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Mr. Robert D. Wilson
Assistant to the Chancellor
for Campus Development
University of Michigan - Flint
Flint, Michigan 48503

Re: Master Coordination and Control Program for Downtown Flint Area Development

Dear Mr. Wilson:

It was a pleasure meeting with you the other day and discussing the needs of the City of Flint and the University of Michigan in the cooperative efforts they will soon be making in downtown. Of further interest, of course, is the Flint River improvement which also will bear heavily on the sequencing of construction in the area over the next two years. Thus, the three basic areas of interest as they appear presently are the internal campus development, improvements to the immediate surrounding urban land areas and flood improvements to the Flint River section adjoining the campus.

Each of these programs individually will have its own project and field control system. For instance, on the present U of M Flint campus construction, we are, as you know, running a network planning control which gives the various phases of the job predictability and to your management, accountability. Each of the other two programs will undoubtedly have similar standards of performance from which deviations within that project can be measured. (These deviations from expected standards of performance are normally called problems.)

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The need, as I see it from our conversation, will be for objective and impartial planning and implementation control over the multitude of activities that must interface with each other. To this end it would be wise to consider combining the three major plans of work into a master control network plan that would insure interests of all parties to each of the projects being properly and acceptably related to activities not under their control, but having an impact upon their work.

So far as my participation is concerned, I would be delighted to work on any or all of the project as you and the other principals involved see fit. As you know, I have participated actively in much of the construction to date at the University of Michigan Flint downtown campus. I also have been actively involved in the two sections of the Flint River project that have been revamped for flood control reasons. Much of my professional career has been spent working in urban development, particularly in the downtown areas, and as part of the Flint River program, I have also been involved in some of the bridge raising and remodeling work that has been necessary as a result of improving the channel.

In simplest form, the three major network systems, if there were this many, should be interrelated so that points of potential conflict in the development programs are avoided or minimized.

In rough terms, this total project would probably break into the following major phases:

Phase One - Preparation of preliminary network plans

Preliminary network diagrams would be prepared for each of the interacting projects as that project was brought on stream. These networks would be reviewed and compared to the network plans or procedural plans already established and in work for projects that are presently under construction, such as the classroom, office and theater complex for the U of M. During the preliminary diagramming stages, a major thrust should be made to plan, evaluate and simulate various courses of action to determine the best way to proceed on the development implementation.

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Phase One - Preparation of preliminary network plans (continued)

Essentially the preliminary phase is one in which a great deal of planning latitude is given to the program with the eye to producing the best plan of action possible.

Phase Two - Issuance of initial final network

Concurrent with certain portions of Phase One, Phase Two work would begin consisting of translation of the preliminary network plans to final accepted plans in which the networks are drafted into completed form and where appropriate, subjected to electronic data processing.

It may be that certain portions of the job will not require computer processing. However, because of the complex nature of the entire program, I would consider generally that it would be desirable to utilize electronic data processing for the more involved parts of the program. The end product of Phase Two is a drafted and issued network model giving early start, late start, early finish and late finish dates for each activity, plus the necessary translations including computer printouts for establishing the monitoring and control system.

Phase Three - Monitoring and control

Concurrently with Phases One and Two, a monitoring and control system utilizing management by exception would be devised and put into work. This system would essentially consist of measurement of the actual project progress on an ongoing basis against the expected plan of action.

Phase Four - Updating

Occasionally on large projects where a multitude of parties is involved, it becomes necessary to revise the original standard of performance or plan of action. This may be due to prolonged strikes, material delivery problems, disruptive weather conditions or other events which generally are beyond the control of the parties involved. When the disruption does occur, and a major dislocation of the plan of work is the result, an updating usually must be accomplished.

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Phase Four - Updating
(continued)

My philosophy is that updating should be avoided as much as possible since it has been my experience that changes to the original plan of action are generally costly and disruptive. The reason for this, I have deduced, is that the original plan of action, although based upon limited project history, usually demands and receives the highest managerial attention, particularly if the diagramming is done correctly.

This is the broad program I am suggesting for the downtown complex. To summarize, I recommend -

1) that each of the interfacing component projects be planned in detail as well as summary form using network planning techniques. This can either be done by me or by the individual managers responsible for each of these programs.

2) that the individual component plans of work be tied together into a master summary and detail network that will show the entire and total program within the defined project area. For instance, if we have a project area one mile square (one mile on a side), then the detailed networks for each of the activities within that one mile square section would be interfaced with each other in the summary diagram. Also the detailed diagrams would be interfaced with each other to determine the impact of each project upon the other. This information is, of course, only as good as the information in the detail diagrams. Therefore, considerable effort must be exerted in preparing proper and accurate plans of action in the Phase One period.

3) that a master monitoring control and correction effort be exerted upon the total project through the overall network so that deviations from the plan of action can be identified, isolated and corrected before they become disruptive elements to the

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3) (continued)

program. This is a critical part of the entire work and one in which a high degree of attention must be given to the program.

4) that the various elements of the project be isolated and identified as quickly as possible since already this project is well in work and although currently under a good control system, could quickly deteriorate if adjoining areas are not planned with the same degree of thoroughness.

5) that in any event, a total guidance system be built for the projects to assist individual managers to maintain control of their programs to the highest degree of effectiveness possible.

My professional fee for providing services of this type is $30.00 per hour, plus out-of-pocket expenses at cost incurred in the interests of the project. This would be for such charges as printing, reproductions, and computer costs. For technician time required for drafting, calculating and computer input, the charge ranges from $9.00 to $12.00 per hour depending upon the nature of the service provided.

I would be very pleased to discuss this entire concept with you and whomever else would be appropriate at your convenience. It was enjoyable speaking with you again and I appreciate very much your confidence in the work that we are doing.

Sincerely yours,

Ralph J. Stephenson, P.E.

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