedule, and to delineate an orderly plan for completing the work. Also during this phase, the CM performs constructability reviews to test whether the design selected will be the most practical from the construction point of view. The CM's "value engineering" function involves an inspection of project systems and materials with the aim of producing the greatest value for the least cost. For example, an important value engineering issue is how building systems respond to energy operating costs. Value engineering should be completed prior to design so it may be more efficient and less aggravating for the architect. As one author has suggested, "Anyone can take potshots at final working drawings and specifications. It takes more knowledge and skill to help the A-E [architect/engineer] find potential savings and estimate a hypothetical design. This kind of collaboration minimizes conflict—and

4. *See infra* pp. 20-21.

produces better buildings."[5]

Further, during the predesign phase the CM gives attention to all necessary permits, the agencies involved, and the time and process required to obtain the permits so that the project can advance without interruption.

B. Design Phase

Following conceptual engineering and design approval, the project is divided into areas such as site work, structural work, electrical work, plumbing, heating, ventilation and air-conditioning, piping, and finishing; the detailed engineering for each is also performed so the project can move into the field. During this design phase the CM may coordinate design responsibilities and continue to provide advice on materials and construction methods. Bid packaging, checking of contractor qualifications, and awarding of trade contracts may progress concurrently with the design phase and extend well into construction.

C. Construction Phase

When detailed engineering has reached a predetermined point on the project schedule, construction activities in the field commence. In addition to his normal scheduling, coordination, and supervision functions, the professional CM will install a cost-control system for administering contractor progress payments and reviewing change order proposals. During the final phases of the project, plans are developed for the operation and maintenance of the facility under construction.[6]

Throughout the construction process the professional CM uses various techniques to monitor job progress and costs. Progress scheduling techniques can range from simple bar charts and arrow diagrams to detailed interface methods such as critical path method diagrams, depending on the project. With realistic input from the various trade contractors to check on the reasonableness of the allotted times, the schedule may be periodically updated. The progress schedule is then integrated with other project information to provide a combined "schedule and cost report" showing updated information such as start/finish dates, remaining duration time, total contract cost, percentage of the work completed, and cost expended to date. These reports are sufficiently detailed to allow early identification of problems so that corrective action may be taken.

D. Selecting a CM

> Construction management increases control, which makes major time and cost savings over the traditional process possible. But if that control isn't exercised, the results are worse, not better. Good construction management is great; bad construction management is awful.[7]

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5. C. THOMSEN, CM: DEVELOPING, MARKETING AND DELIVERING CONSTRUCTION MANAGEMENT SERVICES 106 (1982).

6. For a mass transit system, pipeline, or high technology manufacturing facility, for example, the CM may prepare operations manuals, select and train personnel, and start up the project and turn it over to the owner, who may then elect to operate the project himself or contract with an operating contractor.

7. C. THOMSEN, *supra* note 5.

Construction management services can be performed by the owner, architect/engineer (A/E), general contractor, or professional construction management firm. Performance of such services by the owner can be a very desirable approach if the owner has the organization and personnel with the necessary experience. The benefits of such an arrangement derive from the direct accountability and simplified lines of communication and decisionmaking when responsibility is lodged in a single organization under the owner's control. When an A/E or general construction contractor serves as CM, the owner must carefully consider that party's capabilities for providing management services in addition to its normal design/engineering or construction services. Because of this specialization, an A/E or general contractor simply may not possess the expertise to provide effective construction management.

The process of selecting a construction management firm often begins with a qualification questionnaire designed to initially assess the firm's construction management experience, its ability to staff the proposed project, and the techniques used by the firm to control cost and schedule. The questionnaire provides information from which to prepare a list of construction management firms that will be granted qualification interviews. At those interviews, the presentations should cover, at least, present construction management capability (current and potential backlog for a designated period), project schedule and cost control systems proposed, experience, proposed organization and staffing (including resumes of key construction management personnel), preferred method of contractual arrangement with owner and contractors, and names of clients whose facilities may be visited to view and discuss past work. The representative of the professional construction management firm (some owners will prefer that the presentation be made by the top manager of the construction management team that will actually handle the project for which the services are sought) should be prepared to respond to a broad range of owner questions and concerns including means used to keep contracts on schedule (particularly once slippage has begun), methods of facilitating coordination and communication of the information necessary to make cost and budget estimates, and ways of assuring management continuity.

An owner who has had no working experience with a particular construction management firm may choose to request letters of authorization so that he may obtain information concerning the CM's performance from discussions with previous clients as well as with design professionals who have worked with the construction management firm. The owner's need for a manager rather than a building or designer should guide the preparation of questions to be asked in such discussions.[8]

8. For further ideas on CM selection, see S.C. CODE ANN. § 11-35-3220(5) (Law. Co-op. Supp. 1982) (evaluation criteria for selection of CM for public construction projects).

III

THE OWNER-CM SERVICE CONTRACT

The importance of the owner's contractual arrangement with the CM selected is illustrated by this analogous discussion of architect liability:

> Although some change in the legal framework for architectural liability has occurred, the law has found difficulty in adjusting to those developments in architectural practice which have upset the traditional model. The apportionment of liability between the architect and other parties to the building process has proved the greatest stumbling block. Because tort law provides no ready means by which liability can be apportioned among joint tortfeasors, courts must have recourse to a contractual allocation of risk or to preconceived notions of how the risk ought to be allocated. Persisting with their stereotype of the architect, courts have either strained the interpretation of contracts or implied common law responsibilities. *Now that architectural relationships take so many forms,* it is much more appropriate to allocate risks on the basis of the parties' contracts as modified by their later conduct. . . .[9] Even if the suit is brought in tort, the result will be the same since the contract interpretation is infected with the tort standard of reasonable care, and *the existence of a tort duty is controlled by the contractual undertakings.*[10]
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> Few duties can reasonably be imposed in all contexts because the architect's construction responsibilities now vary greatly. In general, *the frequency of departures from the traditional model makes it appropriate to regard the problem as one of contract interpretation and thus to look to the parties' reasonable expectations.*[11]

A. Contract Types (with or without a GMP)

Industry practitioners tend to categorize owner-CM contracts by type according to the pricing and compensation methods used. For example, construction management services may be purchased by the owner for a fee plus reimbursement of certain expenses. Under such a contract, a fixed ceiling for the cost of construction is not usually guaranteed. The owner's budget is maintained through the CM's expertise in controlling the project. In other instances the CM may guarantee that the cost of a project will not exceed a sum established by the contract, with the CM being responsible for payment of any excess costs. The selection of a contract type is a marketing decision involving considerations beyond the scope of this article. Advocates of the fixed fee plus reimbursables approach stress the CM's lack of a financial stake in the project that might upset loyalty to the owner's interest, while advocates of the cost plus a fee with a guaranteed maximum price (GMP) approach stress the presence of cost security for the owner. Under either contract type, it is the CM's ability to perform its management plan that makes the arrangement successful.

B. Model Forms

A variety of "model" construction agreements are available, including those published by the American Institute of Architects (AIA) and the Associated General Contractors (AGC).[12] Specifically, the AIA CM Agreement, the AGC 1980

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9. Note, *Architectural Malpractice: A Contract-Based Approach,* 92 HARV. L. REV. 1075, 1083 (1979) (emphasis added) (footnotes omitted).

10. *Id.* at 1089 (emphasis added) (footnotes omitted).

11. *Id.* at 1090 (emphasis added) (footnote omitted).

12. These forms include: American Institute of Architects, General Conditions of the Contract for

GMP Agreement, and the AGC CM Agreement concern the owner-CM relationship. There is currently no one form which is universally accepted and can be used on all construction management jobs, although trade journals report that efforts to refine such documents continue.[13] In practice, most parties will probably develop their own concepts of construction management as they negotiate the contract.[14]

Schedule B[15] contains a sample list of elements for an owner-CM agreement. In apportioning responsibility in the document, consideration should be given initially to the type of relationship—agent or independent contractor—which is to be established. The AIA CM Agreement and the AGC CM Agreement contemplate contracts between the owner and trade contractors with the CM being employed to further the interests of the owner. The former provides: "The Construction Manager covenants with the Owner to further the interests of the Owner by furnishing the Construction Manager's skill and judgment in cooperation with, and in reliance upon, the services of an architect."[16] The AGC CM Agreement provides: "The Construction Manager accepts the relationship of trust and confidence established between him and the Owner by this Agreement. He covenants with the Owner to furnish his best skill and judgment and to cooperate with the Architect/Engineer in furthering the interests of the Owner."[17] By accepting the position of trust and confidence and agreeing to promote and further the owner's interests, the CM appears to be serving as the owner's agent. Such a conclusion is further supported when the CM is compensated on an hourly or fixed fee basis.

Even though the AGC 1980 GMP Agreement also speaks to the CM's position of trust and confidence and his promise of furthering the owner's interest,[18] a later provision contemplates that trade contracts will be between the CM, rather than the owner, and the trade contractors.[19] Such a contracting arrangement appears to place the CM in the position of an independent contractor rather than an agent

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Construction, Doc. A201/CM (constr. management ed. June 1980) [hereinafter cited as AIA/CM General Conditions]; American Institute of Architects, Standard Form of Agreement Between Owner and Architect, Doc. B141/CM (constr. managment ed. June 1980) [hereinafter cited as AIA/CM Owner-Architect Agreement]; American Institute of Architects, Standard Form of Agreement Between Owner and Construction Manager, Doc. B801 (June 1980) [hereinafter cited as AIA CM Agreement]; Associated General Contractors, Standard Form of Agreement Between Owner and Construction Manager (Guaranteed Maximum Price Option), Doc. 8 (July 1980) [hereinafter cited as AGC 1980 GMP Agreement]; Associated General Contractors, Amendment to Owner-Construction Manager Contract, Doc. 8a (June 1977); Associated General Contractors, General Conditions for Trade Contractors Under Construction Managements Agreements, Doc. 8b (July 1980); Associated General Contractors, Standard Form of Agreement Between Owner and Construction Manager (Owner Awards All Trade Contracts), Doc. 8d (June 1979) [hereinafter cited as AGC CM Agreement]. Older editions of some of these documents are reprinted in BUSINESSMAN'S GUIDE TO CONSTRUCTION (1980).

13. *See* BUILDING DESIGN AND CONSTR., Oct. 1982, at 31; ENG'G NEWS RECORD, Nov. 1982, at 10, 64; CONSTRUCTOR, Sept. 1982, at 24.

14. R. CUSHMAN, M. SIMON & M. STOKES, CONSTRUCTION INDUSTRY FORM BOOK 6 (1979 & Supp. 1981).

15. *See infra* pp. 22-23.

16. AIA CM Agreement, *supra* note 12, art. 1.

17. AGC CM Agreement, *supra* note 12, art. 1.

18. AGC 1980 GMP Agreement, *supra* note 12, art. 1.

19. *Id.* art. 4.3.

of the owner. In a recent case, a CM was found to occupy the status of both agent and independent contractor.[20]

C. The Phased Delivery Strategy—"Fast Track"

The contractual arrangement selected may also be influenced by whether the owner wishes to use the "fast track" construction method. A recent study from the point of view of owners and users of construction concludes that integrating construction expertise with project design and engineering in the design phase may reduce project costs and completion times through the increased use of new construction technology.[21] Primarily, under the traditional "design-then-bid" method of construction, the integration process and plans and specifications are complete before the field work begins. Owners who cannot afford to wait until all construction documents are complete to let bids must integrate actual construction with design, as this "fast track"[22] method calls for commencement of field work in phases as the plans and specifications are completed. In such cases, primarily the following contractual arrangements are used:

(1) Multiple prime construction contracts and separate prime A/E and CM contracts (with the CM integrating planning, design, and construction and controlling the project);

(2) A single prime CM contract and separate A/E contract with trade contracts between the CM and contractors.

Phased construction is routine under construction management, but it is not a necessary aspect of the latter construction method. The single prime contract arrangement will usually include a GMP (guaranteed maximum price) with the CM having direct control over payments to the trade contractors. A GMP contract may also provide that savings realized if costs are less than the maximum are to be shared between the owner and CM. When a GMP is given on incomplete plans and specifications, however, careful contract drafting is necessary to help avoid later disputes as to precisely what work is covered by the set price.

D. A Note on Public Works

Beginning construction before all design documentation is complete may pose difficulties for some public owners as they may be required to follow certain procedures in awarding contracts.[23] Similarly, the design-build arrangement, where contractual responsibility to the owner for both design and construction is vested in one entity, is seldom used by public agencies largely because of state statutes requiring competitive bidding on construction work.[24] However, one author sug-

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20. Johnson v. Bechtel Assocs. Professional Corp., 545 F. Supp. 783 (D.D.C. 1982).

21. Report B-1 of The Business Roundtable Construction Industry Cost Effectiveness Project (Aug. 1982).

22. The process of phasing construction with design completion is often referred to as "fast track." Meyer, *A Glossary of Construction Terms,* 14 FORUM 924, 929 (1979), defines fast track as "a construction contract that is let without final plans and specs which are supplied as the work progresses."

23. For several cases dealing with public owners employing fast track, see Attlin Constr. v. Muncie Community Schools, 413 N.E.2d 281 (Ind. Ct. App. 1981); Negley v. Lebanon Community School Corp., 173 Ind. App. 17, 362 N.E.2d 178 (1977); Mongiovi v. Doerner, 24 Or. App. 639, 546 P.2d 1110 (1976).

24. Wright, *Controversial Option for Public Projects,* BUILDING DESIGN & CONSTR., Nov. 1981, at 82.

gests that an arrangement called A-E-CM (or "professional" design-build) may allow public bidding law requirements to be met in a design-build situation by

> simply combining the design and construction management services into one contract, with the client holding all construction contracts directly . . . . The A-E-CM contract is usually some version of a professional fee arrangement, while the construction contracts usually are stipulated-sum or unit-price. Contracts for cost of work plus fee are used occasionally for the contractors; a GMP may be given by the A-E-CM.[25]

IV

PROJECT SCHEDULING

A. General Purposes

A method used initially by the CM in establishing and maintaining control is scheduling the performance of the events inherent in a construction project. Such a schedule serves three main purposes:

1. To obligate the owner, A/E, contractor, and other parties to performance commitments;
2. To measure performance in relation to time and cost; and
3. To facilitate coordination and execution of the required work.

Prior to the design phase of the schedule, project summaries help to define the project's scope and aid in estimating total cost. Later, scheduling and controlling the progress of the design effort itself is particularly useful on complex projects and projects involving multiple design contracts because if design progress slips, the CM can assess the potential for construction start delays and act accordingly.

B. Project Milestones

A milestone schedule outlining events significant to the project and "long lead" major equipment items associated with those events may be furnished to the contractors in the bid documents. Such a schedule may be a simple bar chart or an arrow-type diagram illustrating the sequence and time required for the various contractors in reaching the "milestone." The CM will often indicate the rationale for the dates and completion times, making the contractor aware of assumptions concerning production rates and resource allocations. At times, each contractor is required to assign costs (including a prorated portion of overhead and profit) to each activity shown on the schedule.

Such a schedule, although included in bid documents, often binds the contractor to only the start and completion dates shown with the exact sequence of operations and time estimates filled in for the sole purpose of illustrating a feasible plan for completion of the project. Thereafter, each contractor will furnish its own logic and time estimate information for its portion of the work, and these data will be considered in arriving at a formal, binding project schedule. The information provided by the contractors will often include the order, sequence, and interdependence of all significant work activities along with a schedule for the procurement,

25. C. THOMSEN, *supra* note 5.

fabrication, and delivery of critical or special materials and equipment. Also, many contractors provide schedules of submittals and approvals of samples and shop drawings for equipment and materials which could have schedule impact.

C. Schedule Compliance

The trade contractors take contractual responsibility for maintaining progress and meeting the project completion date. During construction the CM will periodically review the schedule with the contractors, making checks on actual progress, planned progress, job conditions affecting progress, contract costs, and schedule changes since the previous update. If the schedule review shows that the actual projected completion time for a scheduled job or item does not come within the time allowed, then work sequence and time of performance can be modified by the contractors through concurrent operations, additional manpower, additional shifts, and overtime until the schedule produced indicates that all significant contract completion dates will be met. Schedule modifications must be based upon realistic input or they may otherwise represent little more than theoretical aspirations rather than actual contract requirements.[26]

V

CONTROL IN PROJECT COORDINATION AND DESIGN REVIEW

A CM undertakes a wide variety of performance obligations, and the areas of potential liability are numerous.[27] When circumstances combine so that ongoing construction activity as contemplated by the parties becomes increasingly difficult and costly, a claim for economic injury may result. The claim may come initially from a trade contractor or some other third party, and the theory of recovery may be either breach of contract or negligence (tort). Depending upon the jurisdiction, the concept of privity of contract may no longer apply as a defense in a case involving a construction professional. The range of parties to whom a duty of care is owed has increased, with the professional now being held liable to third parties if the harm was foreseeable.[28] For example, a recent state court decision held that a trade contractor not in privity of contract with the CM stated a cause of action in tort by alleging that the CM negligently directed the trade contractor to proceed with certain work and carelessly failed to supervise another trade contractor's work.[29]

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26. United States *ex rel.* R.W. Vaught Co. v. F.D. Rich Co., 439 F.2d 895, 900 (8th Cir. 1971).

27. *See* Sneed, *The Construction Manager's Liability,* in CONSTRUCTION LITIGATION 317 (K. Cushman ed. 1981).

28. *See* E.C. Ernst, Inc. v. Manhattan Constr. Co., 551 F.2d 1026 (5th Cir. 1977), *cert. denied,* 434 U.S. 1067 (1978); United States *ex rel.* Los Angeles Testing Laboratory v. Rogers & Rogers, 161 F. Supp. 132 (S.D.Cal. 1958); A.R. Moyer, Inc. v. Graham, 285 So. 2d 397 (Fla. 1973); Miller v. DeWitt, 37 Ill. 2d 273, 226 N.E.2d 630 (1967); Shoffner Indus. v. W.B. Lloyd Constr. Co., 42 N.C. App. 259, 257 S.E.2d 50, *cert. denied,* 298 N.C. 296, 259 S.E.2d 301 (1979); N. WALKER, E. WALKER & T. ROHDENBURG, LEGAL PITFALLS IN ARCHITECTURE, ENGINEERING AND BUILDING CONSTRUCTION §§ 3.2, 9.1 (2d ed. 1979); Crisham, *Liability of Architects and Engineers to Third Parties,* 26 FED'N INS. COUNS. Q. 177 (1976); Prosser, *The Assault upon the Citadel,* 69 YALE L.J. 1099, 1101-02 (1960); Note, *Liability of Architects and Engineers to Third Parties: A New Approach,* 53 NOTRE DAME LAW. 306 (1977); Annot., 65 A.L.R.3d 249 (1975).

29. Gateway Erectors Div. v. Lutheran Gen. Hosp., 102 Ill. App. 3d 300, 430 N.E.2d 20 (1981). The

A. Project Coordination

Fast track construction requires a combined precision performance from all of those involved in the finance, design, management, and construction of the project. Factors operating against such "combined precisions" include funding problems that may prevent the timely award of multiple construction contracts (especially for public work[30]), the complexity of design and quality of construction which may be required, the myriad of necessary reviews and approvals, the number of changes required throughout the design/construction cycle, and the possibility of one or more of the contractors becoming delayed in performance, for whatever reason. Clearly the necessity for effective scheduling, supervision, and coordination is at the heart of the phased design and construction method; and without it, the result may be akin to the "battlefield" described by Associate Judge Kern in *Blake Construction Co. v. J.C. Coakley Co.*:

> [E]xcept in the middle of a battlefield, nowhere must men coordinate the movement of other men and all materials in the midst of such chaos and with such limited certainty of present facts and future occurrences as in a huge construction project such as the building of this 100 million dollar hospital. Even the most painstaking planning frequently turns out to be mere conjecture and accommodation to changes must necessarily be of the rough, quick and *ad hoc* sort, analogous to ever changing commands on the battlefield.[31]

Thus, when agreements with trade contractors are signed by the owner or by the CM as the owner's agent, such trade contracts may require that the contractor look to the CM for scheduling, general supervision, and project coordination. This puts the CM in a position to improve overall project efficiency by opening work areas to the contractors in an orderly manner and seeing that preceding work is completed in a timely fashion; contractors are often required by contract to modify the order, sequence, or duration of their work as the CM directs.

When problems do arise, trade contractors desiring compensation for cost overruns, lost profit, overhead, and the like may then seek to bring claims against the CM alleging failure to meet the duty of reasonable care imposed by common law and the contract in regard to scheduling and coordinating the work of the various contractors.[32] To date, no judicial decision has adequately discussed the CM's standard of care in performing these scheduling and coordination obligations. However, the suggestions concerning the owner's duty to coordinate made in the *Emory Law Journal* in 1979 seem relevant:

> Basically, the duty to coordinate obligates the owner to act to prevent injury to a contractor resulting from another contractor's improper performance. This obligation, which may be expressed or implied, flows from the owner's retention of control over the manner in which each of the contracts is to be performed. Arising from the retention of such power,

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court drew on an earlier case holding that a supervising engineer owed a duty to a general contractor to avoid negligently causing extra expenses for the contractor. Normoyle-Berg & Assocs. v. Village of Deer Creek, 39 Ill. App. 3d 744, 350 N.E.2d 559 (1976). *But cf.* John E. Green Plumbing & Heating Co. v. Turner Constr. Co., 500 F. Supp. 910 (E.D. Mich. 1980) (allegations of negligence by a trade contractor against an agent CM were barred by the existence of a "no damage for delay" clause in the trade contractor-owner agreement).

30. COMPTROLLER GENERAL, *supra* note 1, at 21-22.

31. 431 A.2d 569, 575 (D.C. App. 1981).

32. Gateway Erectors Div. v. Lutheran Gen. Hosp., 102 Ill. App. 3d 300, 430 N.E.2d 20 (1981); John E. Green Plumbing & Heating Co. v. Turner Constr. Co., 500 F. Supp. 910 (E.D. Mich. 1980).

> however, is the duty to exercise that power when necessary.[33]
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> . . . .
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> . . . Coordination, then, is essentially a job management function.[34]
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> Courts must consider two factors in determining whether an owner has discharged his duty to coordinate. First, the owner must act diligently, using proper procedures to obtain information necessary to evaluate his situation. Second, after making an independent determination in light of both his and the contractors' interests, he must choose appropriate methods to enforce the progress schedule and prod the delinquent contractor along. In short, after making inquiry the owner must choose the nature of his action.[35]

To exercise this coordination function properly, the CM must exert control over contractor performance. Such control does not necessarily require the imposition of sanctions against the offending contractor since coordination is essentially a matter of promoting cooperation among contractors and the contractors usually will be performing properly. Thus, the term "control" in the context of the coordination function often means the limited duty of keeping informed about contractor performance and advising the owner in this regard. The owner retains "the last word" through control over payments to the contractor and his right to stop the contractor's work.[36] All the CM is required to do is make a reasonable effort to notify the contractors and the owner of coordination problems. Obviously, this type of arrangement requires an owner who is willing to make a diligent response. Since an owner (for example, a hospital board of trustees) may not be properly responsive to the CM's recommendations, a problem may persist and the CM may be drawn into a damage suit because of his apparent role as an intermediary in daily dealings with a delayed contractor.

It is possible that the CM's liability in such a situation may be viewed as analogous to that of the "project expediter" on a multiple prime contract project. On such a project, the owner may deny a contractor's claims for economic injury on the basis that the contract requires the damaged party to proceed directly against the parallel prime contractor allegedly causing the delay. The owner may have relied on one of the prime contractors to coordinate and expedite the work, and even though the owner has retained the right to withhold payment and terminate (as with the CM arrangement), he will deny liability for damages resulting from delays caused by the performance of his "project expediter."

Liability was placed on the "project expediter" by the Superior Court of New Jersey in the 1978 case of *Edwin J. Dobson, Jr., Inc., v. Rutgers.*[37] The court made a detailed review of the contracts between the public owner and its multiple prime contractors and held that, even though the owner retained the right to withhold money from the contractors, the coordination responsibility and control had been delegated to the contractor for general construction.[38] Because the parties had

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33. Goldberg, *The Owner's Duty to Coordinate Multi-Prime Construction Contractors, A Condition of Cooperation,* 28 EMORY L.J. 377, 385-86 (1979) (footnotes omitted).

34. *Id.* at 391.

35. *Id.* at 395-96 (footnotes omitted).

36. AIA CM Agreement, *supra* note 12, arts. 1.2.2, 1.2.2.3, 1.2.7.1; AIA/CM General Conditions, *supra* note 12, arts. 3.3.1, 9.5; Public Building Service, General Services Administration, Construction Management Contract (rev. ed. April 15, 1975); AGC CM Agreement, *supra* note 12, art. 2.2.1.5.

37. 157 N.J. Super. 357, 384 A.2d 1121 (1978).

38. The contract for general construction provided:

agreed among themselves in the contract documents that the contractor responsible for general construction was to coordinate the work, the effective means of enforcing the contract was not the owner's ability to withhold funds or to terminate but rather the rights of the various contractors to sue each other under direct contractual causes of action based on reciprocal coordination agreements as well as on third party beneficiary causes of action.[39] To place liability on the owner because of his power to withhold monies and terminate, the court reasoned, would "defeat the very purpose an owner has in entering into a general contract, to escape the responsiblity of coordination and progression of work as well as consequent liability."[40]

Thus, when a CM had the same responsibilities and powers as the project expediter in *Dobson v. Rutgers,* liability might similarly be imposed. The contract documents must leave no room for an impasse of control over coordination,[41] and the owner must be willing to properly compensate the CM for assuming responsibility.

B. Design Review

Another important construction management service is design review. Generally, the architect acts as an independent contractor[42] charged with the responsibility for preparation of "drawings and specifications setting forth in detail the requirements for the construction of the project."[43] He is liable for breach of contract to those with whom he has contracted[44] and may be liable in tort to additional parties if negligent in providing defective plans and specifications.[45] Still, the CM often provides the owner with advice and reviews the architect's design (selection of material). The CM's role as envisioned by model form contracts, however, is that of a consultant only.[46]

The General Contractor has the responsibility for being . . . coordinator and expediter of all the Contractors and of the total construction process . . . .

. . . the Owner relies upon the . . . General Contractor to supervise, direct, control and manage . . . the efforts of the other Contractors, so as to deliver the intended building . . . within the scheduled time . . . .

. . . All other Contractors shall rely upon the . . . General Contractor to supervise, direct, control and manage the . . . work of other Contractors . . . .

Id. at 367, 384 A.2d at 1125-26.

[T]he General Contractor shall incorporate and *enforce* the combined schedule as his own . . . .

Id. at 368 n.4, 384 A.2d at 1126 n.4.

39. *Id.* at 407, 384 A.2d at 1146; *see also* Sneed, *supra* note 27.

40. Dobson v. Rutgers, 157 N.J. Super. at 405, 384 A.2d at 1146.

41. Special contract provisions may be in order where there are multiple prime contracts. CM contracts issued under the authority of the South Carolina Consolidated Procurement Code, S.C. CODE ANN. §§ 11-35-10 to -5270 (Law Co-op. Supp. 1982), often require the CM on a multiple prime project to *enforce* the faithful performance of the contract and assure that work had been, or was being, done in accordance with the contract documents and give the CM the power to withhold payment, accelerate work, order work stoppage, and order contractors to remove unskilled workmen.

42. 5 AM. JUR. 2D *Architects* § 6 (1962).

43. AIA/CM Owner-Architect Agreement, *supra* note 12, art. 1.3.1.

44. 5 AM. JUR. 2D, *supra* note 42, § 8 at 670; *see also* cases cited *id.* at 670 n.1.

45. *Id.* § 23 at 687 n.7 (1962 & Supp. 1982).

46. AIA CM Agreement, *supra* note 12, art. 1.1.2: "*Review* designs during their development. *Advise* on site use . . . . Provide *recommendations* on relative feasibility . . . ." (emphasis added); *Id.* art. 1.1.5: "Coordinate Contract Documents by *consulting* with . . . Architect regarding Drawings and Specifications as they are being prepared, and *recommending* alternative solutions whenever design details affect construc-

In assessing a CM's potential liability for injuries arising out of defective design, the concept of "control" becomes crucial. While no courts, to date, have ruled in this specific context, the Supreme Court of Alaska in *Hammond v. Bechtel, Inc.*[47] analyzed the CM's control in an analogous situation involving job safety procedures.

The issue in *Hammond* was whether the owner and CM retained sufficient control over job safety procedures to warrant imposition of liability for injury to an employee of one of the contractors on the project. As with an architect and design responsiblity, actual construction was left to multiple "execution contractors" under direct contract to the owner. These "execution contractors" were, by contract, independent and "not the agent or employee[s] of OWNERS . . . ."[48]

The employee (plaintiff) of one of these "execution contractors" was injured when he fell through a hole in a trailer, and he sued the CM and owner as a third party beneficiary of the CM's alleged "express and absolute duty," arising from the contract with the owner, "to provide adequate and proper safeguards."[49] The employee argued that as a result of a provision concerning safety, the CM had assumed the duty to inspect the trailer on which the employee was injured.[50] The employee further asserted that the CM was acting as the owner's agent so that the owner was responsible for any breach of duty committed by the CM.[51] The owner and CM relied on the terms of the owner-execution contractor contract[52] and, in support of their motion for summary judgment, submitted affidavits disclaiming (1) the CM's authority to direct the method and manner of the work accomplished by the execution contractor and (2) any requirement that the CM perform maintenance on the equipment used by the execution contractors.[53]

In reversing the trial court's grant of this motion, the Supreme Court of Alaska examined the liability of an employer of an independent contractor under the Restatement (Second) of Torts § 409[54] and stated that:

> As a matter of general principle, "the employer of an independent contractor is not liable for physical harm caused to another by an act or omission of the contractor or his servants." This principle is applicable to [the owner] and [CM] insofar as they maintained an

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tion feasibility, costs or schedules." (emphasis added); AGC 1980 GMP Agreement & AGC CM Agreement, *supra* note 12, art. 2.1.1: "Schedule and attend regular meetings with the architect/engineer during the development of conceptual and preliminary design to *advise* . . . [and] provide recommendations . . . ." (emphasis added); AGC 1980 GMP Agreement & AGC CM Agreement, *supra* note 12, art. 2.1.4: "*Review* the drawings and specifications as they are prepared, *recommending* alternative solutions . . ., *without, however, assuming any of the architect/engineer's responsibilities for design.*" (emphasis added).

47. 606 P.2d 1269 (Alaska 1980).

48. *Id.* at 1271.

49. *Id.*

50. *Id.*

51. *Id.*

52. The prime contract under consideration provided that the owner shall have no authority "to supervise the employees or representatives of [the prime contractor] and accomplishing WORK shall be under the supervision and control of" the prime contractor. The prime contract further provided that the prime contractor shall "be responsible for safety related to and during the prosecution of WORK." The prime contract's definition of safety responsibilities was similar in language to that used to define the construction manager's duties in that regard. *Id.*

53. *Id.* at 1272.

54. RESTATEMENT (SECOND) OF TORTS § 409 (1965).

"independent contractor" relationship with [the prime contractor].[55]

The court, however, also cited Restatement (Second) of Torts § 414[56] and concluded that the degree of control retained by the owner and CM was the key issue for determining liability.[57] Since that was a question for the jury, the plaintiff had raised genuine issues of fact concerning both the CM's control and the alleged failure to exercise that control properly.[58] In its last footnote, the court stated: "It is sufficient to note that Bechtel's [the CM] liability, whether termed contractual or tort, is dependent on its retained right of control."[59]

When the architect is acting as the owner's independent contractor, the same analysis of the Restatement (Second) of Torts as used in *Hammond* should apply. The CM's control over design would not appear sufficient to support liability when governed by general "advise and recommend" language such as in the model AIA and AGC documents.[60] To impose liability on the CM for injuries arising from design problems in such a situation would be to impose a duty on the CM which was not contemplated by the parties and for which the CM received no compensation.[61] The CM should not be liable in tort for making suggestions or recommendations which result in design changes or for prescribing alterations to the design unless the contract documents require that such suggestions or recommendations be followed or give the CM some right of supervision such that the A/E is not entirely free to do the work in his own way.[62]

Before placing responsibility, the courts typically review not only the duties contemplated by the contract language but also the activities of the parties to the contract.[63] Thus, if the CM is to avoid liability, his actions must truly be those of

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55. *Hammond,* 606 P.2d at 1273 (footnote omitted).

56. RESTATEMENT (SECOND) OF TORTS § 414 (1965) provides:

> One who entrusts work to an independent contractor, but who retains the control of any part of the work, is subject to liability for physical harm to others for whose safety the employer owes a duty to exercise reasonable care, which is caused by his failure to exercise his control with reasonable care.

The precise nature and extent of the necessary control is expressed in comment c to § 414 as follows:

> In order for the rules stated in this Section to apply, the employer must have retained at least some degree of control over the manner in which the work is done. It is not enough that he has merely a general right to order the work stopped or resumed, to inspect its progress or receive reports, to make suggestions or recommendations which need not necessarily be followed, or to prescribe alterations and deviations. Such a general right is usually reserved to employers, but it does not mean that the contractor is controlled as to his methods of work, or as to operative detail. There must be such a retention of a right of supervision that the contractor is not entirely free to do the work in his own way.

57. *Hammond,* 606 P.2d at 1273-74; *see also* Everette v. Alyeska Pipeline Serv. Co., 614 P.2d 1341 (Alaska 1980) (CM not in sufficient control for liability); Parks v. Atkinson, 19 Ariz. App. 111, 505 P.2d 279 (1973) (architect without liability because he controlled only whether work met specifications, not the way work was actually done).

58. *Hammond,* 606 P.2d at 1275.

59. *Id.* at 1278 n.18.

60. *See supra* note 46.

61. For a case in which an architect's duty was contemplated and contractually established, see Cutlip v. Lucky Stores, 22 Md. App. 673, 325 A.2d 432 (1974).

62. *See* RESTATEMENT (SECOND) OF TORTS, *supra* note 56.

63. It is settled tort law that once a person gratuitously embarks upon a course intended to protect another person or class of persons, he must conduct himself in a reasonable and prudent fashion; his failure to do so will subject him to liability for damages if injury proximately results. *See* Donahue v. Maryland Casualty Co., 248 F. Supp. 588, 592 (D. Md. 1965), *aff'd per curiam,* 363 F.2d 442 (4th Cir. 1966); Krieger v. J.E. Greiner Co., 282 Md. 50, 69-70, 382 A.2d 1069, 1079-80 (1978); Hoover v. Williamson, 236 Md. 250, 254, 203 A.2d 861, 863 (1964); RESTATEMENT (SECOND) OF TORTS § 323 (1965); *see also* Reber v. Chan-

a consultant. He must avoid conduct which controls the A/E's method of work or operative details or otherwise restrains the A/E's ability to be entirely free to perform the design function in his own way.[64]

VI

CONCLUSION

The CM represents the owner and achieves the owner's interests by controlling the project and its various elements, and the effective application of the construction management delivery system is enhanced by the presence of a professional CM. The broad range of construction management services available may be provided under a wide variety of contractual arrangements. On a fast track project, it is essential that the contract documents deal adequately with the issue of control over coordination and that such contract requirements be adequately communicated to the owner as well as the trade contractors. Additionally, the contract documents should clearly allocate responsibility for control over design. Merely consulting and making design recommendations should not give rise to liability on the part of the CM should the design prove defective.

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dler High School Dist. #202, 13 Ariz. App. 133, 474 P.2d 852 (1970) (owner did not retain control over contractor by requiring architect to "supervise" contractor's performance, and architect did not voluntarily assume control by his conduct).

64. Where appropriate, the CM agreement with the owner may expressly delegate all control of the design function to the A/E and, in addition, the CM and A/E may enter into a "Memorandum of Understanding" setting out clearly the A/E's responsibilities. *See* Imperial Casualty and Indemnity Co., Architects, Engineers and Construction Manager's Professional Liability Insurance Policy No. AE, Form No. 4-02 574.

SCHEDULE A

CM SERVICES

Predesign Services:

- Assist in A/E Selection and Contracting
- Provide Programming and/or Establish Quality Levels and "Scope"
- Conduct Preliminary Studies to Determine Design Criteria for Insurance and Codes
- Conduct Preliminary Studies to Determine Design Criteria for Constructability
- Conduct and Report Market Survey
- Establish or Confirm Construction and Total Project Budget
- Prepare "Palette" of Design Materials for Owner and A/E Consideration
- Prepare Financial Performance Plans
- Prepare Feasibility Study
- Assist in Site Selection
- Develop Management Plan
- Develop Master Schedule

Design Phase Services:

- Coordinate Design Responsibilities
- Provide Input to Design Disciplines:
  - Value Engineering Studies
  - Design Ramification on Schedule
  - Approval Cycle
  - Advice on Material and Construction Methods or Constructability Analysis
  - Advice on Local Market Conditions—Labor and Materials
- Monitor Cost
- Monitor Schedule
- Implement Management Plan:
  - Prepurchasing Long Lead Items
  - Bid Packaging
  - Coordinating Construction Contract Documents
- Provide General Conditions for Construction Contracts including Schedule Requirements
- Expedite Approval Process
- Conduct Technical Review of Documents
- Oversee Technical Consultants
- Conduct Project Progress Review Meeting

Bid and Award Phase Services:

- Assist in Prequalification of Bidders
- Generate Bidders' Interest

- Conduct Prebid Conferences
- Prepare Final Bid Documents for Issuance to Bidders
- Assist Bidders with Response to Provisional Preliminary Construction Schedule
- Provide Bid Phase Administration
- Conduct Bid Opening
- Analyze Bids and Make Recommendations to Owner for Award of Contract
- Conduct Preaward Conferences
- Negotiate Construction Contract

Construction Phase Services:

- Conduct Preconstruction Conference
- Issue Notice to Proceed
- Assure Contractors' Insurance, Bonding, and Permit Requirements Are Met
- Provide Full-Time, Onsite Staff
- Provide Finance and Cost Control:
  - Change Order Administration
  - Administration of Progress Payments
  - Cash Flow Projection
  - Fund Source Allocation
- Administer Shop Drawings, Samples, and Other Submittals
- Schedule and Coordinate Contractors
- Conduct Job Coordination/Progress Meetings
- Establish and Administer Communication Lines between All Parties
- Maintain Job Records
- Provide Construction Observation
- Provide Technical Inspection
- Provide Prefinal and Final Inspections
- Secure Guarantees and As-Built Drawings
- Review and Coordinate Safety Program
- Provide Claims Documentation and Administration
- Provide Claims Negotiations and/or Assist in Litigations
- Assure Occupancy Permit

Occupancy Phase Services:

- Coordinate Startup and Testing
- Administer Occupancy Scheduling (Move-in Coordination)
- Expedite Completion of Punch List
- Administer to Warranties and Guarantees

SCHEDULE B

SAMPLE LIST OF ELEMENTS FOR AN OWNER/CM AGREEMENT (WITH OR WITHOUT A GMP)

1. Definition of Terms
2. Scope of Project
3. Duration of Service Period
4. Scope of Services
   (a) Full CM—All Phases
   (b) Full CM—Design Phase Only
   (c) Full CM—Construction Phase Only
   (d) Project Launching
   (e) Comprehensive Services
   (f) Component Services
      - Full Costing Services (Cost Control)
      - Phase Estimating
      - Value Engineering or Life Cycle Costing
      - Full Scheduling Services (Time Control)
      - Phase Schedules
      - Schedule Analysis
      - Technical Inspection
      - Technical Review of Design Documents
   (g) Full CM—All Phases with GMP
      - With Right to Participate in Construction
      - Prohibited from Participation in Construction
   (h) Comprehensive Services—with GMP
5. Manning Requirements
6. Compensation Arrangement (how much, when, and what method)
   - Time Spent
   - Fixed Fee (unrelated to construction cost) Plus Reimbursables
   - Cost Plus Fee (fixed or percentage)
   - Stipulated Sum
7. Owner's Responsibilities
   (a) Payment of Fees and Construction Payment Requests
   (b) Notices
   (c) Information
   (d) Timeliness in Approvals, Decisions, Payments, and Other Obligations
   (e) A/E Contractual Responsibilities
   (f) Providing Other Consultants
      - Legal
      - Accounting
      - Insurance
   (g) Authorized Representatives
8. Disclaimers/Limit of Liability

9. Owner's Right to Accounting Information
10. Bonding and Insurance
11. Changes in Work
    - Scope of Project
    - Scope of Services
    - Extended Duration
12. Extra Services
13. Communications and Notices
14. Suspension and Termination of Contract
    - For Convenience
    - For Cause
15. Assumption of Existing Contracts
16. Arbitration
17. Extent of Agreement
18. Governing Law
19. Miscellaneous Provisions
20. Taxes
21. Publicity and Credit for Services
22. M.B.E. and Other Affirmative Action Plans
23. Safety
24. Indemnity Requirements
25. Assignment and Successor
26. Execution as Owner's Agent
27. Establishment of Privity Between CM and Trade Contractors