

DOCUMENT CONTROL AND ANALYSIS MATRIX

Henderson Center

BOARD OF REGENTS

950 KANAWHA BLVD E

CHARLESTON, WV 25301

STATUS AS OF:

4/18/83

FILE ORIGIN

| PHASE OF WORK | A | B | C | D | E | F | G | H | I | J |
|---|-----|---|---|---|---|---|---|---|---|---|
| Phase #1 - Document arrangement and numbering | 99% | - | - | - | - | - | - | - | - | - |
| Phase #2 - Document coding and input | 50% | - | - | - | - | - | - | - | - | - |
| Phase #3 - Project history preparation | .01 | - | - | - | - | - | - | - | - | - |
| Phase #4 - Project history analysis | - | - | - | - | - | - | - | - | - | - |

File Origin:

- A - Board of Regents
- B - Hughes-Bechtol
- C - Mellon-Stuart
- D - Charles Stewart & Assoc
- E - Marshall University
- F - Robert J. Bennett AIA & Assoc
- G - Eggers Group
- H - Kirby Electric Service
- I - Whitten Corp
- J - American Desk Manufacturing
- K - Tri States
- L - Official photographs

MARSHALL UNIVERSITY
Henderson Center

"Period Key"

| <u>Month</u> | <u>1976</u> | <u>1977</u> | <u>1978</u> | <u>1979</u> | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| JANUARY | 1 | 13 | 25 | 37 | 49 | 61 | 73 | 85 | 97 |
| FEBRUARY | 2 | 14 | 26 | 38 | 50 | 62 | 74 | 86 | 98 |
| MARCH | 3 | 15 | 27 | 39 | 51 | 63 | 75 | 87 | 99 |
| APRIL | 4 | 16 | 28 | 40 | 52 | 64 | 76 | 88 | |
| MAY | 5 | 17 | 29 | 41 | 53 | 65 | 77 | 89 | |
| JUNE | 6 | 18 | 30 | 42 | 54 | 66 | 78 | 90 | |
| JULY | 7 | 19 | 31 | 43 | 55 | 67 | 79 | 91 | |
| AUGUST | 8 | 20 | 32 | 44 | 56 | 68 | 80 | 92 | |
| SEPTEMBER | 9 | 21 | 33 | 45 | 57 | 69 | 81 | 93 | |
| OCTOBER | 10 | 22 | 34 | 46 | 58 | 70 | 82 | 94 | |
| NOVEMBER | 11 | 23 | 35 | 47 | 59 | 71 | 83 | 95 | |
| DECEMBER | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | |

- M.
- CRITICAL PATH PLANNING
 - LAND PLANNING
 - MANAGEMENT CONSULTING
 - PLANT LOCATION

82:51
New Walter
RALPH J. STEPHENSON, P. E., P. C. *plans*
CONSULTING ENGINEER

15064 WARWICK ROAD
DETROIT, MICHIGAN 48223
PHONE 273-5026

December 4, 1982

Mr. Robert Wilson
AIA
Director of Facilities
950 Kanawha Blvd. East
Charleston, West Virginia 25301

Re: Trip to Charleston, West Virginia in December, 1982

Dear Bob:

Due to the rather tight travel arrangements to Charleston I felt it would be wise to convey to you my itinerary for Sunday, December 12 and Monday, December 13, 1982. Travel plans are to leave Detroit at 3:50 p.m. Sunday, December 12, 1982 and to arrive in Charleston at 6:02 p.m. your time. Would you please let me know what hotel I am staying at so I can go directly there from the airport. I shall plan to meet with you at whatever time you wish on Monday morning. We probably should meet as early as possible so as to get the advantage of a full day's work.

I assume that I will meet with Mr. Bias sometime during the day, and we should, of course, arrange to have time enough to communicate adequately and properly.

My plane leaves Charleston at 6:05 p.m. Monday evening, and since it is reasonably important for me to be home that evening I would like to be certain to be on that flight. If it is imperative that I stay over I will make arrangements with those with whom I am meeting the next day. We can see what happens.

Although the one day will not give us as much time as I would like and I am certain as much as you and Mr. Bias would like, it will allow us to set the pattern and groundrules for how to proceed in the near future. I shall plan to bring enough illustrative material so you can see the pattern of what has to be done. We can then talk about how it actually should be done and what modifications are appropriate for the specific circumstances that have caused this particular difficulty. I am certain we can accomplish enough in that day to give both you and Mr. Bias direction and assistance in some of the difficult data collection control and evaluation areas. I'm looking forward to seeing you again. Please let me know where I am staying Sunday evening.

Best regards,

RJS:sps

Ralph J. Stephenson, P.E.

82:51

- CRITICAL PATH PLANNING
- LAND PLANNING
- MANAGEMENT CONSULTING
- PLANT LOCATION

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

15064 WARWICK ROAD
DETROIT, MICHIGAN 48223
PHONE 273-5026

January 31, 1983

Subject: Report #1

Attorney General's Office
State of West Virginia
Marshall University Claims

To: Mr. H. Bias, Attorney General's Office

Mr. Robert Wilson, Board of Regents

Date of Conference: January 24 and 25, 1983
Charleston, West Virginia

Actions taken:

- Made general review of current status of claim and progress in discovery period
- Discussed project in summary with Mr. Brett Morgan, mechanical engineer and graduate of West Virginia Tech, now working for the West Virginia Attorney General's Department
- Discussed key document types for use in document control system
- Began setting file format for document control system
- Discussed Mr. Bias' comments on recent depositions
- Reviewed fundamental principles of network modeling and critical path method
- Made organizational structure analysis of parties involved in project
- Defined relational categories of those involved on project
- Discussed possible discovery questions of interest to owner group
- Established working month designations for document control system
- Set format of document control number

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- Identified four basic file designations to be used in control systems
- Briefed Mr. Morgan on coding documents
- Estimated time required for coding Charleston file documents
- Duplicated, and gave Mr. Morgan, samples of typical documents generated in a document control system
- Reviewed capabilities of data base program being acquired for Board of Regents microprocessor

Those attending the meetings included:

Monday, January 24, 1983

Mr. Robert Wilson
Mr. Rich Donovan
Miss Ann Gordon
Mr. Hank Bias
Mr. Brett Morgan
Mr. Ed Gross, Vice Chancellor for Administrative Affairs
(part time)

Tuesday, January 25, 1983

Mr. Robert Wilson
Mr. Rich Donovan
Mr. Hank Bias
Mr. Brett Morgan

General

The major thrust of our two day meeting was to initiate a full filing and document control system relative to the present and future claims on the Marshall University Henderson Center in Huntington, West Virginia. The first discussion session on this project was held December 19, 1982 during which the requirements for effectively working on claims were outlined to Mr. Wilson, Mr. Donovan, and Mr. Bias.

As a result of this first session in December, 1982 a decision was made to retain Mr. Brett Morgan as a consultant to the Attorney General's office and to have him work part or full time as needed on organizing files, classifying documents, and preparing necessary data base programs to produce a master document storage and retrieval system. Miss Gordon is working part time for the Attorney General's office on the Marshall project, but in the Board of Regents' office.

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Our first day of the second session dealt with a major orientation of all concerned to the needs and desires of the program. The second day was spent in a hand on indoctrination into document coding and filing. As decided in our meeting, I shall plan to keep in touch with Mr. Morgan and Mr. Donovan as to their progress in establishing the document control system, and shall also set with Mr. Wilson the next session I am to attend in Charleston late in February, 1983. It was decided that these visits to Charleston should be at least two days duration since the amount of material to cover in this early phase of the work is considerable and a careful checking of the work done to date should be made as installation of the system proceeds.

Mr. Donovan has requisitioned a VisiFile data base program for the Apple II computer he has available in his office, and he and Mr. Morgan will be responsible for putting into use this program to accomplish the desired objectives. I shall probably acquire a VisiFile program for my microprocessor also with the intent that we can then interchange data, if desirable, and I can use their files for whatever additional analyses I must make. I have suggested to Mr. Bias that he might consider obtaining a similar configuration, the Apple II + plus the VisiFile program for his office.

The entire data storage and retrieval program presently conceived should be built in such manner that it can be extended into an ongoing use program in future projects. Mr. Donovan and Mr. Wilson are considering this approach presently and will give thought to it so that as the bugs are worked out of the initial effort for the Attorney General, it can gradually be refined into a standard document control system for the Board of Regents.

A brief review of each major subject covered in our session is given below:

Key document type

Working on newsprint flip charts we identified nearly 40 different types of key documents as a starting list. Mr. Morgan will refine this list as he makes his analysis of each file document. We will not necessarily use each key document type identified on flip charts #1 and #2 dated January 24, 1983 unless there actually is a need for it in our files. The purpose for identifying these in detail early was to give the people involved an overview of the scope of the job ahead of us.

It should be stressed that the system we are analyzing and bringing into being here is generally best accomplished through an evolutionary process. There are very few standard guidelines available for this kind of work, and therefore we are forging new ground for establishment of information control in claims cases. I stress that we should not hesitate to experiment in these early stages so as to identify the best system possible to use the information available effectively and easily.

Components of the file

In data base programs such as we are using here, there are generally four major components. These are:

- files
- records
- fields
- characters

Files are major compilations of data about major categories of activities. For instance, on this project we have tentatively decided to use four major file designations. These are:

- owner
- designer
- contractors
- utilities

These four files are data collections that currently reside in the offices and file systems of the parties designated. Presently we are mainly concerned with the owner files since these are the most easily accessible and can be worked on immediately.

A record is one full set of data about one file item. In our filing system, the document is the file item unit and all information about that document consists of one record.

Fields are the various data components of the record. In our preliminary work, we are attempting to provide an adequate number of fields with enough space so we can record information about all items that might be of interest to retrieve or analyze. Field definition

is very important, particularly if the data base program does not allow you to change the field designation once inputting data begins. I believe in the VisiFile program that provisions can be made to revise a field arrangement even though input has started. Nevertheless, it is best to be as comprehensive as possible in the initial set up so a minimum of changes are necessary later.

Characters are the smallest visible unit of information and are the individual spaces, letters, symbols, or numbers contained in the field. In summary, characters comprise fields; fields together make up records; and records, in turn, make up the file.

As noted above, we have decided to use four file designations - owner, designers, contractors, and utilities. We have further decided that the record will describe each individual document. The fields used to describe each individual document are tentatively as follows:

- DCN - document number
- DOR - document origin
- DCT - document type
- OFO - organization from
- OTO - organization to
- IFR - individual from
- ITO - individual to
- DDE - date of document
- YR - year of document
- IMP - importance of document
- PC - problem classes contained in document
- SC - subject classes in document
- SMY - summary of document

During the initial phases of the file organization strong efforts will be made to develop a system that minimizes duplication of effort in inputting. However, because of the evolutionary nature of the program I am certain we will have to experiment a bit with the system before we hit on a totally acceptable solution.

Basics of scheduling and planning

Since in this claim, as in most claims, one of the basic problems that will be faced is understanding the principles of planning and scheduling, I reviewed briefly with the group on Monday various methods by which planning and scheduling is often accomplished in today's design and construction profession. We did a small sample network model which consisted of a logic plan with times assigned to each activity. Following this assignment, a calculation of the early starts and finishes was made followed by a calculation of late starts and finishes. Next, the principle of total float or slack time was reviewed to illustrate how, quite frequently, apparent delays to a project actually may not in fact be a delay. This matter should be fully understood by all parties to this series of claims since it applies to some of the early contentions on the project. The sample network model is shown on flip chart #4 dated January 24, 1983.

Organizational structure analysis

One of the more important actions to be taken early in any project such as we are engaged upon is a structural evaluation of the organization, in this case, those involved on the Marshall University Henderson Center program. On flip charts #5 and #6 dated January 24, 1983 this structural evaluation was graphically depicted and we spent considerable time evaluating the implication of what the system indicated. It was determined that for the time being we would consider the following parties are involved and fundamentally associated with the groups mentioned.

Owner group

- Board of Regents, Charleston, West Virginia
- Marshall University staff, Huntington, West Virginia
- Stewart design group, Huntington, West Virginia
- Kananui architects and engineers for project cost review
- Harry Ferguson, water consultant

Design group

- Bennett/Eggers project architects - Morgantown, West Virginia and New York City, New York
- Walter A. Lambert, site surveyor

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Contractor group

- Millan Stewart, general contractor
- Kirby Electric, electrical contractor
- Hughes-Bechtol, mechanical contractor
- Whitten Corporation, swim pool contractor
- American Desk and Seating, desk and seating contractor

Utility group

- Appalachian Power Company
- Columbia Gas System
- Devon Corporation
- Telephone company
- Huntington Street Department
- Huntington Water and Sewer Department

Once these organizations were identified, we generated a diagram of the relationships existing between each. Six different types were indicated. These were:

- basic contractual relations
- assigned contractual relations
- advisory
- agency authority
- informal
 no responsibility, no authority
- apparent authority

All of the above except the informal are indicated by an arrow symbol directed to the party in charge. The informal relation is a double headed arrow since it exists only by mutual consent and need of each party.

The importance of identifying the structural interrelations is that it permits a quick, accurate evaluation to be made of the authority, responsibility, and duties of each

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organization involved. We were not able to totally formalize the analysis at this session but will continue to review information that can be derived from this diagram at each of our sessions to better acquaint ourselves with the respective roles of each party on the Marshall University Henderson Center project.

Document control system

To complete our work on this project the entire group on the second day went through a series of exercises dealing with coding three months of owner documents at the BOR office in Charleston. The responsibility for completing this work will lay with Mr. Morgan, Mr. Donovan, and Mr. Wilson, with Mr. Morgan doing the bulk of the work under the Attorney General's Office.

The format used is simple and document data will be entered, starting at the top of the document first page and running down the right side of the sheet. The first item of information is the five character document number which will be stamped on each document once the file has been arranged chronologically by month, and to the greatest extent possible chronologically within the month. The file number is composed of two major sections, the first two digits and the last three digits. The first two digits indicate the month number after month #1 beginning January, 1977. This date was selected as the beginning point because our earliest current document is dated that year. The months will be numbered consecutively and the first two digits of the document control number represent the designations for the month indicated by the date of the document itself. The last three digits of the document control number are consecutive designations of the document within the month. It is desirable to have as many of the documents in place and chronologically arranged before the numbering starts for a given month. However, this is not imperative since as long as the documents are arranged in chronological month order there can be some non-chronological ordering within the month if documents are added at a later date. The document control number is being put on the document by sequential date stamp.

As a suffix to this number and inserted on the sheet by hand is the document origin (DOR). Each owner document location, i.e., the BOR office in Charleston and the Marshall University office in Huntington, will be specified by a unique letter symbol. For instance, in our present work, Board of Regents file documents from Charleston are designated as A.

Under the document origin identification is hand lettered the document type (DCT). This is given, as are all other abbreviations except the document origin, by a three letter abbreviation. Mr. Morgan is now setting up an abbreviation file as he goes through and codes the documents.

Under the document type is shown in order the organization to (OTO), organization from (OFR), individual to (ITC), individual from (IRF) in that order.

The information to this point has been put in near the upper right hand corner of the sheet. The next data entered is in the lower right hand corner of the sheet and consists of the subject code (SC). This subject code will consist of a series of three letter abbreviations which identify the content of the document. Probably the most time consuming part of the coding system is identifying what subject the various documents deal with. The ability to do the coding quickly will only come as practice is gained, and Mr. Morgan's present goal is to gain experience and speed in this inputting.

The descriptions of two of the fields have been left out above - the IMP or importance field and the PC or problem class field. These items can only be assigned later as the analysis of the documents and the claim nears completion.

Since there are bound to be additions within each month period, and it is desirable to get as many of any given month's documents on the same disc I suggest that the coding proceed through several months before being inputted into the computer. This will give Mr. Morgan an opportunity to receive other documents that might be in any given file, say the owner file, but that must be sent to Charleston from a remote source. However, a judgement line must be drawn as to how long to wait before starting the input since the retrieval system of the computer program is powerful and can be extremely useful to all concerned. In addition, even if the initial input is made, there are sorting techniques by which the data can be rearranged in practically any manner desired.

We attempted to make an estimate of the number of documents that Charleston might have in their files. There could be as many as 10,000 or more. The steps to be taken, numbering and coding, reading and annotating, and inputting each require an amount of time roughly proportional to the complexity and size of the data to be put in the record. I suggest that Mr. Morgan keep

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RALPH J. STEPHENSON, P.E., P.O.
CONSULTING ENGINEER

track of the time involved in each of the operations for the first three or four weeks so as to estimate the amount of total time it will take to complete a reasonably thorough inputting of the data. We shall discuss this in some detail during my next visit to Charleston.

Deposition questions

Time did not permit a thorough discussion of the questions that might be appropriate to ask during future depositions by the Attorney General's office. However, the questions, in my opinion, should be generated as a result of thorough management and technical evaluations made of the project. At our next session I suggest these evaluations be started and made a major agenda item so that interrogatories and depositions can be assembled in a meaningful, effective, and directional manner. Overall, the asking of proper questions during the discovery period is of prime importance in gaining material for our own use, and demonstrating that there is an organized and structured effort being made to properly and honestly refute whatever claims might be less than valid.

Over a period of time I strongly recommend that most parties to contracts with the state be made aware of the document control systems being considered and developed by the attorney general's office and the Board of Regents. My experience indicates that if consultants and contractors are aware of the nature of an owner's documentation system and are satisfied that it is being done honestly and with the intent to help rather than harm, that there will be a beneficial result in terms of minimizing disputes such as we are engaged in here. This is a long term effort, however, and we shall have to concentrate for the time being directly on the Henderson hall project.

I shall be in touch with Mr. Wilson shortly to set the next session. Meanwhile, I urge Mr. Morgan and Mr. Donovan to check with me periodically to clear questions that might arise. I shall also take the initiative in contacting them to see if their work is proceeding well enough to make a meeting in late February, 1980 useful and appropriate.

I want to thank those who were of so much help in the meetings in Charleston, and I am looking forward to returning to this very important project in the very near future.

Ralph J. Stephenson, P.E.

RJS:sps

to: Mr. H. Bias, Jr.
cc: Mr. Robert Wilson

Please prepare book

RALPH J. STEPHENSON, P. E., P. C.
CONSULTING ENGINEER

March 31, 1983

Subject: Report #2
Attorney General's Office
State of West Virginia
Marshall University Claims

Project: 82:51

To: Mr. H. Bias, Jr.
Mr. Robert Wilson
Mr. Donald Darling

Date of Conference: March 7 and 8, 1983
Charleston, West Virginia

Actions taken:

- Reviewed general nature of work to be done during two days
- Continued study of pertinent depositions
- Established format for data storage and retrieval on document file
- Made sample runs on document file
- Set project history preparation procedures
- Prepared network model for work from March 9, 1983 (working day 48) through May 16, 1983 (working day 96)
- Identified major dispute discussion areas

Those attending the meeting included:

Mr. Robert Wilson (part time)
Mr. Rich Donovan (part time)
Miss Ann Gordon (part time)
Mr. Hank Bias (part time)
Mr. Donald Darling (part time)
Mr. Brett Morgan (full time)

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Marshall University Claims
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Note: The material covered was so diverse that the various individual items discussed required different people to be present. Therefore, the main thread of the discussion was maintained through Mr. Brett Morgan and myself.

General Summary

Mr. Donald L. Darling, assistant Attorney General, has been assigned to assist Mr. Bias in working on this case as a representative of the West Virginia Attorney General's Office. He attended our sessions part time, and we were able to bring him up to date on most of the materials discussed to this point. Additional briefings and discussion will continue at our next session.

The items set for our agenda during the two days were carried out primarily by Mr. Brett Morgan and myself. They dealt fundamentally with firming up the format for the document control system, running sample files, and establishing a format for the project history. Mr. Morgan has done considerable work in assembling the material to be filed, organizing it chronologically, and beginning to code and input the documents ready for data base file work. The program used for document control is the VisiFile data base program by VisiCorp Inc. The program is being run on a 48K Apple II + with a language card giving it a 64K total capacity.

Considerable time was spent on insuring that the final format file was adequate to contain all of the information needed for recording data properly. Mr. Morgan has this information printed out and available to any who wish to review it. The intent of the system is to permit relatively rapid retrieval of information on several fields for documents containing a variety of files. The file we are working with primarily now is that available at the Board of Regents Office in Charleston.

Mr. Morgan will continue identifying files from other sources and will, as appropriate, code and store information from these other document sources. He is putting the information in looseleaf binders and all documents will be arranged chronologically to the greatest extent possible and numbered in ascending sequence. Thus, all documents in any given file will have a unique document control number irrespective of the subject content. Retrieval can be on any of the

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following items of information (fields) and will identify the document number for ease of going into the actual looseleaf binder and reading the copy filed there.

Retrieval field include documents:

- origin
- date
- year
- type
- organization from and to
- individual from and to
- subject code
- summary
- problem classes
- importance

A further explanation of the retrieval codes will be published in the near future as the group familiarizes themselves with the use of the system.

I suggest the Attorney General's Office might find it desirable to obtain a similar configuration to that being used by the Board of Regents, including the VisiFile and Apple Writer II programs. Mr. Morgan can then provide the Attorney General's Office with a copy of each data disc and this can be used by the attorneys in retrieving key data. It might also be desirable to provide the Attorney General's Office with a duplicate file to that being coded by Mr. Morgan. Probably the easiest way to do if it appears desirable would be to have each of the documents in Mr. Morgan's file duplicated either internally or externally, and this copy housed at the Attorney General's Office.

Resulting from preparation of the document control system will be a project history. This project history will provide a chronological narrative of what happened on the project rebuilt from the various files. I have reviewed the general format of this project history with Mr. Morgan and he is beginning his work on the document in the very near future.

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At our next session I shall review his document coding input and will also critique the project history he will have prepared. The project history is being written on the same computer equipment using an Apple Writer II program which is a word processor software disc. The use of this program allows great flexibility in the work being done and is a very powerful reporting tool. We shall review this matter in much greater detail at our next session.

It is to be stressed that part of the benefits of the work we are doing presently should be to improve and strengthen the physical facility operations of the Board of Regents. Thus, from the information being processed and analyzed presently there should emerge many good ideas for improved procedures. *

During my visit to Charleston I also reviewed and discussed in depth the deposition of the architect for the project. These comments were reviewed by Mr. Bias, Mr. Darling, and Miss Gordon. We will undoubtedly review these again in detail at our next session.

On March 8, 1983 Mr. Morgan, Mr. Darling, and I met to prepare a network model for the work to be done in the immediate future. We selected a time span for our planning extending from March 9, 1983 (working day 48) through to the point where it was expected to depose key individuals of the contractors' offices at the time the project was in work. These depositions will be completed by the morning of May 16, 1983 (working day 96). The network plan is shown on sheet #1, Issue #1, dated March 8, 1983 (working day 47).

As part of this discussion we also reviewed the major points around which the disputes seem to center. These are listed on the sheet #1 of the network plan and are repeated below for ease of reference. The list is at random. It is expected that each one of these problem areas will be assigned an identification at our next session and will be made part of the total analysis of how to best proceed. Each item is numbered for ease of reference:

1. ^{DEVON} DeVon high pressure gas line relocation
2. Columbia gas line relocation
3. Water line relocation

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4. Sawer relocation
5. Power line relocation
6. Right of way vacation and abandonment
7. Site drawings omissions and discrepancies
8. Water seepage at Dullickson
9. Power company strike
10. General trades' strike
11. Water at running track
12. Piling tests
13. Award of piling contract
14. Weather delays
15. Delays to excavation
16. Contract document revisions to effect cost reductions
17. Rebidding of job
18. Electrical work on furnishings (FF & E)
19. Scoreboard delation
20. Painting revisions
21. Project representatives
22. Project inspection and surveillance
23. Project administration
24. Project management
25. Job planning
26. Job scheduling

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27. Plan and schedule approvals
28. Processing of bulletins and change orders
29. Existing site condition information
30. French drain design and construction
31. Exterior skin revisions domino effect
32. Use of word coordinate in contract operations

There are certain to be additional items appear as we review the documents and analyze the subject file. The above, however, is a good starting point, and it is reasonably apparent that much of the conflict and dispute will revolve around the items mentioned above. Therefore, we should early on begin categorizing the problems to the greatest extent possible.

As a random agenda list for our April 1983 meeting, I suggest the following:



- Monitor network model Issue #1, sheet #1, dated March 8, 1983 (working day 47)
- Discuss and classify major dispute areas listed above
- Review current status of depositions and content of information discovered to date
- Review progress of entire discovery period
- Continue preparation of network model begun at our March 1983 session (Issue #1, dated March 8, 1983)
- Make detailed review of document coding system and storage and retrieval procedures
- Identify additional document origin files that must be incorporated into our study
- Review project history format and work done to date (this is very important since the intermediate document to follow preparation of the coding system is the project history from which the analysis proceeds in depth)

33 Swimming pool construction

- Review further technical procedures to be carried out by Mr. Brett Morgan
- Decide on analysis techniques and procedures to be followed

For the two day session it will be essential that Mr. Morgan be available most of the time. In addition, it would be helpful if Mr. Darling could spend as much time as possible in the sessions. Mr. Bias will be welcome at any point to add input and information about the direction he wishes to give the entire process through which we are moving.

It would also be helpful for Miss Gordon to be involved to the extent that she must carry out her assignments on the job. These are not totally clear at present but undoubtedly have been discussed and decided upon in the interim. It would be also helpful to have Mr. Wilson available as needed for background information and executive direction.

There may be a need for other parties involved in the project, particularly those who have special knowledge of the areas in dispute, to be available to us during our meeting. However, this ties most closely with the desires of the Attorney General's Office for what is to be accomplished at our next session. It would be good for Mr. Bias and Mr. Darling to also prepare an agenda of what they expect to cover that will be of optimum help in their immediate future work. *

I further recommend that Mr. Morgan identify all of the various items he wishes to cover in our next session so that at the very beginning of the first day we can establish a detailed agenda and timetable for the two days of work. * ←

I'm looking forward to continuing my involvement in this very important project and will do whatever additional study seems appropriate prior to my next visit. Meanwhile, it would be helpful if Mr. Morgan could send me any information or printouts that he has prepared since my visit there. I would particularly like to have printouts of the file definitions and if possible, copies of the document files for each period. This letter is being sent to Mr. Bias, Mr. Wilson, and Mr. Darling to limit distribution as much as possible.

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RALPH J. STEPHENSON, P. E., P. C.
CONSULTING ENGINEER

Therefore, it would be appreciated if Mr. Morgan could
be provided a copy by Mr. Wilson for his information.

Ralph J. Stephenson, P.E.

RJS:sps

April 19, 1983

Subject: Report #3
Attorney General's Office
State of West Virginia
Marshall University Claims

Project: 82:51

To: Mr. H. Bias, Jr.
Mr. Robert Wilson
Mr. Donald Darling
Mr. Brett Morgan

Date of Conference: April 13 and 14, 1983

Actions taken:

- Worked with Mr. Brett Morgan on preparation of project history.
- Briefed Miss Ann Ewert on work progress to date
- Assessed overall progress and discussed current work with Mr. Bias
- Inspected Marshall University - Henderson Center
- Reviewed various legal actions presently pending and the method by which each is to be analyzed and evaluated
- Discussed glossary of common construction claim terms for ease of communication

Those attending the meetings included:

Mr. Robert Wilson (part time)
Mr. Rich Donovan (part time)
Mr. Hank Bias (part time)
Mr. Donald Darling (part time)
Mr. Brett Morgan (full time)
Miss Ann Ewert (part time)

General Summary

The work with Mr. Morgan at this session concentrated on setting the format for the project history. We prepared a sample run for period #43 for July, 1979 to guide Mr. Morgan in his abstracting work. I stressed the importance of identifying unusual occurrences, those actions that seem contradictory to agreements, and activities that produced, uncovered, or

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were part of major problem areas we have already identified. I also stressed that he should be alert to new problem areas as they appear in the documents.

We used the sample project history for period #43 to discuss the program with all concerned, and it was agreed that the document would be valuable and should be prepared as quickly as possible. Mr. Morgan will work on the project history concurrently with coding the remainder of the BOR files and the start of coding for the Mellon Stuart files.

To aid in his work, we prepared a matrix to be used to track progress. It was decided that there are four major phases of the analysis. These are:

1. Document arrangement and numbering
2. Document coding and input
3. Project history preparation
4. Project history analysis

We also established that there are several file origins to concentrate upon. These are given letter identifications as follows:

- A. Board of Regents (BOR)
- B. Hughes - Bechtol
- C. Mellon - Stuart
- D. Charles Stewart & Associates
- E. Marshall University
- F. Robert J. Bennett, AIA & Associates
- G. Eggers Group
- H. Kirby Electric Service
- I. Whitten Corporation
- J. American Manufacturing Company

Mr. Morgan will prepare a matrix form which will serve as our

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standard form and by which regular progress reports will be made.

Over the next two to four weeks Mr. Morgan is going to focus on completing phases #1 and #2 for the BOR file (A) along with doing phase #1 and #2 of the Mellon Stuart (C) file. In addition, he will begin preparation of the project history starting with inputting the BOR (A) files and adding in Mellon Stuart (C) files as they are coded and annotated.

It is essential that we have the project history, for at least the first year, available to us quickly to permit us to make a serious analysis of the claims against the project. As Mr. Morgan completes his work he will provide me with regular printouts of the document lists, and the project history.

To summarize, the document control computer configuration is in place, and Mr. Morgan is proceeding to carry through on phase #1, #2 and #3 work for the Board of Regents and the Mellon Stuart files.

As Mr. Morgan has machine time available where sorting can be done, he will begin running selective printouts on various subjects that Mr. Darling and Miss Ewert consider of importance in upcoming work particularly during discovery. During our trip to Huntington, subjects were given an importance rating from 1 to 9 and then the high priority subjects were identified as early targets for selective runs. A rating of 9 indicates that a subject is of high importance and the documents containing information about this subject should be identified as quickly as possible. The importance of the subject diminishes as the number decreases, on down to 1.

In our preliminary evaluation there are about 35 subjects having a priority rating of 9. Mr. Morgan will prepare selective runs on these as the equipment is available to him. Miss Ewert and Mr. Darling, meanwhile, will recheck the priority assignments to insure that they are in conformance with their immediate needs, particularly insofar as deposition material is concerned.

Depositions are to be taken over the next few weeks from several parties. The initial two depositions, originally set for April 7 and April 8, 1983, have been deferred for various reasons to a later point. However, several other depositions are to be taken shortly, and the selective runs can be of help for preparing for the deposition.

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During our meetings we reviewed the legal structure of the West Virginia court system in detail and identified the needs of the Attorney General's office relative to my work. The important items presently are under consideration, and I will maintain contact with Mr. Darling to insure that he is aware of my current ideas on the program.

I would like to stress that the project meeting minutes contained in the Hughes - Bechtol file (B) contain a great amount of information essential to incorporate in the project history. Therefore, for my analysis this should be folded in as the project histories are prepared from the BOR (A) file. I have reviewed this procedure briefly with Mr. Morgan and if there are questions he should be certain to get in touch with me.

Meanwhile, Mr. Darling is to provide me with a full list of the current and projected actions on the project. This will be important to understanding and recommending work to be done over the next few weeks. Another important activity I have suggested that Mr. Darling and Miss Ewert accomplish prior to my next trip is to assemble a full set of contract documents so that they can be used as an authentic reference in establishing the agreed upon scope of work under the contract. It may be difficult to assemble such a set due to the fragmentation of the various parts of the documents but it is essential it be done and the job should be undertaken immediately.

In addition, decisions as to the location of tabulated documents should be made within the next few days. Presently, it is planned to keep the numbered and annotated files at the Board of Regents Office where they will be under the direct custody of Mr. Morgan. The BOR is presently setting up additional storage space and thus, a full document library will be available there. The Attorney General's Office will probably want a full set of documents for their convenience and use. Mr. Morgan will work with them to obtain the necessary copies.

Although the paper work involved seems enormous and the process tedious it is necessary to have this information organized well if we are to use it effectively. Thus, the efforts of Mr. Darling, Mr. Morgan, and Miss Ewert will be extremely important over the next one to four weeks in establishing and maintaining a usable reference library.

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We again reviewed the 32 major points around which most of the case disputes seem to center. These are outlined on pages 4, 5, and 6, of Report #2 dated March 31, 1983. It was agreed that these are still the dispute points and all should be investigated in depth as an early analysis effort. On our first meeting day, Mr. Morgan, Mr. Darling, Miss Ewert, and I visited the Marshall University site and inspected Henderson Center. Mr. Gene Kuhn very courteously toured us through the entire facility, and we were able to see the actual location of many of the problem areas encountered during construction. It was of great help to actually visit the site, and the tour should prove valuable in our future efforts.

We were not able to continue work on the operational plan at this session due to the press of time and the need for reacting certain decisions to be made in the near future.

I shall establish with Mr. Darling and Mr. Morgan the meeting dates for the next three months so we can more accurately plan our course of action. As noted above, I shall stay in touch with Mr. Morgan so he can keep me up to date on this progress and meanwhile, I shall study the data and information I already have, coupled with current data to be forwarded by Mr. Morgan.

Ralph J. Stephenson, P.E.

RJS:GMY

CC: H. Bias
R. Wilson
D. Darling
B. Morgan

June 7, 1983

Subject: Report #4

Attorney General's Office
State of West Virginia
Marshall University Claims

Project: 82:51

To: Mr. H. Bias, Jr.

Date of Conference: May 18 and 19, 1983

Actions taken:

- Reviewed current status of document control and analysis matrix
- Continued work with Mr. Brett Morgan on preparation of project history
- Began study of project history
- Prepared preliminary photo file analysis
- Set major course of action for next month's work
- Began coding meeting minutes

Those attending the meetings included:

Mr. Rich Donovan, part time
Mr. Hank Bias, part time
Mr. Donald Darling, part time
Mr. Brett Morgan, full time
Miss Ann Swert, part time
Miss Selene Foster, part time

General Summary

Mr. Morgan and I first reviewed the current status of the document control and analysis system. Work on origin A files is proceeding well and phase #1 is nearly complete. Document coding and input is also well along, and we began

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intensive project history preparation at this session. Work is continuing on acquisition of other files, and these are being made available as the time and opportunity permits. At our next meeting, we should make a determined effort to identify all remaining files we will need for our work over the next few months to insure that these are in hand.

Still of major concern is the lack of substantial log and diary material. I pointed out to all involved the importance of these items, and efforts are being made now to acquire whatever is available.

Mr. Morgan has required the assistance of Miss Selene Foster to copy and input information in the document control system. This will be of great help to him and should aid materially in achieving the short term objectives set out during this session.

The process of making selective runs is in work for file A and whenever the computer is not being used to input codes or project histories it is being used to compile selective subject code runs for use in deposition work and history analysis. Meanwhile, the attorney general's office is continuing to work on background study and analysis of the information, as well as researching case studies throughout the United States.

We will soon start pulling together the combined information available from each of the groups working on the project into a detailed plan of work for the next few months. At this session we set a target of June 13, 1983 by which date we want to have project histories prepared from ~~May, 1979~~ through October, 1979 for files A, C, D, and P. This is a sizable program but is essential since the period includes some of the most critical action that affected later job progress.

~~6/12/83~~ just 504

On June 24, 1983 it is expected that there will be a legal status conference at which time decisions affecting the case procedures will be reviewed and decided upon. I emphasized to Mr. Morgan that the most important document is the project history. However, I further suggested that where possible, he code documents and annotate them preferably prior to preparing the project histories. It is not essential that the code be entered into the document file ahead

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of preparing project histories. It is generally best practice to bring the coding and project history along together so that the body of information currently available covers the same time span.

I feel presently that the best insight into the project and its progress can be gained from a study of the field representatives' documents which includes the meeting minutes and the various activity logs that are found. This information gives us factual data by which we can best evaluate the actual constraints on work and the true progress obtained.

The project team is gradually acquiring considerable photographic material, and it was decided at this session that we would prepare a photo file record using a format similar to that for the documents. I suggest the following information be contained in the photo file record:

- photo number (to be assigned by Brett Morgan)
- photo date
- photo year
- taken by (could use three letter code for organization of origin)
- photo subject
- problem classes shown
- subject classes
- remarks
- taken from
- looking (direction in which photo was taken)

Mr. Morgan and I discussed this matter, and he will set up a photo file and begin a definitive numbering and record keeping system. We can then reference specific photos to the project history and best cross correlate the information contained in both files. I think a photo file retrieval system will be of great help and strongly

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recommend, since we have some excellent photographs, that it be implemented as quickly as possible. This is a lower priority than completion of the project history for the major dates outlined above and preparation of the photo file should follow preparation of the project history.

We have added two file origins to our A through J list. These are:

- K - Tri States (to permit filing of the photographs from Tri States)
- L - official photographer (to permit file identification of the official photographer for the job progress photos)

Mr. Morgan and I spent considerable time reviewing the method of coding the project meeting minutes. These are considerably more complex than the information contained in file A, and required special attention and a certain amount of coaching and review before starting work. In addition, we began to fold the documents from the other files into the A file project history. By doing this, we will have a fully chronological project history, and the reference to the documents will be explicit as to the location of these documents within the various file origins. The entire process of project history preparation takes into account that as new files are analyzed and information is obtained from them, they can be integrated with previous project histories to give a more comprehensive view of the time period within which the work occurred.

I requested Mr. Morgan to please forward to me, as they are prepared, copies of the project history for each of the periods. I shall then begin my analysis relative to the problem areas and to the difficulties that were encountered on the project. In addition, I shall also begin preparation of key questions for deposition and other discovery work which will be starting soon. To date, there have been no depositions held for various reasons. However, over the next two months it is important to begin intensive discovery by the deposition process.

I shall be in touch with Mr. Brett Morgan re progress on the coding and project history periodically in early June. Again, it is important to forward to me as soon as they are run, the project histories for the various periods. These should be as complete as possible within the four files mentioned above, but even incomplete material will allow me to begin my detailed

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analysis of the happenings in these very critical early periods of the job. Present plans are for us to have our next session in mid-June, 1983 and I am currently making arrangements with Mr. Morgan for this meeting. It would be of help if all parties involved would prepare agenda items that they would like to cover prior to the session so that we can better structure the meeting time available to us. All parties involved are very busy, and it would be of help to plan the two days of work carefully.

The items I wish to cover in the meeting and to which I can best contribute include the following:

- Complete advising on coding and project history work for period through October, 1979
- Analyze with Attorney General's staff the impact of events during the early project relative to the 32 problem areas
- Review each of the claims which are current including related interrogatories
- Begin analysis of financial characteristics of claim
- Review discovery procedures to be engaged in over the next few months
- Review acquisition of logs and diaries
- Analyze selective runs prepared, and organize material for ease of use
- Review general conditions and requirements of the contract

Overall, the material is now being brought into good focus, and I anticipate that with the intensive work planned for the next month and a half we should be able to make much better decisions than were possible previously in relation to our optimum course of action.

For our next session, it would be helpful if the Attorney General's office would decide the work schedule for the two days of meetings. It appears there is still considerable amount of document analysis to be done, and therefore I probably will have to spend a half to two-thirds of my time with Mr. Morgan analyzing what has been done and what

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CONSULTING ENGINEER

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is to be done. However, it will be of importance to confer in detail with the Attorney General's staff to insure we have the best handle on the proposed course of action by the time the status conference is to be held.

Ralph J. Stephenson, P.E.

RJS:eps

cc: Mr. Robert Wilson
Mr. Donald Darling
Mr. B. Morgan

June 30, 1983

Subject: Report #5
Attorney General's Office
State of West Virginia
Marshall University Claims

Note: This report is an attorney work product
for the office of the attorney general,
State of West Virginia and is confidential.

Project: 82:51

To: Mr. H. Bias, Jr.

Date of Conference: June 21 and 22, 1983

Actions taken:

- Reviewed project history prepared to date with
Mr. Brett Morgan
- Met with project team to discuss immediate future
course of action
- Reviewed change order request of MSC dated January 9, 1981
- Began preparation of problem area tracking with
Mr. Brett Morgan and Mr. Don Darling

Those attending the meetings included:

Mr. Rich Donevan, part time
Mr. Hank Bias, part time
Mr. Donald Darling, part time
Mr. Brett Morgan, full time
Miss Ann Ewert, part time
Dr. Edward Gross, part time

General Summary

Mr. Morgan and I set an initial basic agenda around continuing analysis of the project history prepared to date and continued refinement of the problem area analysis, with the view in mind of determining the strength of the various positions being considered for the Board of Regents.

The project history has now been completed from period #1, January, 1976 through period #48, December, 1979. The files incorporated to date in the project history include file A, Board of Regents, file C, Mellon Stuart, and a portion of file D, Charles Stewart and Associates. Mr. Morgan has recently received some additional files Bennett Eggers, primarily from the office of Mr. Bennett (file F) and will start immediately incorporating the information in these files into the project history.

During our detailed discussion it was decided that since the basic problems we are presently working with are those incorporated in the change order request of MSC and KIE dated January 9, 1981, that we would complete the project history in detail through April 30, 1980 as a first priority. Following that, work would again be concentrated on assembling, numbering, and coding the various files. *

To summarize present priority of actions the following in order will be done over the next two to four weeks by Mr. Brett Morgan. There is no assurance presently that he can complete this entire sequence, but he will make every effort to do as much of the work as possible.

Priority #1 - Assemble and number the documents in the Bennett file (file F).

Priority #2 - Fold the Bennett file comments and material into the current project history through period #48 December, 1979.

Priority #3 - Complete the project history using files A, B, C, D, and F through April 30, 1980, period #52.

Priority #4 - Code the C, D, and F files from their beginning through April 30, 1980.

With the above work completed, we should have an extremely good tracking system for the period encompassed by some of the major claims against the Board of Regents. In addition, we will be able to make selective runs sorting out key documents for practically any problem area or document source or destination needed. This should be a great help in the upcoming discovery periods as well as in preparing tracking analyses of each major problem area.

We next had a project team meeting during which was discussed the plan of action over the next few weeks. The conference was primarily oriented around the strengths and weaknesses of each of the parties' positions in the present claims against the Board of Regents. Some of the discussion concerned a list of questions prepared by Mr. Brett Korgan and submitted to Don Darling on June 17, 1983. Although these questions were not formally addressed in the meeting, portions of many of them were a part of the discussion. This list currently contains 19 questions, and I strongly recommend that we make a careful study of the questions and attempt to find answers that contribute to a fuller understanding of the problem areas. I have encouraged Mr. Korgan to continue preparing the question list as he continues on with his project history and coding work.

Following the staff meeting, Mr. Korgan and I continued our work on assembling information regarding the major problem areas. During these sessions we also began a preparation of the types of questions to be asked in the discovery period. This questions list and discussion is currently being prepared and will be forwarded as an attorney work product to those receiving this memo in the very near future.

Some of the points that came out of our afternoon work included:

1. A full and complete set of contract documents have still not been formally assembled and stored in a single location. Mr. Korgan has most of the documents in his work area, and he will take immediate steps to insure that a full set is properly stored and identified as the official contract documents.

We should make certain that these include all pre-did revisions and all the drawings and specifications that were a part of the contract set.

2. The schedules issued by MSC should be identified, and the month by month additions of this schedule checked carefully to identify revisions in the plans of work. Heavy reliance has been placed on the early schedule intent by MSC, and we should make certain that their early schedules were authentic and were accepted and approved as represented by MSC. There is some doubt that this was actually the case.

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3. Work on the various problem areas should be ongoing. Problem areas in the original list are shown in my report #2 dated March 31, 1983 and listed on pages 4, 5, and 6 of that report. During our previous session and today's conference we added six additional problem areas including the following:

- project supervision
- dewatering the site
- excavation (general)
- gas to Gullickson
- underpinning and sheeting at Gullickson
- swimming pool

These additional problem classes will be added to Mr. Morgan's problem class abbreviations list, and we will adopt the numbering system that is used in that list. It is slightly different than the numbering of the items as shown in project report #2 and note should be taken of these minor differences.

Mr. Morgan and I next prepared a standard time scaled one year charting form on which we tracked several of the major problem areas presently being analyzed. These problem areas which were graphically shown included:

1. High pressure gas line relocation (Devon)
2. Columbia gas line relocation
12. Pile tests
13. Pile contract award
15. Excavation delays
35. Excavation (general)
3. Water line relocation
4. Sewer relocation
36. Gas to Gullickson
5. Power line relocation
37. Underpinning and sheeting at Gullickson

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CONSULTING ENGINEER

These were each grouped in what appears presently to be a logical combination of items to best give a picture of how the work proceeded. For each group of problems, key milestone date points were identified along the time scale and identified by a letter. Mr. Morgan is presently abstracting the information from the rough work sheets and will prepare typed keyed copies of each of the problem area tracking schedule sheets made up at this session.

We are also incorporating this information on a larger bar chart form so that the entire first year construction period can be seen on one or two diagrams. On the larger drawings we identified only the major field action milestones leaving the details to be found in the smaller one year work sheets.

I believe this system can be of great help in quickly referencing key information needed to assemble rebuttals to the various arguments made in the change order request of MSC dated January 9, 1981. We shall continue to add information to the work sheets and the master bar chart, as additional project history work is completed and selective coding runs are made.

Mr. Don Darling participated in portions of the problem tracking meetings and was of help in assisting us to identify information of key value to him and the legal team. As with the project history we shall carry the problem tracking time scales through April 30, 1980 so that that period will have complete documentation.

In our sessions we further discussed discovery and how we were to now begin obtaining additional first hand information from the various parties involved on the project. Apparently no further depositions have been taken on the project, since MSC's attorneys have been very busy on other cases and have not been able to make any scheduled deposition meetings. This matter of discovery deposition is very important since we will be needing the information that apparently can be gained only by first hand contact with those involved on the project.

To date, we have been unable to obtain any logs of the parties on the project. These logs are still, in my opinion, very important to our work, and I have asked that continuing efforts be made to acquire them.

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CONSULTING ENGINEER

It is important to remember, irrespective of whether an offense or defense is being considered that the strength of the case will frequently be determined by how well prepared we are with the basic information needed to disprove points that are not factually correct. One of the more important of these will undoubtedly concern the weather claims that have been made. There is some contradictory material in the various documents regarding weather, and we should have a very clear and technically correct record of the weather conditions and their actual impact on the job at hand during our analysis.

For our next session I urge that those to be involved prepare an agenda of items of most importance to them and their work. I shall set the next meeting soon through Mr. Morgan and would appreciate having whatever agenda plans are desired by those who are to participate. There was to have been a major legal status conference on June 24, 1983 and this should have helped formulate deposition schedules as well as to set a future course of action. We should certainly plan to discuss this program of action in detail at our next session. *
Meanwhile, I shall stay in touch with Mr. Morgan to assure that I am up to date on work progress and the material being produced by him.

Ralph J. Stephenson, P.E.

RJS:sps

cc: Mr. Robert Wilson
Mr. Donald Darling
Mr. Brett Morgan

July 18, 1983

Subject: Report #6
Attorney General's Office
State of West Virginia
Marshall University Claims

Note: This report is an attorney work product for the office of the Attorney General, State of West Virginia and is confidential.

Project: 82:51

To: Mr. H. Bias, Jr.

Date of Conference: July 12 and 13, 1983

Actions taken:

- Reviewed status of document control and analysis with Mr. Brett Morgan
- Met with Miss Ann Ewart and Mr. Brett Morgan for continued problem analysis and general review
- Met with Mr. Don Darling and Miss Ann Ewart for general project review
- Prepared tracking analysis of weather and of swimming pool problems
- Reviewed working drawings with Miss Ann Ewart and Mr. Brett Morgan

Those attending the meetings included:

Mr. Donald Darling, part time
Mr. Brett Morgan, part time
Miss Ann Ewart, part time

General Summary

Mr. Morgan and I first reviewed the document control and analysis matrix to establish the current status of work. In summary,

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File A - Board of Regents: Substantially complete for phases #1 and #2. The project history is prepared for file A through April, 1980 and the analysis of the history is about 30% complete.

File B - Hughes Bechtol: We do not have this file as yet but Mr. Morgan expects to receive the documents in three or four weeks.

File C - Mellon Stuart: Mr. Morgan has substantially completed arranging and numbering the documents he has available. We now have the Mellon-Stuart superintendent's logs for 1979 and 1980. Apparently there will be additional material made available from the MSC files in the near future. The available documents are not yet coded but the MSC project history has been prepared through April 1980 except for the logs. The project analysis is about 30% complete.

File D - Charles Stewart and Associates: Mr. Morgan has the coordinating meeting minutes arranged and numbered. This is all the material we have from file D. The project history is complete through April, 1980.

File E - Marshall University: Arranged and numbered. No coding done yet. Project history prepared through June 1979.

File F - Bennett and Eggers: Same status as for File E.

I suggest that the priorities of action over the next four weeks be concentrated on the following items:

Priority #1 - Complete folding in the Marshall University and Bennett files to the project history through April 30, 1980 - period #52.

Priority #2 - Fold in the Mellon-Stuart field log data to the project history through April 30, 1980

Priority #3 - Code the E, D, and F files from their beginning through April 30, 1980. This should include the Mellon-Stuart field logs.

The project histories to date are now proving very valuable and have some powerful uses relative to problem tracking procedures. We have now identified 50 explicit problem areas being specifically addressed in our current work. We will continue to add problem categories as the work proceeds. I recommend that Mr. Morgan issue to Don Darling, Ann Ewart, and Mr. Bias an up to date document control analysis matrix status report, and an updated list of the problem areas that have been identified. I shall discuss this with Mr. Morgan by phone.

When Miss Ewart joined Mr. Morgan and I July 12, 1983 we first reviewed the research memo #1 that Miss Ewart prepared. This memo was basically a summary of findings on cases related to restricted access to sites. These summaries are very helpful, and it would be appropriate to consider obtaining research summaries for other problem areas we have identified for this particular job.

We next began a problem tracking analysis and made a preliminary review of weather days encountered on the project through April, 1980. To do this, we compared the bad weather annotations in the early progress recaps from the Mellon-Stuart fields with the Mellon-Stuart daily log entries. A complete list was made of the dates and the conditions of the bad weather for all days for which records were available. We shall make further comparisons with the claims of the various contractors for weather day relief in the near future. There is considerable difference in the records analyzed to date and we must determine the reason for these differences so a proper weather analysis can be made. It is interesting to note that in the Mellon-Stuart log entries rain days were carefully recorded through the end of 1979. No information, however, seems to be available for 1980. The daily progress recap information was available through January, 1980 but there are no weather records for February, March and April 1980. We probably will be able to cross check the weather problems in the missing periods from other log books and daily reports.

As we discussed the project and its characteristics it was felt appropriate by Miss Ewart and Mr. Morgan to review the contract documents particularly the working drawings so as to become more familiar with the terminology and the method by which drawings are prepared and assembled. I first discussed the various kinds of foundations and characteristics of the pile load

tests with Miss Ewart and Mr. Morgan after which we went through the working drawings sheet by sheet and reviewed the information contained on each of the drawings. I believe it is essential we continue these orientation briefings since it is important that all parties understand fully what contract documents mean and what role each plays in the overall construction of the project.

On Wednesday, July 13, 1983 I prepared a tracking analysis of the swimming pool problem since it, the piling work, and the excavation appears to be the three most critical early areas to address in our analysis of this case. The procedure used in tracking the swimming pool problem is worth noting since it allowed a large amount of work to be done quickly, that under normal conditions would have been very time consuming and difficult.

The project history prepared in the word processor for periods #1 through #52 were printed and used to annotate references to the pool. Once this project history was available the following steps were taken to make the analysis of the pool construction:

1. A list of key words was defined to search on in the project histories. The key words used for the swimming pool history were:
 - pool
 - swim
 - Whitten
 - WHC
 - POOL
 - SWIM
 - WHITTEN
 - Pool
 - Swim

Each of the word processor file disks (three total) were then searched through for each period for occurrences of each of the above words. When one of the words was found, it was felt pen highlighted on the project history copy for future reference.

The word processor search for individual words is extremely rapid and made the tracking analysis quite easy.

2. The standard tracking bar chart prepared at our previous session was then annotated with the key document elements of the swimming pool problem.
3. Step #3 has not yet been taken with the swimming pool problem but in it Mr. Morgan will copy each of the documents referred to in the tracking histories and attach them to the summary bar chart description forms for ease of reference. This will thus allow Miss Smart and Mr. Darling to have a complete problem file for each of the problem or groups of problems we have been focusing on. A reference file was assembled for the piling track and proved to be very readable.

The swimming pool history was discussed in detail with Mr. Darling and Miss Smart, and I reviewed each of the stages of the work and explained the meaning of each delay and each set of actions. As noted above, I considered the piling, the excavation and the swimming pool difficulties to be key to the entire project, and I strongly recommend that these items be given careful initial attention. This is not to say that other problems are not available for consideration, and all must be considered since the strength of this case will be derived fundamentally from sound technical analyses. However, these three offer rather interesting answers to many of the points made in MSC's change order request.

During our conferences it was increasingly obvious that we must locate any official photos taken from the beginning of the job on through April 30, 1980. This is a critical period, and we apparently do not know where these official photos are, or even if there were any taken. I recommend strongly we give this early attention so that the pictures can be used to better evaluate the operations being unfolded in the problem area tracking.

In the legal status conference of June 24, 1983 several items were discussed and a tentative timetable established for discovery and further conferences over the next eight months. At present it is the intent to begin depositions as soon as possible, probably about September, 1983. I believe we now have enough document information properly classified and arranged so that preparation for these depositions can proceed immediately using the search techniques built from the coded

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

files as well as on key words in the project history. We reviewed this matter briefly at our session, but should spell out the procedures in greater detail as the deposition preparation continues. I shall discuss this technique with Mr. Morgan in the very near future.

In preparing for depositions, it is a good idea to have obtained all shop drawing submittal and approval information available to us. Usually this information is kept in 2 shop drawing logs maintained both by the architect-engineer and by the contractors on the job. These logs usually prove valuable in establishing the turnaround times taken to process shop drawings. This usually proves to be an important element of every construction discussion and will probably prove to be important in this particular case. Thus, we should try to get the logs as early as possible from those parties who were most likely maintaining them. Undoubtedly Bennett and Eggers kept logs, and if we are going to obtain additional information from Mellon-Stuart we should request submittal logs from them also.

There was no specific time set for our next meeting, and I shall be in touch with Mr. Robert Wilson and Mr. Brett Morgan to discuss this next session. Meanwhile, I shall stay in touch with Mr. Morgan to insure that he has the up to date information from our July 13, 1983 session.

Ralph J. Stephenson, P.E.

RJS:pw

cc: Mr. Robert Wilson
Mr. Donald Darling
Mr. Brett Morgan
Miss Ann Ewart