

Associated Builders & Contractors
Central Michigan Chapter
Office & Field Communications

Ralph J. Stephenson, P.E.
Consulting Engineer

OFFICE FIELD
COMMUNICATIONS

**Associated Builders & Contractors
Central Michigan Chapter**

Thursday December 5, 1996

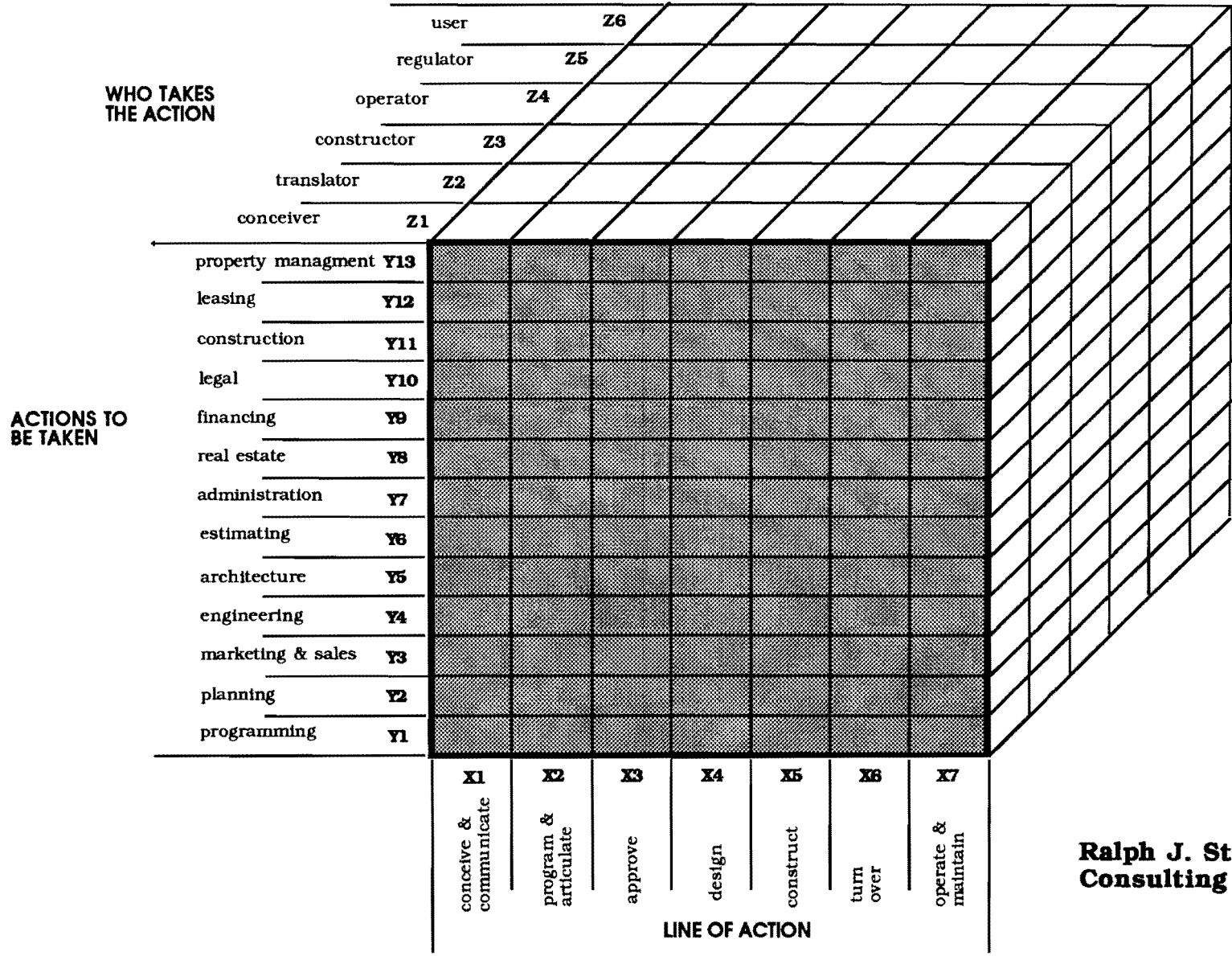
**Holiday Inn West
Lansing, Michigan**

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MACRO MATRIX BOUNDARIES OF DESIGN AND CONSTRUCTION

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FIELD.....OFFICE

**What management basics best bond
the office and the field in a common
effort?**

- 1. People interrelations.**
- 2. Profit motives.**
- 3. Management styles.**
- 4. Project delivery systems.**
- 5. Documentation.**
- 6. Rewards.**

PEOPLE

**Most people are honest,
concerned, desirous of
challenge, need attention,
and welcome help in times
of turmoil.**

People Relations

- **Formal functional**

Organizational connections that concern distribution and use of data, information and decisions that flow along formally defined transmission lines. Formal functional communications are usually written and are normally both from and to individuals and groups.

Formal relations are precisely defined and most day to day business is accomplished within the formal relation framework. The line expressing a formal functional relation usually has an arrowhead at each end to show a mutual exchange of responsibility and authority. If there is a higher authority to be implied a single arrowhead can be used pointing to the superior party.

- **Informal**

The natural channels along which organizationally related material is most easily and comfortably transmitted. The informal relation exists by mutual consent of the parties to the relation, and is stimulated to maximum effectiveness by a mutual profit gained from the relation.

Little, if any, authority normally is expressed in informal relations. Communications are usually oral and one to one. Often informal relations define the hidden organization structure. A line defining an informal relation is usually shown dotted with an arrowhead at each end.

- **Reporting**

The official channels through which each individual conveys, or is given raises, appraisals and evaluations; is fired, assigned or is provided professional, vocational and personal identity in the organization. The true organizational superior of an employee is usually that individual with whom he maintains a reporting relation. The line expressing reporting relations has an arrowhead at one end pointing to the superior.

- **Staff**

The business patterns through which a person or group provides consulting services necessary to achieve goals and objectives. Staff personnel usually have little or no authority over those outside the staff group. The line expressing staff relations has an arrowhead at each end.

- **Temporary**

Those relations created when extraordinary or unusual management demands must be met. The temporary relation is usually unstable and should be kept active for only short periods of time. The line expressing a temporary relation can have an arrowhead at one or both ends depending on the nature of the relations.

Extensive use of temporary relations creates business dysfunctions, breaks down morale and causes internal tensions.

**George Dell
City
Manager of
Quitain**

**James Tea
QU Program
Consultant**

**Charles
Redrock
Link &
Assoc**

**Frank
Carlton VP -
QU Planning
&
Operations**

**Fred Link
President
Link &
Assoc**

**Robert
Hagel
President
Hagel Mech
Engineers**

**Richard
Goldmark -
alumnus of
QU**

**Stan
Weissman
President
Weissman
Electric**

**Darrel
Franklin
Project
Manager
Tyle GC**

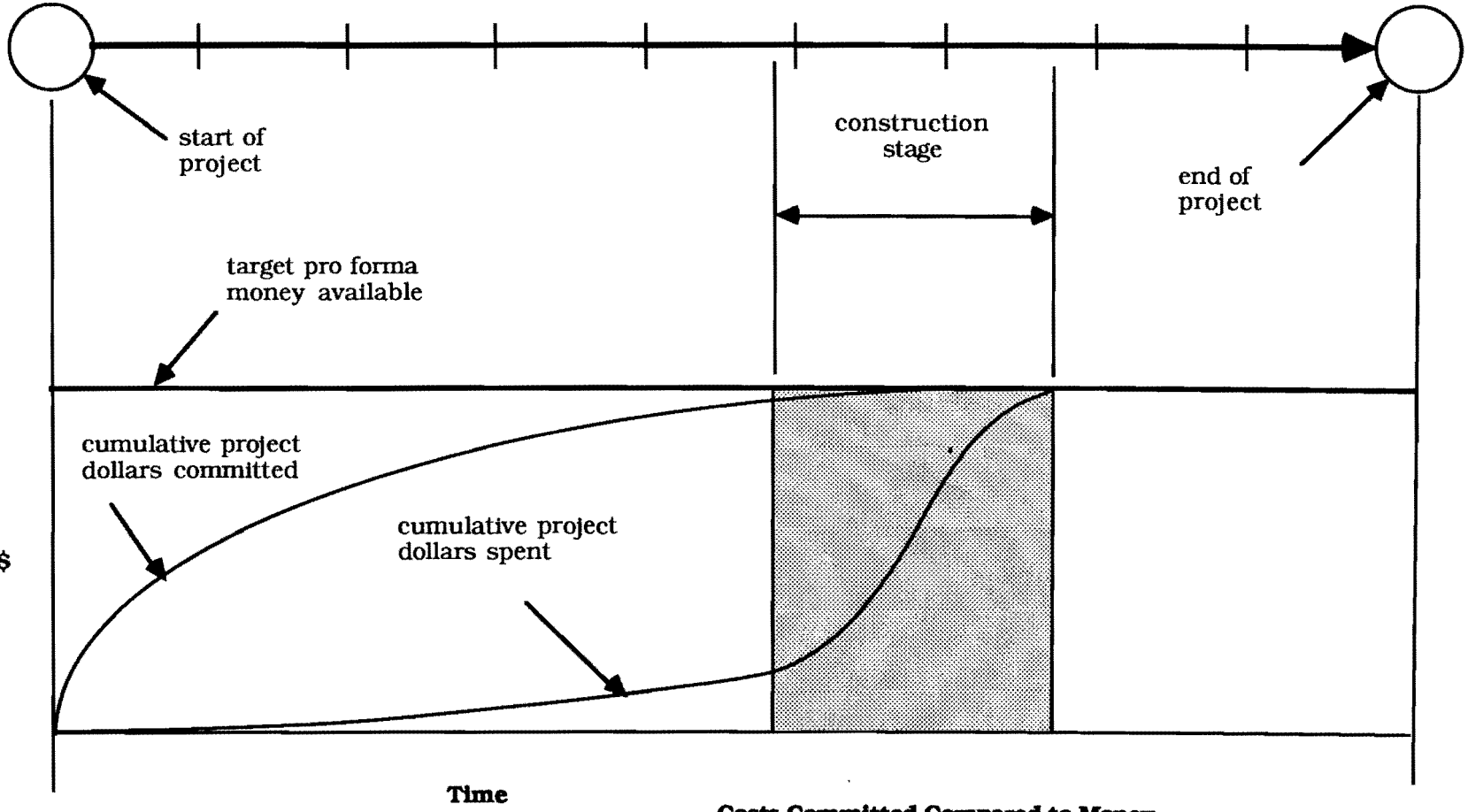
**Fred Tyle -
President
Tyle General
Contractors**

**Joe Harold
Project
Superint
Tyle GC**

**Some of the key Owner,
Design, & Construction
personnel on the University of
Quitain project team**

November 29, 1996

conceive program articulate approve design construct turn over operate maintain



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Costs Committed Compared to Money Spent on Construction Projects

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THE NEED FOR PROFIT

A. KINDS OF PROFIT

1. Financial
2. Social
3. Self actualization
4. Value system
5. Technical
6. Enjoyment
7. Educational

B. ELEMENTS OF MULTI VALUE COMPETITION

1. Competence
2. Service
3. Integrity
4. Cost
5. Delivery
6. Understanding

C. HOW DO WE ACHIEVE PROFIT - TRUE PROFIT ?

1. Be smarter
2. Plan better
3. Control closer
4. Achieve more

& profits will be automatic!

PARTNERING

A way of achieving an optimum relationship between a customer and a supplier. A method of doing business in which a person's word is their bond and where people accept responsibility for their actions.

Partnering is not a business contract, but a recognition that every business contract includes an implied covenant of good faith.

PROBLEM MENTIONS

Total assignments of problem types from 2,855 responses to the questions "What job difficulties are caused by us and by others?" Listed by frequency of appearance.

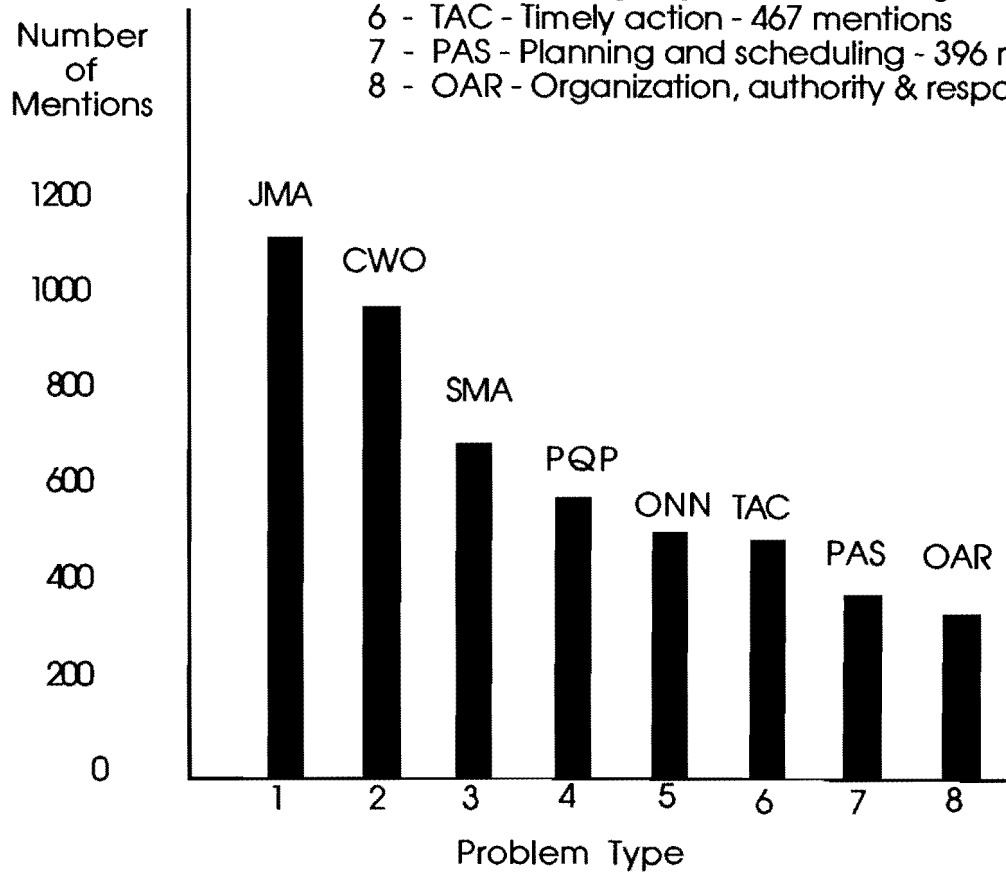
- 01. 1146 - Job management.**
- 02. 0984 - Communicating with others.**
- 03. 0684 - Staff morale and attitudes.**
- 04. 0593 - Personnel quality and problems.**
- 05. 0475 - Being a good on-site neighbor.**
- 06. 0467 - Timely action.**
- 07. 0396 - Planning and scheduling.**
- 08. 0371 - Organization, authority, and responsibility.**
- 09. 0288 - Work site conditions.**
- 10. 0268 - Revision processing.**
- 11. 0267 - Construction document quality.**
- 12. 0233 - Program conditions.**
- 13. 0205 - Submittal processing.**
- 14. 0166 - Issue, conflict, and problem resolution.**
- 15. 0166 - User group interaction.**
- 16. 0145 - Equipment and material problems.**
- 17. 0141 - Documents and documentation.**
- 18. 0133 - Decision making.**
- 19. 0125 - Procurement of materials and equipment.**

20. 0116 - Project cost structure.
21. 0112 - Closing out the project.
22. 0097 - Contract interpretation.
23. 0097 - Quality management.
24. 0095 - Payment processing.
25. 0092 - Paper and administrative work.
26. 0090 - Approval processes.
27. 0088 - Being a good off-site neighbor.
28. 0073 - Time growth.
29. 0070 - Policies and procedures.
30. 0069 - Inspecting and testing.
31. 0069 - Staffing and manpower.
32. 0064 - Cost growth.
33. 0058 - Substitutions and alternates.
34. 0052 - Maintaining regular project evaluations.
35. 0052 - Safety.
36. 0049 - Regulatory agency matters.
37. 0022 - Constructibility.
38. 0022 - Training.
39. 0022 - Value engineering.
40. 0014 - Labor conditions.
41. 0014 - Legal matters.
42. 0011 - Backcharges.
43. 0011 - Financial problems.
44. 0010 - Weather conditions.
45. 0005 - Warranty conditions

- The eight most frequently mentioned design & construction problems. From a total of 2,855 responses to the question "what job difficulties are caused by us and by others?"

Problem Type

- 1 - JMA - Job management - 1146 mentions
- 2 - CWO - Communicating with others - 984 mentions
- 3 - SMA - Staff morale & attitudes - 684 mentions
- 4 - PQP - Personnel quality & problems - 593 mentions
- 5 - ONN - Being a good on-site neighbor - 475 mentions
- 6 - TAC - Timely action - 467 mentions
- 7 - PAS - Planning and scheduling - 396 mentions
- 8 - OAR - Organization, authority & responsibility - 371 mentions



Construction Contract Characteristics

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A. Agreement premises

- 1. Totally negotiated - broad multivalued competition
- 2. Partially qualified - moderate multivalued competition
- 3. Totally qualified - narrow multivalued competition

B. Authority limits

- 1. As full agent
- 2. As limited agent
- 3. As contractor

C. Payment methods

- 1. Fixed cost (hard money)
- 2. Time & material + fixed fee
 - a. Limit on
 - 1.) Time & material (gmp) with no shared savings
 - 2.) Time & material (gmp) with shared savings
 - b. No limit on time & material
- 3. Time & material + % fee
 - a. Limit on
 - 1.) Time & material (gmp) with no shared savings
 - 2.) Time & material (gmp) with shared savings
 - b. No limit on time & material
- 4. Conditional payments or penalties
 - a. Incentive/disincentive
 - b. Liquidated damages

D. Scope of services

- 1. Single responsibility - in house & subcontractors
 - a. All trades →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
 - b. Limited trades →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
- 2. Split responsibility - in house, subcontractors & other primes
 - a. All trades in contract →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials
 - b. Limited trades in contract →
 - 1.) Provide management
 - 2.) Provide design
 - 3.) Provide construction labor
 - 4.) Provide construction materials

The Problem Job and How to Identify It Early

Project success is very much an intangible when we are just beginning the process of nursing a design and construction project through its beginning stages. Even seasoned design and construction practitioners err occasionally by taking early design construction activities too lightly. I believe a project does not grow into success --it is pushed and coaxed into success by intelligent management and excellent leadership.

But there are other factors contributing to project success. Intelligent management and excellent leadership are often provided intuitively by the competent project manager. What is often not provided is the contingency plan--the alternatives available when the predictable elements of dispute make their appearance, even before the designer has a pencil line laid on paper--or even before any field actions have begun.

It is apparent that with potentially troubled jobs the problem resolution process must start before the problem appears. We will see in Chapter Six, the determinants of project success. Let us here turn for a moment to determinants of project failure. What are the telltale marks and scars that tell us that we may have a problem job on our hands? These jobs are sometimes called claim prone. When a claim by one party on the project against another party on the project cannot be resolved by mutual agreement the product is a contested claim.

Long and sometimes bitter experience over many years has demonstrated to many design and construction professionals that most problem, or claim-prone, jobs are predictable. The problem job is usually marked most visibly by increased costs of design, construction, and operations; it is almost always a job that takes longer than had been planned to design and construct; and it is invariably an effort that produces sharp disagreements and lingering hard feelings among the participants.

During the very early stages of a project, it is often possible to gain a good insight into the expected nature of the work we are about to do. In fact, it is good policy for the perceptive and concerned owner, designer, and contractor to become familiar with those characteristics that early identify a job as having claim prone features. Twenty three of the more visible tell-tale features are listed and described below.

01. A wide spread in proposal prices on hard money projects.
02. Issuance of a large number of prebid addenda and clarifications.
03. For subcontractors, a poor general contractor, if the job is being built by one prime contractor.
04. For projects with separate primes, poor reputations of other prime contractors.
05. More than four to six prime contractors involved on project (for normal building work only).
06. Poor reputation of architect/engineer of record.
07. Multiple prime design team organizations.
08. Excessive how-to-do-it emphasis in contract documents.
09. Non liable or not-at-risk parties involved in responsible positions.
10. Large numbers of allowance items.
11. Zero or excessively small tolerance specifications.
12. Poorly defined authority and responsibility structures in the offices of the design team, the owner, the general contractor or other prime contractors.
13. Inexperienced specialty contractors.
14. Excessive numbers of owner and designer preselected suppliers for key material and equipment.
15. Large dollar amount or numbers of owner-purchased equipment or materials.
16. Location in strike-prone or jurisdictionally sensitive areas.
17. Heavy use specified for untried products and equipment.
18. Non-liable party involvement in establishing delivery commitments, i.e. not at risk construction managers, planners, architects, engineers, owner representatives.
19. Excessively long time periods to award contracts after a proposal is submitted. (Note: This often occurs in public work where many non-operational approvals and agencies are involved.)
20. Poor owner reputation.
21. Extensive disclaimers on purchase orders, meeting minutes, and other official or semi-official documentation.
22. Extensive early documentation inconsistent with the complexity of the project.
23. Unqualified, mismatched or dysfunctional project management staff assigned to the job by owner, user, designer or contractors.

(Adapted from Project Partnering for the Design and Construction Industry - published by John Wiley and Sons, Inc.)

CONSTRUCTION CONTROL DOCUMENTS

- **PROGRAM** - A narrative statement of the project requirements, characteristics, and allowable costs.
- **WORKING DRAWING** - Graphically define the contract scope of work & show the appearance of the completed project.
- **SPECIFICATIONS** - Verbally describe the contract scope of work and define the qualitative standards to be maintained in the completed project.
- **CONTRACT DOCUMENTS** - Provide a full definition of the scope of project work to be built. Any item included as part of the contract documents becomes a condition of the contract.
- **ESTIMATES** - Verbally describe the quantitative standards to be achieved in the completed project.
- **PLANS & SCHEDULES** - Graphically define the sequences, procedures & amount of resources to be used to construct the project.
- **SHOP DRAWINGS** - Graphically show details of the fabrication, installation and final appearance of building components called for in the contract documents and accepted for use in the work.

Documentation Degree

The degree of needed documentation on any project is determined by the current or potential level of difficulty perceived.

One method of setting documentation degree (dd) is by use of a scale of one to ten, one being a minimum amount consistent with good practice and ten indicating a maximum amount needed to protect those involved from current or potential problems.

Expressed another way, level 1 documentation signifies an absolute minimum is being used. Level 10 documentation indicates the project is being fully documented.

The approximate ranges shown below are reference guidelines for selecting and preparing documentation systems:

- Levels 1 & 2 Informal job structure - no planned documentation
- Levels 3 & 4 Normal job - documentation as specified
- Levels 5 & 6 Claim prone jobs on which trouble is conjectural
- Level 7 Claim prone jobs on which trouble is very likely
- Levels 8 to 10 Claim prone jobs on which trouble is a reality

Usually the degree of documentation index indicates an opinion as to how much trouble can be expected on the project.

A brief description of job conditions which may be encountered corresponding to a need for the degrees of documentation indicated is given below.

Documentation degree #1 to 2 (dd 1-2) - no planned documentation

At these levels the project usually is informally organized, with full trust by all parties of all other parties. Most instructions and requests are oral. Revisions and cost commitments are made on a full confidence basis relative to scope, expected payment and resolution. The project team understands and communicates well internally and externally, and all on the team exhibit a high degree of honesty, competence and integrity. Usually meetings are held on an as needed basis only.

It should be cautioned that a low dd does not mean the project will not encounter difficulties. The number merely indicates a recommended level of documentation being maintained as of a given point in time.

Documentation degree #3 to 4 (dd 3-4) - normal job with formal documentation as needed; minimal documentation level well defined by contract

In a dd 3-4 project the usual procedures for processing work during programming, planning, design and construction are well defined and followed carefully by all parties to the contracts. Usually the project contract documents have been carefully prepared and checked thoroughly. This helps assure that the scope of work is clear and the project is constructible.

Documentation at dd 3-4 during the process of design and construction is maintained at a minimum level consistent with program and contract requirements. An audit trail of approvals, issues, money flow, revisions and quality of construction in place should be able to be followed easily from the system.

An important characteristic of the good level 3 & 4 documentation system is that it must be of a nature that can be increased to a higher level at any time without extensive backtracking and historical research. The fundamental needs of higher level dd's should be able to be easily achieved from the basic work accomplished

in a dd 3-4 system. The reason is that the enormous expense and reduced accuracy of later historical research on a troubled construction program should be avoided by setting a good information filing and retrieval system at lower documentation degree level.

Documentation degree #5 & 6 (dd 5-6) - claim prone jobs on which trouble potential is conjectural

Documentation degrees of 5 or 6 should be set early on projects that show potential for claim, but on which no dominant reasons for such problems have yet appeared. For instance a project may be proceeding well despite having a large number of allowance items, several separate prime contractors, and a general trades contractor noted for his sloppy paper work. These are all indicators of potential difficulties but do not necessarily mean trouble.

In a dd 5-6 the level is set high to permit those involved to more quickly react to sudden project difficulties than on a normal project. **To reemphasize, the dd level is set by the nature of the project and is only raised or lowered when sufficient justification for a change is noticed.**

Documentation degree #7 (dd 7) - claim prone jobs on which trouble potential is very likely

On a dd 7 project, comments for dd 5-6 apply, with the qualification that a yet higher dd level requirement than 7 is highly probable. In other words if the job is claim prone and some of the claim prone characteristics are causing actual problems, the documentation level of 7 indicates a movement into higher levels is near at hand.

An example of this might be a claim prone project dd level of 6 as established by a high spread in proposal prices, poor specialty contractor reputations and an architect/engineer who is slow in submittal turnaround, which upon moving into the field, promptly runs into late submittals by the questionable subs and a reactionary slowness by the a/e in processing submittals. This combination might be cause to move the dd to 7, with a good chance it could go even higher within the next month or so. The dd 7 could be looked at as a holding plateau which might be lowered by prompt corrective action or might increase as negative positions harden and remain unresolved.

Documentation degree #8 to 10 (dd 8-10) - claim prone jobs on which trouble is a reality

Projects requiring a dd level of 8 to 10 can be considered to be in trouble and subject to present or future third party action resolution. Usually the project that has moved to a dd 8-10 level has done so over a period of time during which the problem levels have progressively intensified. If such a project is encountered, the files for third party resolution action should be built as the work proceeds.

If dd 8-10 needs are met on a day to day basis as the documentation is sent or received, the cost will be much less than if it is done later. In addition the analysis will be fresher and more accurate. In addition, the knowledge that such a high level file is being built often acts to dampen the conflict and difficulty and may even lead to quick resolution of the difficulties.

* * *

As a general help in documentation a brief resume of procedures for preparing project documentation is

given below. These steps may vary from situation to situation but can be summarized within seven basic documentation actions taken to respond to various dd levels.

Step 1 - Prepare and arrange the document file material - Document copies are arranged, usually chronologically, for future entrance into a single number filing system.

Step 2 - Month number the the documents - Each document is uniquely identified with a number that relates to the month in which the document was prepared.

Step 3 - Day number the documents - When the document has been assigned its month number it is further numbered sequentially by the date within the month. This system is called a single number filing system, since all documents are now uniquely numbered. For instance there would only be one document 04245, a document prepared in the 4th month from the base date, and being the 245th document chronologically entered in that 4th month.

Step 4 - Build the document control file format - With the document uniquely identified, the document copy of the original is coded and a data base retrieval system established. Code fields to be used might include:

- Document control number
- Document type
- Date document prepared
- Date document received
- Organization from
- Organization to
- Individual from
- Individual to
- Subject codes
- Others as needed

Step 5 - Enter the document data in the document control file - If justified and required, document data is now entered into the data base file for storage and retrieval in whatever manner required.

Step 6 - Prepare the project history - A project history is prepared in the form of a chronological narrative summarizing the entire project from the document control file. Each major document is reviewed, if appropriate, and entered as a brief unit description of an event, or of events, occurring within a given time period.

Step 7 - Prepare project problem tracking histories - Specific problems causing contested claims, say unexpected artesian water, are identified and the document control files and project history files are searched. The material found is used to build special chronological files for each problem area. These are then analyzed to determine the course of settlement action to be taken.

Rough guidelines for the relation of dd level to documentation steps as outlined above might be as follows:

• dd levels 1 & 2 - totally informal - no planned documentation - No special provisions made for preparing and arranging documents

• dd levels 3 & 4 - normal job - Take steps 1 and possibly 2

• dd levels 5 & 6 - claim prone jobs on which trouble potential is conjectured - Take steps 1, 2, 3 and possibly 4

• dd level 7 - Claim prone jobs on which trouble potential is very likely - Take steps 1, 2, 3, 4 and 5

• dd levels 8 to 10 - Claim prone jobs on which trouble is a reality - Take steps 1 through 6 and possibly 7 as required

+ Definitions

- **Apparent authority**

A situation in which one person or organization acts on behalf of another person or organization without the other person's or organization's formal authority.

- **Assigned contractual relations**

The interconnection of those parties bound by subsequent assignment of a contract to other than the initial parties.

- **Authority**

The prerogatives, either vested or acquired over a long period of time, that allows an individual to carry out their responsibilities and duties. This includes the right to determine, adjudicate, or otherwise settle issues or disputes; the right to control, command, or determine.

- **Communicate**

To convey information about, to make known or to impart knowledge, ideas, or thoughts.

- **Construction management**

A system of attempting to better manage the construction process by providing expert construction knowledge and resources throughout all phases of the project. The goal of the process is to make available to the participants, information best provided by an expert skilled in construction practices, so that when the project moves into the field the managers can provide the owner with the highest potential for project success.

- **Constructors**

Those who interpret the construction language and convert it to an actual physical environment. Occupying this role are general contractors, specialty contractors, vendors, suppliers, manufacturers, artists and others who actually put the materials into place in the field.

- **Coordinate**

To harmonize in a common action or effort. Many design and construction consultants recommend the word not be used in contracts since it has indistinct meanings as related to management in design and construction.

- **Critical transition point**

The point in a project delivery system at which the responsibility and authority for the work passes from the supportive group to the ex'ecutive group.

- **Document control system**

A method of receiving, classifying, marketing, storing, and retrieving documents received and sent on a project.

- **Documentation**

An organized collection of historical records that describe the events comprising a project or program. Also the act of preparing or supplying documents or supporting references in a project or program for future reference.

- **Ex'-e cutive**

The executing arm of the organization closest to the flow of expense and income experienced in achieving the organization's prime objectives. Closely related to line operations.

- **Everyone-must-know communications**

An organizational communications system based on the managerial belief that if everyone in the organization knows what all or most other people in the organization are doing and working on,

- the organization's overall output quality will be superior.
- **Functional - as related to continuous management**
Designed or adapted to perform some specialized activity or duties, usually concerned with the continuous operation of the company.
 - **Line activities**
Those activities that are most closely identified with the flow of basic expense and income related to the prime objectives of an organization.
 - **Manage**
To define, assemble and direct the application of resources.
 - **Matrix management**
A management technique that employs a multiple command system. Usually results in one employee having two or more bosses on a time to time basis.
 - **Monitoring**
Measurement of current project conditions and position against the standards of performance set for the job.
 - **Need-to-know communications**
An organizational communications system based on the managerial belief that information should only be offered and provided to those who truly need it and can use it to add value to the product they are responsible for producing.
 - **Ongoing organization**
The arrangement and interrelationships of people charged with providing supportive action on an ongoing basis within the company. Examples of functions contained within the ongoing design or construction organization are estimating, administration, legal, marketing, sales, purchasing, and accounting.
 - **Organizational structure**
The categories of parties to the planning/design/construction/operation process and how they are organized for the work. The organizational structure is shown by a set of relations between the parties that identifies the responsibility and authority lines along which the project is to be implemented.
 - **Over-the-wall management**
A management style which subscribes to the actions of participants completing their work responsibilities and duties, and then passing the work product along to others (or throwing it over the wall) without adequate briefing for the successors to do their work effectively. Often identified by statements such as "We did our job and now they can do theirs", or, "That's not my job."
 - **Partnering - project or tactical**
A method of applying project-specific management in the planning, design, and construction profession without the need for unnecessary, excessive and/or debilitating external party involvement.
 - **Profit - educational & training**
Fulfillment of learning and teaching goals held by individuals and their companies.
 - **Profit - financial**
Fundamentally, the difference between organizational cash income and organizational cash expense. Further definitions of financial profit are complex and often unique to an organization or project.

- **Profit - self actualization**

Personal fulfillment realized after basic needs of shelter, safety, protection, love and freedom from hunger are achieved.

- **Profit - socio economic**

Company, group or individual achievement of social objectives within a financially profitable set of activities.

- **Profit - value system**

Company and project fulfillment of personal, professional, technical, social and financial values held important by individuals and groups related to the company.

- **Project director**

The individual responsible for implementation of several projects upon which his company is engaged.

- **Project manager**

One who helps establish objectives generated by a need, plans how these objectives are to be reached through a set of work actions, and then assembles and directs the application of available resources to achieve the objectives on one or more projects.

Usually the project manager is most concerned with supportive actions which bring resources to the point of effective use.

- **Project organization**

The arrangement and interrelations of people charged with actually achieving project objectives. (See organizational structure.)

- **Project superintendent**

The manager involved in the actual construction process and most directly responsible for the expenditure of funds to carry out the project. Usually the superintendent is responsible for field execution of the work.

- **Relations - formal functional**

Organizational connections that concern distribution and use of data, information and decisions that flow along formally defined transmission lines. Formal functional communications are usually written and are normally both from and to individuals and groups.

Formal relations are precisely defined and most day to day business is accomplished within the formal relation framework. The line expressing a formal functional relation usually has an arrowhead at each end to show a mutual exchange of responsibility and authority. If there is a higher authority to be implied a single arrowhead can be used pointing to the superior party.

- **Relations - informal**

The natural channels along which organizationally related material is most easily and comfortably transmitted. The informal relation exists by mutual consent of the parties to the relation, and is stimulated to maximum effectiveness by a mutual profit gained from the relation.

Little, if any, authority normally is expressed in informal relations. Communications are usually oral and one to one. Often informal relations define the hidden organization structure. A line defining an informal relation is usually shown dotted with an arrowhead at each end.

- **Relations - reporting**

The official channels through which each individual conveys, or is given raises, appraisals and evaluations; is fired, assigned or is provided professional, vocational and personal identity in the organization. The true organizational superior of an employee is usually that individual with whom he maintains a reporting relation. The line expressing reporting relations has an arrowhead at one end pointing to the superior.

- **Relations - staff**

The business patterns through which a person or group provides consulting services necessary to achieve goals and objectives. Staff personnel usually have little or no authority over those outside the staff group. The line expressing staff relations has an arrowhead at each end.

- **Relations - temporary**

Those relations created when extraordinary or unusual management demands must be met. The temporary relation is usually unstable and should be kept active for only short periods of time. The line expressing a temporary relation can have an arrowhead at one or both ends depending on the nature of the relations.

Extensive use of temporary relations creates business dysfunctions, breaks down morale and causes internal tensions.

- **Responsibility**

The assignment, spoken or understood, that a person in an organization has as his part in maintaining the organization's health and vitality.

- **Ultimate decision maker (UDM)**

The individual or group at the lowest management level that has the authority to make a final binding decision in any job related matter.

- **Updating**

The process of revising and reissuing a project network model to bring it into conformance with a current desired and necessary plan of action. Updating often, but not always, results from monitoring and evaluating the project. Usually the updating is done when it is found that the current plan of work does not adequately depict the actual conditions under which the project is being executed.

- **Vested authority**

The endowing of privileges, strength and leverage from a superior, usually to a subordinate. Generally gained quickly, rather than being earned by long and proven service in a related field within the organization.

- **World of nonwords**

The world in which we live by our physical actions.

- **World of words**

The world in which we live by simulating actions through words and other symbols what might happen in the world of nonwords.

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About Ralph J. Stephenson, P.E.

Ralph J. Stephenson, P.E., is an engineering consultant who has a diversified background in land planning, facilities location, building design, and construction.

Mr. Stephenson earned degrees at Lawrence Institute of Technology (Bachelor of Science, Mechanical Engineering), and Michigan State University (Master of Science, Civil Engineering). He has been associated with such firms as Smith, Hinchman, and Grylls, Victor Gruen Associates, Benjamin Schulz Associates, and the H. F. Campbell Company. With the latter three organizations Mr. Stephenson occupied executive positions as vice president. In 1962 he started his own consulting practice, specializing primarily in providing operational and management direction to owners, designers, and contracting firms.

He is a registered professional engineer in Michigan, Wisconsin, Illinois, Indiana, Ohio, Pennsylvania, West Virginia, Virginia, Florida, and Minnesota. He is a member of the Engineering Society of Detroit, the Michigan and National Society of Professional Engineers, the American Planning Association, the Detroit Area Economic Forum, and the Mid-America Economic Development Council.

Since 1952 Mr. Stephenson has been involved at middle and upper management levels in the planning, programming, design, construction, and operation of several billion dollars worth of construction related projects. These include work on industrial, commercial, and institutional programs throughout North America.

Mr. Stephenson has chaired more than 30 project partnering charter meetings for both public and private sector projects, and has lectured extensively on the subjects of alternative dispute resolution and partnering. He has also recently completed a book on Design and Construction Project Partnering for John Wiley & Sons.

He has also taught hundreds of technical and management seminars in the United States, Canada, and Europe and is the author of several magazine articles and is the co-author of a book on critical path method. His broad experience has given him an understanding of the nature of small, medium, and large size companies, and of the need to solve their management problems through creative, systematic, and workable approaches.

Ralph J. Stephenson, P.E., P.C.
Consulting Engineer
323 Hiawatha Drive
Mt. Pleasant, Michigan 48858
phone 517 772 2537
November 29, 1996

Ms. Laura Peters
Associated Builders & Contractors, Inc.
Central Michigan Chapter
609 E. Jolly Road - Suite 11-A
Lansing, Michigan 48910-6840

Dear Ms. Peters:

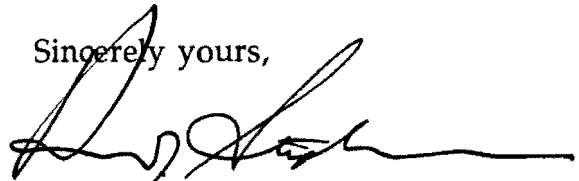
Re: Handouts - Office and Field Communications

Enclosed is the packet of handout material to be duplicated for the Office & Field Communication session to be held at the Holiday Inn West in Lansing on Thursday, December 5, 1996. Please duplicate one for each of the attendees and an extra copy for my use in the meeting. As mentioned in my earlier letter I will need an overhead projector and a screen. If possible please ask for a high intensity projector and a spare bulb.

Thank you for your help in providing the handout booklets for the session.

Attachments: Handout book

Sincerely yours,



Ralph J. Stephenson, P. E.

Ralph J. Stephenson, P.E., P.C.
Consulting Engineer
323 Hiawatha Drive
Mt. Pleasant, Michigan 48858
phone 517 772 2537
November 20, 1996

Ms. Laura Peters
Associated Builders & Contractors, Inc.
Central Michigan Chapter
609 E. Jolly Road - Suite 11-A
Lansing, Michigan 48910-6840

Dear Ms. Peters:

Re: Speaker's response sheet - Office and Field Communications

Enclosed is the following information you requested in the note from Mr. Boardway of November 13, 1996.

- A full personal and professional resume.
- A general and preliminary topic outline of the subjects I am considering for the session. This is only a major topic outline and will be edited to fit the sequence of subjects discussed and the time allocated for my portion of the program. However the outline may give you a feeling for what I understand you wished me to speak on. If these are not appropriate topics please let me know as soon as possible.
- I will have handout material - probably about 20 to 30 pages. Shall I send this packet of material to you to duplicate?
- I will need an overhead projector and a screen. If possible please ask for a high intensity projector and a spare bulb.

That should provide the data needed by you. If you have any other questions, please call.

Attachments: Topic outline

Sincerely yours,

Ralph J. Stephenson, P. E.

Topic outline for Education/Safety Day talk - Office Field Communication

I. Major topics to consider - Education/Safety Day talk - Office Field Communication

- A. Organizational relationship between the field and the office
 - 1. General introduction
 - a) Similarities
 - b) Differences
 - c) Approaches
 - d) Techniques of organization
 - 2. Types of people interrelations that drive the office and field communications
 - 3. Types of profit and their influences on construction success
 - 4. Types of project delivery systems
 - 5. Nine steps to effective project management
- B. An overview of records and documentation used by the field and office
 - 1. How documents are used to better relate the office and the field
 - 2. Construction control documents
 - 3. Money flow on the job
 - 4. ~~Kinds of estimates~~
 - 5. Packaging contract documents for staged construction — 240 & 241
 - 6. Revisions to the scope of work
- C. Project records and what they record
 - 1. Actions
 - 2. Opinions
 - 3. Revisions
 - 4. Decisions and agreements
 - 5. Approvals
 - 6. Progress
 - 7. Resource flow
 - 8. Data
 - 9. Document processing
 - 10. Results
 - 11. Other
- D. Project documentation
 - 1. Documentation degree
- E. Planning and scheduling as a communications tool
 - 1. Network planning
 - 2. Translations and bar charts
 - 3. Other forms of plans and schedules
- F. Project monitoring
 - 1. Monitoring as a tool to improve field and office relations
 - 2. The critical ingredients of proper monitoring
- G. The problem job and its documentation
 - 1. Claim prone job characteristics - who watches for them?
 - 2. Common causes of contested claims
 - 3. What to do about problem jobs
- H. Communicating by partnering
 - 1. Kinds of partnering
 - 2. The communication elements of partnering
 - 3. Alternative dispute resolution

II. Title of talk - Office Field Communication

- A. Techniques and management systems that better bind together the field and office staff for more effective performance.

III. Date of talk - Thursday, December 5, 1996

IV. Location - Holiday Inn West - Lansing, Michigan

V. Organization - Associated Builders and Contractors - Central Michigan Chapter

- A. Associated Builders & Contractors, Inc.
- B. Central Michigan Chapter
- C. 609 E. Jolly Road - Suite 11-A
- D. Lansing, Michigan 48910-6840

VI. Those involved

- A. Jim Boardway, Executive Director ABC
- B. Laura Peters



Associated Builders & Contractors - Central Michigan Chapter

609 E Jolly Road, Suite 11-A, Lansing, MI 48910 (517) 394-4481 Fax (517) 394-6275

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Don Jessup
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Paul Hengesbach
Westphalia Builders

November 13, 1996

Ralph Stephenson
323 Hiawatha Dr.
Mt. Pleasant, MI 48858

Dear Ralph:

Thank you for agreeing to speak at our 1st **Education/Safety Day** on **December 5, 1996**, at the Holiday Inn Lansing West.

Your session will be from **1:30 - 3:00 p.m.** The topic you will be speaking on is **Office Field Communications**. I have enclosed a list for you to fill out and return to me stating what items you will need for your session and what the sub-points will be. I will also need a biography as well.

Enclosed is a map to the Holiday Inn Lansing West as well as an interior map of the hotel. Your session will be located in **Delta Room Central**.

Please plan to arrive at least 15 minutes before your scheduled session.

If you need any additional information/materials or if you have any questions, please contact our office at (517)394-4481 or fax: (517)394-6275.

Thank you again for participating in this event.

Sincerely,

Jim Boardway
Executive Director

JB/lep

Enclosure

Jim Boardway, Executive Director
Central Michigan's Voice of Merit Shop Construction for over 28 years



CENTRAL MICHIGAN CHAPTER "EDUCATION/SAFETY DAY"

Keynote Speaker: Senator Dick Posthumus
"Public Policy Changes"

SESSION I 8:30 - 10:00

- * Fall Protection Regulations (Pt. 1)
- * Hiring Practices Update
- * Drug and Alcohol Testing
- * Are You the Target?

Dick Kennedy (MIOSHA)
Melissa Jackson (Foster, Swift, Collins & Smith, PC)
Zoe Robinette (Drug Screens Plus)
Tim Ryan (Miller, Johnson, Snell & Cummiskey)

SESSION II 10:30 - 12:00

- * Handling Fraudulent Workers' Comp Claims
- * Construction Lien Law
- * Fall Protection Regulations (Pt. 2)
- * Small Business Computer Programs & Software

Steve Hobbs (ASU Risk Management)
Jeff Theuer (Loomis, Ewert, Ederer, Parsley, Davis & Gotting)
Dick Kennedy (MIOSHA)
Bernie McNeil (Professional Business Computers)

LUNCH/SENATOR POSTHUMUS

SESSION III 1:30 - 3:00

- * Safety Policy Workshop
- * Wage/Hour Unemployment Regulations

Dick Kennedy (MIOSHA)
Susan Bliet (U.S. Department of Labor)

WATCH YOUR MAIL FOR REGISTRATION INFORMATION!

-- MARK YOUR CALENDAR --

December 5, 1996
Holiday Inn West - Lansing, Michigan

517-627-3211