JAN 19 1976

KRAUS·ANDERSON of MPLS, Inc.

CONTRACTORS & CONSTRUCTION MANAGERS

January 15, 1976

Mr. Ralph J. Stephenson P.E.
15064 Warwick Road
Detroit, MI 48223

Re: Cargill Office Building

Gentlemen:

Attached is the Early Start/Early Finish schedule Kraus-Anderson intends to follow on the rough interior work for the typical office areas at the Cargill Office Building.

Please study this schedule and inform me immediately of any problems you can anticipate in meeting these dates.

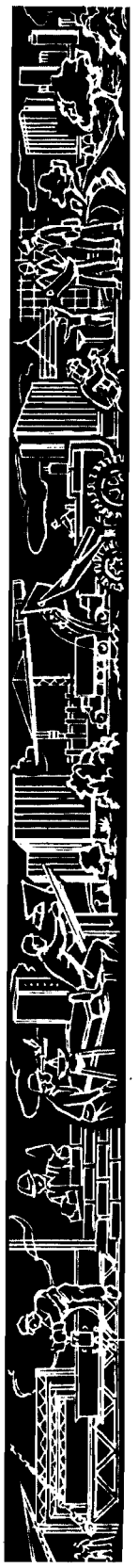
Yours truly,

KRAUS-ANDERSON of MPLS, Inc.

Michael W. Redmond

MWR:plb

attachment



525 SOUTH EIGHTH STREET, MINNEAPOLIS, MINNESOTA 55404 PHONE: 612 332-7281

EARLY START/EARLY F
SCHEDULE SUMMARY FOR
INTERIOR WORK
CARGILL OFFICE BUIL

	E1		W1		W2	
	START	FINISH	START	FINISH	START	FINIS
Sprayed-On Fireproofing	Feb 23	to Mar 15	Mar 15	to Apr 05	Apr 05	to Apr 2
Aluminum Sash & Glazing	Mar 08	to Apr 05	Mar 22	to May 03	May 03	to May 2
Perimeter Soffits & Ceiling Drops	Mar 18	to Apr 15	Apr 12	to May 10	May 10	to Jne 0
Acoustical Grid	Apr 08	to Apr 28	Apr 28	to May 25	May 25	to Jne 2
Sheetrock Office Partitions	Apr 28 (start)		May 25 (start)		Jne 22 (start)	

NOTE: "E" refers to that portion of the building east of Grid 11 not including
"W" refers to that portion of the building west of Grid 11 not including
"1" refers to first floor; "2" to second and so on.
Grid installation includes: electrical conduits, diffuser plenums and l
Start of office partitioning indicates start of in-wall mechanical and e

• 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

February 25, 1975

Mr. Jerry R. Svee
Construction Manager
Kraus Anderson of Mpls, Inc.
525 South 8th Street
Minneapolis, Minnesota 55404

Dear Mr. Svee:

In accordance with our discussions Friday morning, February 21, 1975, we began our detail planning of the Cargill project in the afternoon, using arrow diagramming. I conveyed to Dave Thies, Mike Redmond and Gene Simpkins your general feelings about network planning as we discussed in our conference Friday morning. Essentially, I suggested we strongly move toward equal competence in both precedence and arrow diagramming. The precedence diagramming should be basically used in early planning where marketing and sales efforts are needed and the computer plotter can be utilized as a sales tool. As the project moves into a real job, the action orientation of the arrow diagramming system along with its characteristic of identifying in detail interaction points on long tasks makes it desirable for field planning and control use.

In this manner both precedence and arrow diagramming can play an important role in your project planning work. I recognize further that on many projects the specifications call for one or the other of the techniques but that since your internal data processing system can process either, it gives further reason to the use of both.

In my own case since most of my work uses arrow diagramming, I find it much quicker and easier to translate information into the arrow diagramming process. We used arrow diagramming on the

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Cargill project Friday afternoon and it allowed us to move rapidly through completion of the foundations and into detail planning of the floor pours for the first floor of the structure. I believe the method of translating information from your project manager, Mr. Redmond's mind, and the minds of his advisors and the superintendent was best served in that meeting by the use of the arrow diagram.

I think we should discuss this matter in more detail as your company moves into greater use of formal planning and control systems. However, for the time being unless I hear to the contrary, we shall use the above and our discussion of February 21st as a base for future planning and control work in Kraus Anderson of Minneapolis.

I much enjoyed diagramming the Cargill job, and am also impressed by the way the waste treatment plant is moving in the field. It is a pleasure to be associated with your organization and I greatly appreciate the courtesy and cooperation I have had from you and your staff.

Sincerely yours,

Ralph J. Stephenson, P.E.

RJS
m

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

March 17, 1975

Subject: Monitoring Report #1

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Mpls, Inc.

Project: 75:16

Monitored from Issue P1 dated February 21, 1975 and P2 dated March 13, 1975

Date of Monitoring: March 13, 1975 (working day 51)

Target Completion - Late 1976

Actions taken:

- Continued planning structural floor pours
- Reviewed job progress and monitored with Mr. Redmond and Mr. Hughes
- Participated in scheduling conference review with Mr. Kleinschmidt, Mr. Redmond and Mr. Hughes
- Evaluated job progress

As of March 13, 1975 (working day 51), the project is currently meeting most key target dates. There was some holdup on column construction to the first floor in the east half of the building. However, as of March 13, 1975 (working day 51), this matter has been partially resolved. There still is some clarification needed about framing at the first floor in the area adjoining these columns and that should be given immediate attention.

Another problem area is in preparation of reinforcing steel shop drawings, their approval and fabrication of resteel for early first floor pours. Presently it is expected to start forming for the first supported floor pour #1A (Pour #1 at the first floor) on March 27, 1975 (working day 61). Supported deck panels are presently being fabricated and the pour sequence is being reviewed for approval. Dome forms are on the job and in-slab mechanical and electrical items for early pours are being fabricated.

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Of critical importance at present is selection of the method by which the structural steel contract is to be let and a release on floor slab on grade work for the entire building. The structural steel contract matter is urgent to resolve because it is expected that the east half of the structure may be ready for structural steel as early as the latter part of August 1975. The present schedule of working drawing release for construction makes it imperative that detailing, approval and fabrication of structural steel be compressed as much as possible to meet current target dates at for building close-in.

As part of our general review, Mr. Kleinschmidt discussed the present schedule of drawing issue for construction. These target dates are presently as follows:

Issue of remainder of structural east first floor	**-**	**March 17, 1975 (working day 53)**
Issue of balance of structural first floor (column line 11 to the west)	**-**	**March 31, 1975 (working day 63)**
Issue of structural second level east half to column line 11	**-**	**April 15, 1975 (working day 74)**
Issue of structural second level west half from column line to west	**-**	**May 1, 1975 (working day 86)**
Issue of third level structure complete	**-**	**May 15, 1975 (working day 96)**
Issue of all working drawings for balance of project, including structural steel, deck, mechanical and electrical	**-**	**June 2, 1975 (working day 107)**

It appears desirable at this time to consider switching issuance dates of the complete third level with the second level west half. Thus, according to our discussions today, the third level structural drawings may be issued on May 1, 1975 (working day 86) instead of May 15th. Mr. Kleinschmidt will check this with the architect/engineer.

It we assume that our structure can be ready for structural steel erection on August 27, 1975 (working day 168) we will have only 61 working days from issuance of structural steel working drawings to required delivery of structural steel. This is a tight schedule if we assume fabrication may take

RALPH J. STEPHENSON, P.E.
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anywhere between one and four months (22 to 88 working days).

Our planning of floor pours presumed Kraus-Anderson would focus major attention on completing the structure for the east half while still maintaining a pouring sequence on the west half first floor. This plan of action, provided structural drawings can be issued early enough, will allow us to finish pouring out the main structure and hopefully, close-in a substantial part of the east half by early winter 1975. It also would give the trades good sheltered working platforms from which they can maintain all-weather operations.

The other critical area discussed was that of underground utilities and the related floor slabs on grade. It would be desirable from a structural and operational standpoint to build the floor slabs on grade as early as weather and temperature will permit. This will accomplish several desirable purposes including maintenance of high hoisting equipment use, provision of a working platform for erection of deck forms and assistance in stabilising exterior walls to allow early backfilling for easy access. Apparently there is adequate information available now for much of this utility work to proceed. I strongly urge a detailed review of the matter be made at an early date.

Closely related to release of engineering and architectural drawings for construction is the sequencing of floor pours. At present it is planned to construct the east half, first floor supported deck, and then to split the forms, moving approximately one half up to the second level of the east half and the other form work to the west first floor. Thus, approximately two sets of forms will be used to build the second, third and penthouse roof structures at the east half. Upon completion, forms will be transferred to the west half for use in completing remaining portions of the building frame.

A detailed floor pour sequence is under study at the present time and I recommend early approvals on adoption of this sequence be given by those responsible for its approval.

In summary, the project is currently moving very well in the field with construction of the first floor supported decks to start on March 27, 1975 (working day 61) at the east half of the building. Exterior wall work and columns are moving relatively well although some question about column design has been raised and apparently clarified. The major problems facing the project presently deal with underground utility location floor slab on grade, issuance of structural working drawings for construction, fabrication and delivery of structural steel and the expediting of all materials needed for closing in the building.

RALPH J. STEPHENSON, P.E.
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I shall be in touch with Mr. Mike Redmond soon regarding our next planning conference. Meanwhile, I have issued four copies of the network diagram sheets 1 and 2, Issue P2 dated March 13, 1975 to Mr. Redmond and will proceed to have this two drawing set drafted into final form and manually dated.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee (1)

MR-

• 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

April 7, 1975

Mr. Mike Redmond, Project Manager
Kraus Anderson of Mpls, Inc.
525 South 8th Street
Minneapolis, Minnesota 55404

Dear Mike:

This is to confirm our next planning meeting on Wednesday, April 16, 1975. If I am able to finish early at the waste treatment plant on Tuesday, April 15th, I shall plan to see you that afternoon. However, if not, I would appreciate very much having Roger pick me up at 7 o'clock at the Normandy Inn and will be at the site about 7:25 A.M. or thereabouts.

Our next session should focus on completing close-in and starting diagramming of the interior rough and finish work for ths job. Hopefully by that time you will have some more information about the release of working drawings from the architectural engineering firm.

I shall plan to take the 5:55 P.M. flight back to Detroit that night which should give us a bit more time to diagram.

Thank you very much for your courtesy during my recent trip to the job. I am looking forward to seeing you and Mr. Hughes again on Wednesday, April 16, 1975.

Best regards,

Ralph J. Stephenson, P.E.

RJS
m

cc - Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

April 21, 1975

Subject: Monitoring Report #2

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Mpls, Inc.

Project: 75:16

Monitored from Issue P2 dated March 13, 1975

Date of Monitoring: April 15, 1975 (working day 74)

Target Completion Date: Late 1976

Actions taken:

- Continued planning of work up to substantial close-in
- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Reviewed job planning process with Mr. Kleinschmidt of Cargill and Mr. Robert Petter of Vincent Kling, Architect
- Evaluated job progress

General Summary

The initial floor pour at the east wing was made today, April 15, 1975 (working day 74). This pour was due to be made on April 3, 1975 (working day 67) and so is approximately 7 working days behind our Issue P2 network plan. There were several reasons for this delay including late decisions on the type of electrical outlets to be used and then late last week and early this week, delays due to rain and snow. Deck and resteel for pours #2 and #3 are substantially complete and the sections are planned to be poured out on Wednesday and Thursday of this week. If these two dates can be made, the lag in deck construction will be reduced to approximately five working days by the end of the week. Pour #4 at the center of the east wing is currently being held waiting for return of shop drawings from the architect/engineer. Also, there have been some revisions to sleeve locations in #4 that are being provided to Kraus Anderson. However, if these items are furnished by the end of the week, the fourth pour could be made by next Thursday, April 24, 1975 (working day 81) which would maintain an appreximate lag of 7 to 8 working days.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

A major share of the meeting today was devoted to re-analyzing the floor pours and these will remain substantially as shown on sheets 2, 3 and 4, Issue P2 and Issue P4 (P4 dated April 15, 1975). We also reviewed the issue completion dates of working drawings and specifications for mechanical and electrical, as well as special long lead time electrical and mechanical items and structural steel. Presently it is expected that long lead time mechanical specifications will be available on April 28, 1975 (working day 83). Long lead time electrical specs will be available on May 5, 1975 (working day 88). Remaining mechanical working drawings and specs will be available on June 30, 1975 (working day 127). Remaining electrical working drawings and specs will be available on July 21, 1975 (working day 141). Presently it is expected to issue structural steel working drawings on May 15, 1975 (working day 96). Releases for underground utility work remain as shown on sheet #4.

Another item that is critical to start of masonry is issuance of the loading dock retaining wall. This retaining wall must be constructed prior to backfilling the exterior wall of the east wing, south half.

Most of our major planning today centered on closing in the east and west wings. The general sequence there is to erect structural steel at a floor, including the columns to the next level above. Thus, second floor structural steel erection would include the columns at the third floor. Steel erection is followed by installation of sloped metal deck and window framing. The next item installed is the substrate and then fireproofing on the steel deck.

Presently it appears that we will have the third floor substrate complete at the east wing by about November 24, 1975 (working day 230). At the west wing the third floor substrate will be complete about February 5, 1976 (working day 280). These are critical dates and at our next meeting we will plan to review them once again to insure that the structural steel sequence and the deck erection plans are feasible.

In summary, the project is currently moving quite well although delayed location of sleeves is probably going to hold pour #4 longer than desirable. Weather has held the early pours but it is entirely possible that most of this lost time can be picked up. At our next diagramming session we plan to work on the following items:

- Market room structural work
- Sequence of interior work moves
- Planning typical area of interior rough and finish work

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

- Complete planning slab on grade pours
- Erection of exterior masonry
- Installation of exterior sash

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee (1)

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

May 20, 1975

Subject: Monitoring Report #3

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Mpls, Inc.

Project: 75:16

Monitored from Issue P2 dated March 13, 1975

Date of Monitoring: May 13, 1975 (working day 94)

Target Completion Date: Late 1976

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Re-evaluated current job sequences
- Completed close-in diagrams and typical interior work plans
- Evaluated job progress

General Summary

As of May 13, 1975 (working day 94) pours 1 through 7 at the first floor of the east wing have been completed. Pour #8A at the first floor of the east wing was made on May 14, 1975 (working day 95). It is presently expected that pours #9A and #10A will be made on May 16, 1975 (working day 97) and May 20, 1975 (working day 99), respectively. Pour #10A was due to be made on May 12, 1975 (working day 93) so if the above schedule is maintained, this pour sequence will be 6 days behind our Issue P2 network, sheet 2.

It was decided during our planning session that equal stress would be placed on getting ready for pour 1B at the second floor east wing and pour 11A at the first floor in the west wing. Form work is now being placed for pour 1B and it is expected this deck can be cast on or about May 29, 1975 (working day 105). The pour was scheduled in our Issue P2 network for May 16, 1975 (working day 97)

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

so will probably lag by a projected amount of 8 working days.

Thus, on an overall basis, work progress over the past month has been generally good and the schedule is being maintained with only minimal losses over the project as of Monitoring #2 on April 15, 1975 (working day 74) when the lag was 7 working days.

In conversations with Mr. Redmond and Mr. Hughes, it appears that there is a very good chance to make up part or all of this lag over the coming weeks. Therefore, it was decided to maintain adherence to the Issue P2 network as the base monitoring document. Also, it was decided that one additional first floor pour would have to be made on the first floor east wing deck. This was temporarily labeled pour #23A. It should not affect, nor disrupt the current schedule for other pours.

Our diagramming work at this session focused heavily on the following items:

- Completion of substantial close-in for entire structure
- Sequencing of interior work moves
- Preparing plan for typical interior rough and finish work
- Completion of plans for slab on grade pours
- Completion of exterior masonry and exterior sash networks.

In completing planning for the ground floor slab on grade, it was tentatively assumed on sheet #4 of the network dated May 13, 1975 (Issue P5) that the mechanical drawings would be issued completely by May 27, 1975 (working day 103). This will then allow either negotiation or bidding of the mechanical contracts after which delivery of materials for underground utility work can be initiated. However, if material delivery is delayed to any extent, it will probably not be possible to work on the slab on grade at the west wing until after the first floor decks have been poured out and stripped. An important element will be the reshoring requirements to support the first floor deck at the west wing for second floor pours. This is a field matter that must be worked out by those involved in the day to day construction supervision.

In any event, the east wing slab on grade can proceed as soon as working drawings are issued since a good share of the first floor deck at the east wing has already been poured. Here again, reshoring will be an important determinant as to whether the underground work can proceed without interruption or not.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

It is considered by most parties involved in the project that the slab on grade is a critical element since it not only provides a good working platform from which forming and rough above floor work can be installed, but also allows backfilling of the exterior walls to proceed. Backfilling is important so as to allow uninterrupted access to the first floor deck, and to allow exterior masonry and structural steel to proceed without restrictions.

As part of our planning, we also completed the total building close-in. Essentially the latest closing date is in the east wing when insulation and roofing are on at the penthouse flat deck and sash is installed and glazed at the third floor. This exterior glazing is complete on our present plan by about December 29, 1975 (working day 253). The latest close-in for the west wing is when the third floor sash is installed and glazed and insulation and roofing are on at flat penthouse roof. This date presently is March 1, 1976 (working day 297).

From these close-in points we projected the major interior finish work for the eight basic areas selected for preliminary interior rough and finish work planning. This interior planning work was done on the basis of the preliminary working drawings and will be reviewed and revised, where necessary, as final working drawings are available.

The typical interior areas were identified as building sections of approximately 32,000 sq. ft. where somewhat identical interior finish work was indicated in the preliminary architectural and engineering drawings.

In the east wing there are three of these designated A1, A2 and A3; the number designating the floor level. In the west wing there are five, 2 at the first floor, 2 at the second floor and 1 at the third floor, designated respectively B1, C1, B2, C2 and B3. The networks for these eight areas are shown on drawings 8 through 15.

From the rough and finish networks we projected the approximate points at which rough above floor work such as sheet metal ductwork, plumbing, sprinkler piping and rough electrical feeders and conduit would be installed and when interior finish work would start. Start of finish work which requires building close-in is designated basically by trades requiring application of gyp board. It appears if we sequence the job from A1 to A2 to A3, to B1 to C1 to B2 to C2 to B3 (areas as outlined on the owner's record set) that fairly good work continuity can be achieved. Prints will be made of these diagrams and distributed to the job management for their review and analysis.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

In addition to the project review, we also discussed in detail several action items that will be coming up in the next few weeks and should be given careful planning and expediting attention. These include, at random:

- Detailing and fabrication of hollow metal frames
- Fabrication and delivery of elevator door frames
- Expediting preparation of the color schedule (This will probably be done in conjunction with an interior design consultant and will relate closely to the interior layout for each floor.)
- Setting elevator cab finishes
- Identifying special ceiling work that might require a long lead time consideration
- Ordering food service equipment
- Ordering electrical equipment, including transformers, switchgear and the emergency generators
- Fabrication and delivery of roof tile
- Fabrication and delivery of sheet metal ductwork
- Fabrication and delivery of linear diffusers
- Selection and approval of masonry units
- Selection of color and weave of carpet
- Preparation and approval of a hardware schedule so hollow metal frames can be fabricated
- Continuing consideration of any special equipment, particularly communications both physical and electronic that might be used in the building
- Delivery of fabricated glass
- Preparation of office layouts (This is very important since presently it appears the stud walls will be erected on carpet. Thus, office layouts are critical for both carpet placement and wall construction.)

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

- Fabrication and delivery of chillers
  (Large items of equipment must be provided access to interior building areas.)
- Start of site work
- Planning owner move-in
- Setting external traffic patterns
- Setting signage details

These are only a few of the more pressing items that should be kept continually under careful scrutiny. We shall continue to identify additional items as we complete our network diagramming for the entire project.

To review, we presently have rough network diagrams shown on sheets 1 through 15 for all floor slab pours, for building close-in, for interior slabs on grade and for eight basic areas of approximately 32,000 sq. ft. showing the presently considered interior rough and finish work procedure. I shall print these drawings and send them to Mr. Redmond for his use and for the job file. I shall also be in touch with Mr. Redmond shortly to set our next planning meeting.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. Mike Redmond (2)
Mr. Jerry Svec (1)

MAY 22 1975

KRAUS-ANDERSON of MINNEAPOLIS, Inc.

CONTRACTORS

525 SOUTH EIGHTH STREET MINNEAPOLIS, MINNESOTA 55404 612-332-8464

May 20, 1975

Mr. Ralph J. Stephenson P.E.
15064 Warwick Road
Detroit, MI 48223

Re: Cargill Office Center
Minnetonka, Minnesota

Dear Ralph:

For your information, we have elected to negotiate the electrical and mechanical subcontracts. The drawings will be available toward the end of June and the architectural drawings are promised for the first of June.

When the mechanical and electrical drawings are issued and the estimates received for this work, Kraus-Anderson will compile a reestimate of the project that will be used to finalize our guaranteed maximum price. I project that we will be finalizing our analysis during the second week in July.

This means that by no later than the third week in June we should have a schedule sufficiently complete to allow its use for estimating purposes.

Yours truly,

KRAUS-ANDERSON of MINNEAPOLIS, Inc.

Michael W. Redmond

MWR:pb

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

June 25, 1975

Subject: Monitoring Report #4

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Mpls, Inc.

Monitored from Issue P2 dated March 13, 1975

Date of Monitoring: June 18, 1975 (working day 119)

Target Completion Date: Late 1976

Actions taken:

- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Reviewed strike impact upon project
- Re-evaluated plan job sequences
- Conferred with major subcontractors re interior work
- Evaluated job progress

General Summary

As of June 18, 1975 (working day 119) the project is nearly at a complete halt due to strikes of several trades. The iron workers stopped work on May 20, 1975 (working day 99) and the project was substantially stopped by June 9, 1975 (working day 112). Presently some miscellaneous tradesmen are working on various tasks at the ground floor but for all intents and purposes the project is shut down.

As of June 18, 1975 the project is from 20 to 28 working days behind the Issue #2 network. Most of the lag is due to the current strike.

There is no current indication as to when the strikes will come to an end and field work will resume. For purposes of our discussions at this session we assumed that by July 7, 1975 (working day 131) the strike would be settled and that after five more working days for a startup time, work would again be on a full productive cycle. This full cycle start time would then be July 14, 1975 (working day 136).

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Another impact upon our planning at this session was the decision in conjunction with the owner that the east wing would now proceed concurrently with the west wing instead of preceding it as had been planned previously. The urgency surrounding partial occupancy is not so great now as it was before and therefore, a resequencing of the floor pours was made.

In replanning, we retained the same pour numbers as have been shown on the small key plans and the original network sheets. As of June 18, 1975 pours 1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A, 9A and 10A have been made. Pours 23A, 11A, 1B and 2B are currently formed ready for resteel and other in-floor work. Upon startup of the job it was agreed that pour 23A and pour 11A would be made ready for pouring first. Following 23A, pour 1B and then 2B would be completed in that order. Pour 11A would also follow 23A and then from 11A to 13A and the remaining pours in the west wing. This new pour sequence will be shown in the revised diagram, Issue P6 dated June 18, 1975.

A portion of the planning sessions was devoted to evaluating the impact of the revisions upon the original plan of work and abstracting the information necessary to complete estimating the project. We also went over all of the proposed sequencing with the mechanical and electrical contractors. They generally agreed that the flow of work shown was acceptable.

In essence, it is intended to work the east and west wings as two separate and distinct projects. In the east wing work will move from the office areas at the first to the second to the third. Following this, it is expected that the cafeteria and kitchen areas will be finished out. Concurrently work at the ground level in the east wing will also be in progress.

At the west wing it is expected that interior work will move from the first to the second to the third floor, with ground floor construction proceeding concurrently as reservoir and backup space.

Overall, it appears it will be possible to complete the project by late fall 1976. However, it is further cautioned that to accomplish this completion target, the work must be carefully sequenced and all decisions and deliveries must be expedited. Of critical importance will be delivery and installation of carpet which currently is to be installed subsequent to completion of major ceiling work, and prior to installation of stud partitions.

Also, it is going to be critical that all colors and finishes be selected at an early date so material ordering can proceed. I suggest that a list of all long lead time items be prepared and continuously monitored to see that their deliveries are in accordance with job requirements and that fabrication is proceeding on schedule.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

I am presently drafting the network into final form and will recheck the sequencing and computations along with the actual strike delay, all prior to issuing the drafted program.

In summary, the project is currently shut down almost completely by several strikes, prime of which is the iron workers walkout which began on May 20, 1975 (working day 99). The project is now almost totally closed down and no work except for minor ground floor installation is presently being carried out.

Upon startup of the project it has been decided to concentrate on both east and west wings concurrently and to treat them as separate projects with minimal interrelationships. I am presently drafting the revised networks into final form, after which they will be once again reviewed and evaluated.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee (1)

75:16

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

August 6, 1975

Subject: Monitoring Report #5

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Monitored from Issue #2 dated July 31, 1975

Date of Monitoring: July 31, 1975 and August 1, 1975
(Working days 149 and 150)

Target Completion Date: Late 1976

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Evaluated strike impact upon project
- Revised pour sequences based upon post strike considerations
- Conferred with major subcontractors re interior work
- Evaluated job progress

General Summary

As of July 31, 1975 (working day 149) tradesmen are back on the job and construction of concrete decks is again in work. Pour 23A was made on July 23, 1975 (working day 143). Pour 1B was made on July 25, 1975 (working day 145), pour 2B was made on July 28, 1975 (working day 146, and pour 11A was to be made on July 29, 1975 (working day 147. It is expected to make pour 12A on August 1, 1975 (working day 150) and pour 13A on August 5, 1975 (working day 152). The pours now lag the originally projected schedules because of an iron workers' strike which began on May 20, 1975 (working day 99) and substantially closed the job down by June 9, 1975 (working day 112). The strike ended July 17, 1975 (working day 139). Due to good field management startup was almost instantaneous which resulted in rapid completion of decks 23A, 1B, 2B

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and 11A, thus freeing crews and forms to move on to additional pours. The strike length was from May 20, 1975 (working day 99) to July 17, 1975 (working day 139), a total of 40 working days.

As a result of the strike and other considerations, it was decided at this meeting to completely re-evaluate the pour sequences. Mr. Hughes and I made a study of the floor pours and the new scheme is tabulated below. Presently I am revising the networks shown on sheets 4 and 5 to conform with this new sequence. The key plan, sheet 3, is also being revised to reflect the current floor pour outlines.

Pour No.	Date Forming Starts	Date Poured Out	Date Forms Available	Forms Go To
14A	Aug. 7, 1975 (w/d 154)	Aug. 15, 1975 (w/d 160)	Aug. 20, 1975 (w/d 163)	15A
16A	Aug. 12, 1975 (w/d 157)	Aug. 20, 1975 (w/d 163)	Aug. 25, 1975 (w/d 166)	18A
15A	Aug. 20, 1975 (w/d 163)	Aug. 28, 1975 (w/d 169)	Sept. 4, 1975 (w/d 173)	19A & 20A
18A	Aug. 25, 1975 (w/d 166)	Sept. 3, 1975 (w/d 172)	Sept. 8, 1975 (w/d 175)	15B & 16B
19A	Sept. 4, 1975 (w/d 173)	Sept. 12, 1975 (w/d 179)	Sept. 18, 1975 (w/d 183)	21A
20A	Sept. 4, 1975 (w/d 173)	Sept. 12, 1975 (w/d 179)	Sept. 18, 1975 (w/d 183)	21A
21A	Sept. 18, 1975 (w/d 183)	Sept. 26, 1975 (w/d 189)	Oct. 2, 1975 (w/d 193)	17A
17A	Oct. 2, 1975 (w/d 193)	Oct. 10, 1975 (w/d 199)	Oct. 16, 1975 (w/d 203)	12B
3B	July 31, 1975 (w/d 149)	Aug. 8, 1975 (w/d 155)	Aug. 13, 1975 (w/d 158)	4B
4B	Aug. 13, 1975 (w/d 158)	Aug. 21, 1975 (w/d 164)	Aug. 27, 1975 (w/d 168)	5B

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Pour No.	Date Forming Starts	Date Poured Out	Date Forms Available	Forms Go To
5B	Aug. 27, 1975 (w/d 168)	Sept. 5, 1975 (w/d 174)	Sept. 10, 1975 (w/d 177)	6B
6B	Sept. 10, 1975 (w/d 177)	Sept. 18, 1975 (w/d 183)	Sept. 24, 1975 (w/d 187)	12B & 16B
16 B	Sept. 24, 1975 (w/d 187)	Oct. 2, 1975 (w/d 193)	Oct. 8, 1975 (w/d 197)	14B
15 B	Sept. 24, 1975 (w/d 187)	Oct. 3, 1975 (w/d 194)	Oct. 8, 1975 (w/d 197)	13B
14B	Oct. 8, 1975 (w/d 197)	Oct. 16, 1975 (w/d 203)	Oct. 22, 1975 (w/d 207)	11B
13B	Oct. 8, 1975 (w/d 197)	Oct. 17, 1975 (w/d 204)	Oct. 22, 1975 (w/d 207)	10B
12B	Oct. 16, 1975 (w/d 203)	Oct. 24, 1975 (w/d 209)	Oct. 30, 1975 (w/d 213)	1C
11B	Oct. 22, 1975 (w/d 207)	Oct. 30, 1975 (w/d 213)	Nov. 4, 1975 (w/d 216)	2C
10B	Oct. 22, 1975 (w/d 207)	Oct. 31, 1975 (w/d 214)	Nov. 6, 1975 (w/d 218)	3C
1C	Oct. 30, 1975 (w/d 213)	Nov. 7, 1975 (w/d 219)	Nov. 13, 1975 (w/d 223)	4C
2C	Nov. 4, 1975 (w/d 216)	Nov. 12, 1975 (w/d 222)	Nov. 17, 1975 (w/d 225)	5C
3C	Nov. 6, 1975 (w/d 218)	Nov. 14, 1975 (w/d 224)	Nov. 20, 1975 (w/d 228)	6C
4C	Nov. 13, 1975 (w/d 223)	Nov. 21, 1975 (w/d 229)	Nov. 26, 1975 (w/d 232)	7C
5C	Nov. 17, 1975 (w/d 225)	Nov. 25, 1975 (w/d 231)	Dec. 1, 1975 (w/d 234)	9C
6C	Nov. 20, 1975 (w/d 228)	Dec. 1, 1975 (w/d 234)	Dec. 5, 1975 (w/d 238)	11C

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Pour No.	Date Forming Starts	Date Poured Out	Date Forms Available	Forms Go To
7C	Nov. 26, 1975 (w/d 232)	Dec. 5, 1975 (w/d 238)	Dec. 10, 1975 (w/d 241)	8C
9C	Dec. 1, 1975 (w/d 234)	Dec. 9, 1975 (w/d 240)	Dec. 12, 1975 (w/d 243)	10C
11C	Dec. 5, 1975 (w/d 238)	Dec. 15, 1975 (w/d 244)	Dec. 18, 1975 (w/d 247)	10C
8C	Dec. 10, 1975 (w/d 241)	Dec. 18, 1975 (w/d 247)	Dec. 24, 1975 (w/d 251)	12C
10C	Dec. 18, 1975 (w/d 247)	Dec. 29, 1975 (w/d 253)	Jan. 5, 1976 (w/d 257)	1D
12C	Dec. 24, 1975 (w/d 251)	Jan. 5, 1976 (w/d 257)	Jan. 9, 1976 (w/d 261)	2D & 3D
1D	Jan. 5, 1976 (w/d 257)	Jan. 13, 1976 (w/d 263)	Jan. 19, 1976 (w/d 267)	4D
2D	Jan. 9, 1976 (w/d 261)	Jan. 19, 1976 (w/d 267)	Jan. 22, 1976 (w/d 270)	5D
3D	Jan. 13, 1976 (w/d 263)	Jan. 21, 1976 (w/d 269)	Jan. 26, 1976 (w/d 272)	6D
4D	Jan. 19, 1976 (w/d 267)	Jan. 27, 1976 (w/d 273)	Jan. 30, 1976 (w/d 276)	off job
5D	Jan. 22, 1976 (w/d 270)	Jan. 30, 1976 (w/d 276)	Feb. 5, 1976 (w/d 280)	off job
6D	Jan. 26, 1976 (w/d 272)	Feb. 3, 1976 (w/d 278)	Feb. 9, 1976 (w/d 282)	off job

An evaluation of the pour sequence shows that it would be wise when working on the third floor and fourth floor (C and D pours) to give some consideration to increasing the supply of forms. Mr. Hughes and Mr. Redmond discussed this at length and will further study the possibility of providing additional form work.

It should be noted that the above dates are all morning dates. They were taken from our preliminary calculations and will be subjected to further checking when the computer run is made. Presently, however, they appear to be reasonably correct. Note that weather has been built into the logic and durations and has not been isolated as a separate item. Undoubtedly weather will play an important role in meeting the above schedule.

Next, the east and west wing close-in networks on sheets 7 and 8 were restudied in accordance with the revised floor pour sequence. Three basic assumptions were made in planning the close-in work.

1) Structural steel will start as early as job conditions permit. This may be as soon as stripping of pour 4B which currently is due to occur on August 27, 1975 (working day 168)

2) Steel columns at the second floor will be braced to allow early erection of metal deck and window frames at the first floor

3) Spray-on fireproofing will be deferred until next spring, or to a point when heat can be furnished in a closed area, or the outside temperature rises to 30° for one to two working days. Spray-on will move concurrently at the east and west wings.

Based upon these three assumptions and making a preliminary evaluation from the rough computed diagrams, it appears the following close-in points can be used for preliminary planning:

- Cafeteria - two layers of felt installed March 19, 1976 (working day 311)

- East Wing - two layers of felt installed on third floor sloped deck April 2, 1976 (working day 321)

- East Penthouse - insulation and roofing installed on flat deck March 5, 1976 (working day 301)

- West Wing - two layers of felt applied at the third floor sloped deck May 11, 1976 (working day 348)

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- West Wing Penthouse - insulation and roofing installed on flat deck May 13, 1976 (working day 350)

Again, these computations are preliminary calculations made from the rough networks and will be checked as the final networks are drafted and the computer runs made. Generally in calculating the finish work schedule we used installation of the two layers of felt as the close-in point at which board work could start at the various floors.

Following the close-in review, it was next decided to evaluate basement work and first floor kitchen and cafeteria installation using summary diagramming techniques. The basement was diagrammed using a target end date for finish work of the morning of September 1, 1976 (working day 427) in the print shop (PR), conference center (CO), west core (WC), center core (CC), east core (EC), east storage areas (ES), center storage areas (CS) and west storage areas (WS). At the computer center (CP) it was agreed to use a late finish date on interior finish work of the morning of August 2, 1976 (working day 405).

At the first floor the cafeteria (CF) area was given a target late finish of September 1, 1976 (working day 427) and the kitchen a target end date of August 31, 1976 (working day 426). These eleven summary diagrams will be incorporated into the master network and although they do not give full details of all trades, are adequate for gaging progress of the work in each individual area. The times allocated to the various mechanical and electrical trades were reviewed with some major subcontractors at this session and their requested durations were generally adhered to.

Once the special areas were planned, attention was given to the eight basic sectors of the building as described in Monitoring Report #3 dated May 20, 1975. These are designated as A1, A2, A3, B1, C1, B2, C2 and B3. The locations of each are given on the key plan sheet, drawing #3. The entire eight area sequence was re-evaluated based upon the revised pour and close-in schedule. It presently appears that these eight areas can be completed within the present time frame of the job and a tentative target completion date of November 1, 1976 (working day 469) has been set. Presently it has been decided to move in the following order in installing interior rough and finish work -

A1 to A2, to A3, to B1, to C1, to B2, to C2, to B3

Some adjustments were made to durations of area A1 which is the first floor of the east wing to allow a little longer startup time on the installation of interior trades. In the other sections these times have been cut back to the original estimates. Thus, we presently have either in detail

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or in summary, planned the entire building program. This information will all be drafted into final form, the pour sequences revised, along with the close-in sequences and interior finish networks, the nodes numbered and tasks coded so that Mr. Thies can prepare a computer input and produce the computer run for field use.

I shall proceed to have the network redrafted as soon as possible and will send the information to Mr. Thies as it becomes available. Probably we will first complete sheets 4, 5, 6 and 7 which show the floor pours along with close-in. Next, we shall finish drafting the remaining sheets, consisting of the eight basic sections, the basement network and the key plan. I shall remain in touch with Mr. Redmond regarding these diagrams to assure they are properly received and meet the requirements of the control system to be used on the project. Mr. Redmond has also asked that we date the actual diagrams in working days showing the early and late starts and finishes. This will be done upon completion of the drafting to allow input for the computer work to start at an early date.

In summary, the project is now once again under way after a forty working day delay due to several strikes. Work is moving well although I would like to caution that the pouring sequences shown tend to indicate form work is going to have to be moved very carefully and on schedule to maintain present target pour dates. As these pours move up to the penthouse roof, it may be necessary to supplement the form work with additional material. This matter is presently under study by Mr. Redmond and Mr. Hughes.

At the ground floor it is expected that the entire floor slab on grade will be poured out no later than December 1, 1975 (working day 234) and in some areas it is hoped that the pour will be completed at a considerably earlier date. Some floor slab work has already begun. Most critical is to get the underground utilities in so floors can be provided in the mechanical and transformer room areas.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee

M

• 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

August 18, 1975

Mr. Mike Redmond
Kraus Anderson of Mpls, Inc.
525 South Eighth Street
Minneapolis, Minn. 55404

Dear Mike:

Enclosed are two copies of the close-in sheets, drawings #6 and #7, for Cargill. I am also sending two sets of these to Dave so he can continue processing the network along with the floor pour sheets sent to him last week. Notice that there have been some minor corrections made in red pencil on your sheets. These have also been made on Dave's set and will be changed on the tracings prior to manually computing and issuing these to you. We are presently finishing up the interior finish networks and I hope to have all of the remaining sheets in the mail to you sometime soon.

I trust this information is of help and that the computer translation of the logic is proceeding well. If there are any questions or if Dave has any need to get in touch with me, please do so at your convenience. Naturally I am interested in how the project is going and would appreciate any information you might have time to forward to me about job progress.

Please give my regards to Les.

Best regards,

Ralph J. Stephenson, P.E.

RJS/m

cc - Mr. D. Thies

• 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

September 2, 1975

Mr. Dave Thies
Kraus-Anderson of Mpls, Inc.
501 South 8th Street
Minneapolis, Minnesota 55404

Dear Dave:

You now should have in your hands all of the drawings with the early start/early finish manual computations for the Cargill Office Building. If there are any questions, please don't hesitate to call. I will be out of the office for the next couple of weeks but my secretary, Mrs. Moran, will get the answers for you.

Any revisions you find necessary in preparing the input, please mark on a print so we can make the appropriate changes to the tracings when the run is complete.

Hope to see you soon. Thank you for your help.

Best regards,

Ralph J. Stephenson, P.E.

RJS
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cc - Mr. Mike Redmond

75.16

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

October 6, 1975

Subject: Monitoring Report #6

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Monitored from Issue #2 dated July 31, 1975

Date of Monitoring: October 1, 1975 (working day 192)

Target Completion Date: November 1, 1976 (working day 469)

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Reviewed computer printout with Mr. Thies, Mr. Redmond and Mr. Hughes
- Evaluated job progress

General Summary

As of October 1, 1975 (working day 192) all pours at the second level with the exception of 16B are complete. This pour will be made October 2, 1975 (working day 193). Mr. Hughes is now forming the third floor structural deck and expects to complete it by November 7, 1975 (working day 219) with the penthouse deck to be poured out by December 15, 1975 (working day 244). Presently the project is about 21 working days ahead of the Issue #2 network. Field progress on the project has been excellent with the weather cooperating.

Mr. Hughes, Mr. Thies, Mr. Redmond and I went through the proof computer run late start and late finish arrays and all tasks due to be started or completed by October 1, 1975 (working day 192) are either started or complete.

Projecting work to be done for the next month, we find the following:

- Complete pouring out the second level and continue work at the third and penthouse levels
- Receive structural steel on the job and erect the sloped structural steel at the east first floor
- Start erection of structural steel at the west first floor

At the basement level, sheet metal ductwork is well along in the northeast section of the building and piping is proceeding wherever space is available with special concentration at the east wing. Floor slab on grade in the east section is completed except in the mechanical equipment room where only isolated sections remain to be poured.

In the west half most of the slab on grade is complete with the remainder ready to be poured in the near future. It was anticipated by our planning that the entire basement floor slab would be poured out by December 1, 1975 (working day 234). It appears presently this schedule can be met or bettered.

Exterior masonry is moving well at the lower areas where adequate work room is available and most masonry is complete in and around the service dock area at the east side.

In summary, work is going ahead wherever and as quickly as possible on the project. Presently structural concrete pours are running about 21 working days ahead of the projected plan of work and the only major sign of a potential delay is in delivery of structural steel. Our conferences today indicated that steel should be on the job and started up no later than October 15, 1975 (working day 202) which is within the current late start target for structural steel at the first floor east half.

I would like to personally observe that the concrete forming and pouring on Cargill is moving extremely well and the job, in my opinion, to this point, shows the impact of good expediting and good management. Work has truly progressed in excellent fashion.

We reviewed the proof computer printout at the session and made miscellaneous revisions to the coding and the printout sequences desired. Mr. Thies is presently processing these and will directly review them with Mr. Redmond and Mr. Hughes.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

I shall be in touch shortly with Mr. Redmond re the next planning session.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. Mike Redmond (2)
Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

December 8, 1975

Subject: Monitoring Report #7

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from Issue #2 dated July 31, 1975

Date of Monitoring: December 2, 1975 (working day 235)

Target Completion Date: November 1, 1976 (working day 469)

Actions taken:

- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Evaluated job progress
- Updated network to Issue #3 dated December 2, 1975 with Mr. Redmond, Mr. Hughes and Mr. Thies

General Summary

As of December 2, 1975 (working day 235) the last major floor pour was being made on the project, approximately 44 working days ahead of the originally anticipated end target date. Good field management and excellent form movement have been the main factors in accomplishing the compression of time. Structural steel is substantially completed on the sloped roof areas around first floor in both the east and west wings and deck has started in the east and west areas.

Reviewing late start sequence, only two tasks lag required late start dates, start of structural steel at the market area and start of roof sub-strate work. The market area structural steel is not currently imposing any major delay on the project although it would be desirable to get it erected so work underneath the market area can proceed. Roof sub-strate work did get underway on the east half December 3, 1975 (working day 236),

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primarily at the mockup area. This installation will probably go rather rapidly and catch the deck erector if attention is not given immediately to expediting metal deck erection.

Reviewing late finishes, we find that erection of sloped metal deck at the west first floor is currently lagging by about 2 working days. The major essential elements to be expedited at this time concern close-in, primarily related to completion of structural steel, erection of metal deck and installation of sub-strate on the metal deck.

Also, of critical importance is structural steel at the cafeteria area. This steel is scheduled to arrive on the project December 24, 1975 (working day 251) at which time it will be important to expedite erection and all following close-in of that portion of the building. At the east half the remainder of the structural steel for the penthouse, third and second floors, is due on the job December 12, 1975 (working day 243). At the west half, it is due one week later - on December 19, 1975 (working day 248). Since most metal deck is currently at the job, continued erection of structural steel at the upper areas should give the deck erector adequate room in which to move rapidly.

Because of the current dislocations, in part caused by deliveries of structural steel, we updated the Issue #2 network diagram. The updating took into account remaining deliveries of steel, deliveries of early window framing and desirable target delivery dates for delivery of exterior sash. Since exterior sash must be installed before major interior work begins, it will be necessary to have sash on the job no later than February 25, 1976 (working day 294). However, I strongly recommend that an earlier target date be set to assure adequate time for shake-out and placement of sash, particularly since this work will be done during a very difficult weather period.

We are still holding a project target end date of November 1, 1976 (working day 469), and this target is achievable provided interior finish sequencing can begin on schedule, presently set for early March 1976. The key to hitting this goal is adequate close-in of the building to weather so the drywall trades, particularly on perimeter ceiling drops and soffits can start and continue without interruption.

Another critical item will be the spray-on fireproofing since this trade must be applied in warmer weather and be protected during the initial installation from moisture. Presently it is the intent to start spray-on

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fireproofing on March 15, 1976 (working day 307). This should be adequate provided it is understood that other interior trade work in the area will have to proceed concurrently with spray-on. Careful coordination of the work will be essential.

In summary, the project has moved well relative to concrete floor pours and has been completed almost 44 working days ahead of projected target dates. However, following work, particularly structural steel, metal deck and sub-strate installation, has not followed as closely behind as it could have, primarily because of structural steel delivery delays. Therefore, this work is now just barely meeting or is slightly behind late start/late finish schedules and must be expedited to the greatest extent possible.

As part of our diagramming, we updated Issue #2 to Issue #3 dated December 2, 1975. Mr. Thies participated in this updating and will revise the computer run from the marked up bluelines. When he has completed his work with the bluelines, these will be forwarded to me and drawing revisions for the updating will be made. These will be issued to the field as quickly as possible.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

January 19, 1976

Subject: Monitoring Report #8

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from Issue #3 dated December 2, 1975

Date of Monitoring: January 8, 1976 (working day 260)

Target Completion Date: November 1, 1976 (working day 469)

Actions taken:

- Reviewed job progress with Mr. Redmond and Mr. Hughes
- Evaluated job progress
- Re-evaluated sash installation sequence

General Summary

As of January 8, 1976 (working day 260) structural steel erection is moving relatively well, metal deck is being installed as crews and areas are available and the substrate is being laid on metal deck as rapidly as deck is put in place.

A major share of our monitoring review revolved around sash delivery and installation of spray-on fireproofing relative to start of interior finish work at the soffits and ceiling drops. Presently it appears that sash will begin arriving on the job March 8, 1976 (working day 302). It is the intent, where possible and feasible, to install spray-on fireproofing prior to the erection of sash. Once sash is installed at a given area, interior work on the ceiling drops and soffits will begin. This activity will generally signal the start of interior finish work. Installation of ceiling drops and soffits is the beginning point for a critical sequence through the entire job. Therefore, it will be important to expedite fireproofing, sash, soffits and drops. At this time it appears we can still maintain our target completion date but it is to be cautioned that we are rapidly using the float time available earlier.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Another major evaluation initiated at this planning session but not totally resolved was the desired area sequence of interior finish work. The network now indicates that interior finish work will move in the east wing from the first to the second to the third floor and then to the west wing, first floor and up in that section of the building. However, some of the early rough mechanical and electrical work has proceeded on across the first floor from the east into the west. Therefore, an evaluation was made of the impact of revising the current installation sequence to move across the entire floor in continuous fashion. Mr. Redmond will further study this sequence between now and our next monitoring to establish how best to actually move the various trades once the building is closed in. This is a very important factor in assuring smooth movement of trades in the project. It is critical to proper job progress that all major trades be totally aware of the sequence they are expected to follow. We will hold making a final computer run on Issue #3 pending review of the sequencing situation.

In summary, work in the field has been moving well although the weather has been heavy over the past two weeks. The building is now entering interior work sequences which depend heavily upon spray-on fireproofing and sash. Therefore, the geographic movement of spray-on, sash and ceiling work should be explicitly set as early as possible to allow all trades to process their work smoothly and effectively.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. Mike Redmond (2)
Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

May 11, 1976

Subject: Monitoring Report #9

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from computer runs dated February 20, 1976

Note: Issue number was not available at this monitoring

Date of Monitoring: May 4, 1976 (working day 343)

Target Completion Date: November 1, 1976 (working day 469)

Days remaining to completion: 126 working days

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond and subcontractors
- Evaluated job progress

General Summary

As of May 4, 1976 (working day 343) the project is currently meeting most major target dates between early and late starts and finishes. There are some lags in work in specialty areas, such as the food service area, equipment rooms and to some extent, in portions of the main building. But overall, progress has been excellent and it presently appears the target completion date of November 1, 1976 (working day 469) can be met.

In the main building area, at the east first floor, stud partition work on main floor areas (except at cores) is just beginning. This work was due to have started on April 26, 1976 (working day 337). Thus, the lag at this time is about five working days. There have been some difficulties approving partition layouts and this has been a major reason for the late starts. The owner is now working on preparation of detailed partition floor plans and these must be continually fed to the contractors if the required pace is to be maintained on installation of wall work.

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It is particularly important at this time that the partition layout design be expedited since as of June 1, 1976 (working day 362) there is a distinct possibility of plumbers going out on strike. There is a considerable amount of in-wall work, it would be desirable to install as much of the stud wall framing and in-wall work as possible prior to this date.

It was also noted that there is being added to the partitions a considerable number of hollow metal framed openings and glass sections. Present deliveries on hollow metal frames is running about 6 to 8 weeks. These, again, are potential sources of delay to installation of studs, in-wall work and ultimately to board. I strongly recommend that deadlines be established for revisions in each area and that partition redesign be accomplished area by area as the present construction sequence is planned.

There are some minor items that lag slightly on the project including installation of drywall ceilings, and elevator door frames and at the basement area, installation of miscellaneous rough and finish work at the various functional spaces. At the upper floors, these miscellaneous lags are presently not of a critical nature. At the basement, however, since this work will tend to bunch up as we approach the end of the project, it would be wise to begin pulling some of the more highly finished areas such as the print shop, the offices, the computer area and the conference areas more heavily into rough and finish trade sequencing now. Some of these areas are already passing what we had initially established as late finish targets. These targets were deliberately set tight so that the work there could be spaced out over the total range of the job without forcing a high buildup of trades at a later date.

Some areas have been given special attention. These are reviewed below.

Food Service Area (F)

Generally food service area work has moved well over the past month and a half. Presently it is meeting or exceeding all major early and late starts and finishes except for installation of above ceiling sheet metal duct-work and delivery of kitchen hoods. Sheet metal ductwork was due to be 50% completed by the morning of May 4, 1976 (working day 343). It presently has been in work about 2 or 3 days and so lags by 6 to 8 working days.

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Kitchen hood installation was due to start no later than May 11, 1976 (working day 348). Present indications are that delivery is still between 33 and 44 working days from today. If we take the longer delivery time, hoods will be on the project and ready for installation about July 7, 1976 (working day 387). This will be a lag of about 39 working days. It is possible that the ceiling installation can proceed without having hoods in place. However, it is preferable to have these available so that the ceiling proceeds around them rather than without them. Every effort is being made to expedite delivery of these hoods.

Work at the cafeteria area is moving relatively well with most above ceiling mechanical and electrical work either installed or being installed. It does not appear there should be any major difficulty in getting this area ready for installation of wood ceiling.

Reviewing current delivery status, most critical items except those noted above will be on the job as presently scheduled. Major food service equipment is on target and we are presently holding start of installation of food service equipment at June 25, 1976 (working day 380). The tray conveyor will probably be delivered about the first week in June 1976 (approximately working day 365). It was scheduled for an early start of installation on June 1, 1976 (working day 362) and so is close to its target.

Hard tile is generally available as needed, as are wood ceilings, metal ceiling pans and the ceiling coordinator grid.

Kitchen coolers are installed.

Boiler Room

Boiler room work is moving quite well although presently installation of radiation piping at the east, center and west building areas is lagging. The mechanical contractor feels that because manpower is available this should be picked up quickly once the fin tube elements arrive on the job. They are due in the first week in June 1976.

Most other deliveries are in relatively good condition. Items not yet on the job include:

- Boiler feed pumps - to be delivered end of May
- Boiler control panel - to be delivered end of May

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- Butterfly control valves - on job in 10 working days
- Air compressor - no firm delivery date set yet, however, mechanical contractor says this is no problem. It should be checked since it does deal with the control systems.
- Emergency generator - to be on job in 20 working days
- Water softeners - no word on delivery

General Summary

Overall the project with the exceptions as noted above is in excellent condition and all are still shooting for the November 1, 1976 target completion date. Some attention will have to be given to certain areas such as sheet metal installation at the penthouses but overall, work looks good.

I strongly recommend that detailed punching out procedures be established early so a standard of performance can be set at some section of the building to measure against. This will allow progressive punching out of the building and orderly occupancy by the owner.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

July 3, 1976

Subject: Monitoring Report #10

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from computer runs dated February 20, 1976

Note: Issue number was not available at this monitoring

Date of Monitoring: June 21, 1976 (working day 376 and June 22, 1976 (working day 377)

Target Completion Date: November 1, 1976 (working day 469)

Working days remaining to completion: 92

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond
- Evaluated current job status
- Revised network and reissued on Issue #5 dated June 23, 1976

Note: Mr. Thies will revise the computer run and issue the new network

General Summary

As of June 23, 1976 (working day 378) the project continues to move well with good prospects that it can be brought home some few days before present target end dates. Carpet is presently scheduled to be on the job by July 16, 1976 (working day 394) and installation will start August 2, 1976 (working day 405).

Acoustic panels are to be held out for completion of phone company above ceiling work. As part of our evaluation, we made an effort at determining when the telephone company must be out of the various areas for work to proceed in accordance with our current targets.

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Ceramic tile is underway at the floors of the toilet rooms and toilet room partitions and accessories probably will be started about the end of July. Doors are to be delivered soon with finish millwork to start next week.

Food service equipment is in town and can be brought to the job site as soon as the areas are made available. The tray conveyor will be in on July 12, 1976 (working day 390) and installation is expected to start immediately. Wood ceiling at the cafeteria and food service areas is to start about July 7, 1976 (working day 387). This is somewhat of a lag over our present schedule but should cause no difficulty in completing the project by the overall target date. Quarry tile also lags slightly but is due to begin near the end of June.

Because of changes to field sequencing it was decided that a major update should be made on the eight interior areas of the building. Using as much up to date information as presently available and reviewing the manual computations which will be checked by the computer run, target completion dates for each of the areas moving in sequence from A1 to C1 to B1 to B2 to C2 to A2 to A3 to B3 follow each other by 5 working days. This begins with a target completion for area A1 on August 12, 1976 (working day 413). Completion of the last interior area, B3, is October 1, 1976 (working day 448). Concurrently with finishing these eight major areas, the cafeteria, food service area and various functional areas at the lower level will be completed.

I strongly recommend that a detailed punching out procedure be established so that all parties to the turnover process clearly understand the sequence of completion and can establish a mutually acceptable standard by which comparisons can be made. This matter was reviewed in brief at our meeting.

In summary, the project continues to move well and although we are nearing a very critical phase in the work, if future performance matches past, there should be little, if any, difficulty in completing by the target dates. The revised issue number five dated June 23, 1976 is presently being processed by Mr. Dave Thies. This should be available shortly. It is a high priority item and I recommend immediate attention be given it.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Mike Redmond (2)
Mr. Jerry Svee
Mr. Craig Moleski

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

August 26, 1976

Subject: Monitoring Report #11

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from computer runs dated July 8, 1976 (Issue #5)

Date of Monitoring: August 16, 1976 (working day 415)

Target Completion Date: November 1, 1976 (working day 469)

Working days remaining to completion: 54

Actions taken:

- Inspected project
- Reviewed job progress with field and office staff of Kraus-Anderson
- Evaluated current job status

General Summary

As of August 16, 1976 (working day 415) the project is rapidly being brought to a point where several areas could soon be finished and locked. However, the number of changes being made presently, particularly to the partition work, has generally delayed moving through to total completion in any given area. These changes, although extensive, are of a type often found in projects of this size and complexity as they are being brought to completion. Since the present field work is beginning to seriously affect carpet installation and subsequent closing out of the various areas in sequence, I strongly recommend that whatever constructive pressure can be brought to bear on moderating the number and complexity of changes be applied immediately.

The major lag is now showing up over the target completion date for area A1 (first floor northeast sector). The behind situation there is in completion of trim and installation of carpet, and is about 9 working days over late starts and finishes. There is considerable owner reluctance to begin laying carpet due to the amount of work presently going on in most parts of the building. However, it is going to be essential that this work start soon since the sheer number of square feet of carpet to be laid makes it necessary to provide adequate time for its completion.

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Another potential difficulty is seen in convector covers. These are not yet on the job and are posing a similar problem to carpet since there are large numbers of them to be installed.

Other problem areas include installation of handrails on court areas, completion of equipment rooms and installation of kitchen equipment. Most of these items can be written off as minor provided that work on them begins in the very near future. Installation of handrails at the court areas is a long and painstaking job, with a good share of the initial installation well along presently. Equipment room work is of an ongoing nature and although there still remains considerable hookup and installation work to do, assurances has been given that most of the difficult work has been completed.

At the kitchen and cafeteria areas, installation of kitchen equipment has not yet begun but equipment is available. Equipment installation was due to start no later than June 25, 1976 (working day 380) and it has not yet begun although some equipment has been delivered. Reviewing the food service area network, sheets 18 and 19, it appears that some time can be cut out of the kitchen area installation, and as is usually the case with kitchen equipment, the earlier it can begin, the better the installation usually runs. There are several areas of kitchen equipment to be installed including a range battery, a kettle area, a pot washing area, a hot food, cold food, hot beverage area, a sandwich grille, salad bar and cashier area and a dishwashing area. These all have considerable equipment to be placed and connected, and work there should begin just as quickly as possible. The present lag at the food service area is 35 - 39 working days over a target kitchen completion of August 30, 1976 (working day 425). This brings the projected completion of the kitchen to October 25, 1976 (working day 464). Some discussions were held about this matter and apparently immediate steps will be taken to start equipment installation.

Phone work has also proven to be more complex than had been originally thought. This has, in turn, delayed installation of ceiling acoustic panels past what were previously considered desirable dates. It is my understanding that there is a large staff, probably one of the largest in the area, from the telephone company now working on the job. This should certainly contribute to bringing the project back in line at an early date.

In summary, the project is presently entering its final phases and as quite often happens, is encountering difficulties with last minute changes, additions, alterations, some delivery problems and of course, a need to finish off major areas of the building concurrently. There is presently about a nine working day lag over the November 1, 1976 (working day 469) target completion date. This is primarily in start of carpet at the A1 area and completion of miscellaneous trim work there. In my opinion this lag could be picked up but it is going to take considerable effort by all concerned to insure that other lags will not appear.

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CONSULTING ENGINEER

As noted above, I strongly recommend that changes to the project be brought down to an absolute minimum at this point since the confusion caused by last minute alterations or additions makes it difficult to properly process the administrative and field work required.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. Mike Redmond (2)
Mr. Jerry Svee
Mr. Craig Maleski

75-16

- 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

February 27, 1975

Mr. Mike Redmond, Project Manager
Kraus Anderson of Mpls, Inc.
525 South 8th Street
Minneapolis, Minnesota 55404

Dear Mr. Redmond:

In accordance with your request last Friday, outlined below is the method by which I feel my professional services could best be furnished on the Cargill project which you are now constructing.

Presently the major work I could best assist you with is the detailed construction planning of the project through completion of the structural frame of the building and close-in. As we plan the close-in we also would initiate detail planning for installation of rough and finish interior work along with the systems and site work necessary for the project.

Your organization has considerable capabilities in the project planning area and I feel my best role here would be to bring to the project my experience in major programs of this type while actually diagramming the job with you and the field and office staff that are decision-makers on the project. Thus, the planning techniques that I use can be applied in a very practical and direct manner to the work that you are now doing, while being conveyed to your staff as they gradually take over the detail planning function themselves.

I also feel my services would be of assistance in regularly monitoring the project. Usually my clients find I bring to these programs an objective view that assists them in making accurate comparisons of

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the anticipated job progress shown in the network model compared to the actual job progress in the field. Monitoring of this type should be on the basis of every two to five weeks, depending upon the status of the job. Early in the project when excavation and foundations are in work monitoring frequency is less than later when the building is being closed in and readied for interior finish trades. However, I shall discuss this matter in more detail with you on my next trip to establish a regular monitoring sequence. Since I have several other projects in the Minneapolis area, I am certain we can work out a mutually satisfactory schedule of monitoring visits.

At this time the amount of involvement I might have is somewhat indeterminate since many of the functions I can assist you with early in the planning may, over a period of time, be taken over by your internal staff. Therefore, I suggest that we work on an hourly basis at this time until we can more clearly define the extent of my total involvement. My fee for this work is $30.00 per hour, plus reimbursement at cost for out of pocket expenses incurred in the interest of the job. These would include travel and living expenses and prints.

In the very near future we should focus intently upon completion of the superstructure, closing in of the frame and the beginning of rough interior work. Also, as part of our early planning procedures, we should identify and isolate all long lead time equipment and material. This is essential to a job of this complexity and size and I would like to emphasize its early importance.

I am very proud and pleased to be associated in such a significant project as the Cargill job with you and am looking forward to working on it again in the very near future. I shall be in touch with you soon to arrange our next planning session.

Meanwhile, I wish to thank you and your excellent staff for the very interesting and productive diagramming session we had on Friday, Februry 21, 1975. I feel we accomplished a great deal toward planning the foundations and first floor pours and that this information should be of great help in expediting the work over the next several months.

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Thank you again for your courtesy and cooperation.

Sincerely yours,

Ralph J. Stephenson, P.E.

RJS
m

cc - Mr. Jerry Svee

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

October 5, 1976

Subject: Monitoring Report #12

Cargill Office Center, Minnetonka, Minnesota

Kraus-Anderson of Minneapolis, Inc.

Project: 75:16

Monitored from computer run dated July 8, 1976 (Issue #5)

Date of Monitoring: September 30, 1976 (working day 447)

Target completion date: November 1, 1976 (working day 469)

Working days remaining to completion: 22

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Redmond and Mr. Thies
- Evaluated current job status

General Summary

As of September 30, 1976 (working day 447) considerable progress has been made since the previous monitoring on August 16, 1976 (working day 415). Carpet has been laid at the first floor and will start at the second floor on October 11, 1976 (working day 454). This should provide adequate time for carpet to be complete by the target move-in date. One problem that may prove somewhat troublesome is a presently indeterminate delivery of convector covers. However, this item is being expedited heavily and there is a reasonable chance the covers will be on the job and installed by start of move-in.

It appears from discussions with Mr. Redmond that most changes to the project as it is being completed are now substantially at an end and major elements of the building are relatively fixed at this time. Punching out of various spaces has begun and of course, this will be an ongoing process on through the occupancy period.

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Also evening out is work completion at mechanical equipment rooms. Basically the major installation remaining is in air control systems and these are being wired at the control rooms now. Air controls for the first floor are complete and balancing is presently underway. Other floors will follow as the control systems are completed. The hot water system is operative and any minor heat needed early in the fall should be available from that system.

At the kitchen and cafeteria areas, installation of food service equipment has begun and it is anticipated that within 22 working days hookup will be complete. Occupancy of the dining area depends fundamentally upon the time of installation of owner carpet and furniture. No delay to owner installation should be encountered since major contractor work has been completed.

Phone work which previously appeared to be a potential problem has been resolved and all major telephone cable and wire has been pulled. Finish telephone detail work is presently in progress and is in line with projected telephone schedules.

In summary, the project is in good condition and no major problems are apparent except the possibility of later than desired delivery on convector covers. This is being worked upon. It appears from our inspection and conversations that owner occupancy, if desired, could begin on the present target of November 1, 1976 (working day 469). Latest information indicates the present target for the owner occupancy starting date is December 17, 1976 (working day 502). It is projected this move will be made simultaneously and a full occupancy of the building will be accomplished in 3 to 5 working days.

Owner move-in is restrained fundamentally by completion of furniture assembly and placement. This could take as long as 44 working days (two months). Work on the assembly and placement of furniture will start October 15, 1976 (working day 458) at the first floor.

In respect to structures related to the office, the parking deck is complete with retention now released. Connecting links to the parking ramp and the Cargill Lake Office are also substantially complete and will probably be final billed at the end of October.

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CONSULTING ENGINEER

Thus, it appears the project is on the last lap and there will be no need for subsequent monitoring. I would like to compliment everyone connected with the project - owner, contractor and all others. It has been an excellent job and the close adherence to projected schedules certainly can be attributed to the superior management the project has received.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. Mike Redmond (2)
Mr. Jerry Svee
Mr. Craig Moleski