

MUST BE  
RETURNED  
TO R.J.S.

68.54

RALPH J. STEPHENSON  
CONSULTING ENGINEER

July 3, 1969

Subject: Monitoring Report #1

Project: Burroughs Home Office Facility, Detroit, Michigan

Date of Monitoring: July 3, 1969

Monitored from Issue #1 for Group 1 dated January 24, 1969  
Issue #1 for Group 2 dated February 18, 1969  
Issue #1 for Group 3 dated March 14, 1969

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Dryburgh
- Evaluated job progress

Group 1 (Building #4)

As of July 3, 1969 the major lag in Group 1 is in delivery of exterior precast window units. These units were originally due on the job April 28, 1969 (working day 53). The delivery is now scheduled for July 14, 1969 (working day 136) and is a direct lag of 53 working days. The delay in fabrication and delivery of precast resulted from several factors. First, the sub-contractor had difficulty in fabricating proper form work causing an initial delay in producing the first panels for inspection and approval. After early panels were cast and preliminary inspections made, additional delays were caused by the need to rework certain of the forms upon request of the owner and architect. After these forms were reworked the surfaces of the precast was not considered suitable and additional samples had to be cast with other texture techniques. A texture having been produced of a satisfactory nature, surface alignment was criticized and the unevenness in certain of the flat planes corrected. By the middle of May most of the shop problems had been solved and casting began for final approval. Since then several panels have been made and most rejected primarily because of alignment and surface irregularities.

Most of the major problems have been worked out now and production delivery to the job is expected, as noted above, on July 14. However, the delays and problems have caused a serious lag in the project. Because of the precast delay, spray-on insulation has also been held back and currently lags by about 43 working days. It is the intent to dovetail spray-on insulation, particularly at the fourth and fifth floors so that it can proceed independently of exterior precast. Later, spray-on at exterior walls will be applied when precast has been erected. Other lagging work includes rough-in electrical at the column, above floor slab work, lath and plaster at the interior columns and ceiling suspension work at the east half of the second floor.

Mr. Dryburgh indicates it is his intent to initiate an active program of finish work including interior column plastering, above floor rough work and possibly ceiling suspension, independent of exterior precast. This will dovetail operations and allow some pickup of time over the present total lag. I suggest this dovetailing of operations be watched carefully over the next month. At the end of that period, the success of such dovetailing should be evaluated, and if necessary at that time, the network updated. Observation of the change in logic will also be valuable in determining the need to update the Group 2 network.

### Group 2 (Building B6)

As of July 3, 1969, work in B6 is in no major trouble. The main reason is that there was considerable float time allowed in the unit because of late sequenced erection of the precast window units. However, now that a late precast delivery is anticipated for the B4 Unit, it is possible that the B6 erection will have to dovetail more closely than originally planned with the connecting links so as to maintain the present schedule. It is the intent of Mr. Dryburgh at present to maintain alignment on Group 2 work (B6) with the present Issue #1 network. In light of this, I recommend that no updating be made at this time and that observation of the planned field operation in light of the revisions in Unit B4 be made prior to consideration of updating.

The key area in Unit B6 as in B4 is erection of exterior precast. This is due to start in Unit B6 on a late start of October 16, 1969. This is a key date to meet and is critical to the project. October 16 is the latest allowable starting date for exterior precast work.

### Group 3 (B4 - B6 Center Connecting Link, East Connecting Link, West Connecting Link and B4 Basement)

#### B4 - B6 Center Connecting Link

The major restraint here is exerted by the completion of welding on structural steel for the center connecting link. Originally the work was to be completed by June 4, 1969, however, because of the heavy welds necessary, completion of the structure has been delayed and is not expected to be finished until July 25, 1969. This will be a lag of 36 working days. It is hoped to dovetail some of the activities originally restrained by structural steel including partial erection of floor deck and escalator work. Escalator trusses have been erected at all floors.

#### East Connecting Link

Some work was started here on the late start date of June 30 when a portion of the structural steel was erected. However, the erectors soon

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run out of material and as of today no further steel erection has proceeded. All foundation work is in, ready to receive steel but further erection will be delayed until material is available. At present a delay has been requested to as late as July 17th. However, Mr. Dryburgh is to continue discussions with the fabricator to get him started sooner.

#### West Connecting Link

Foundation work is ready at the west connecting link for structural steel and as soon as steel is available and erection crews are on the job, super structure work will start. This will follow erection of structural steel in the east connecting link. The Issue #1 date for start of steel erection at the west connecting link was July 24, 1969. This will lag now by the same delay at the east link.

#### General Summary

The major holdup on the project is exterior precast and structural steel. These items have now delayed the project from 40 to 53 working days. Field replanning of some logic is anticipated over the next month when certain actions originally restrained by the precast are to be deetailed more tightly. These include, in the 3<sup>rd</sup> Unit, interior plastering, interior ceiling suspension and spray-on fireproofing. I suggest, because of the revisions to the logic and the need to test these in the field, along with indeterminate delivery dates on structural steel and difficulties in erecting and welding the steel that were not anticipated in the original plan, that we defer a major updating on all sections for a month and a half to two months. Meanwhile, reporting on job progress and request for payments can be measured against the current network since the lag can be measured directly from existing documents. The delay of two months in updating will allow a far more meaningful plan of work to result and a more accurate set of target dates to be established.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. William Dryburgh

RALPH J. STEPHENSON  
CONSULTING ENGINEER

August 8, 1969

**Subject: Monitoring Report #2**  
**Burroughs Home Office Remodeling**

**Project: 68154**

**Dates of Monitoring: July 21, 1969, July 22, 1969, July 24, 1969, July 28, 1969  
and July 30, 1969**

**Monitored from Issue #1 for Group 1 dated January 24, 1969**  
**Issue #1 for Group 2 dated February 18, 1969**  
**Issue #1 for Group 3 dated March 14, 1969**

**Actions taken:**

- Reviewed job progress with Mr. Dryburgh
- Met with owners, architects and contractors representatives to discuss updating procedures
- Updated Group 1 2 and 3 networks
- Evaluated job progress

**General Summary**

As a result of problems encountered with precast approvals, fabrication, delivery and structural steel delivery and erection delays, a discussion was held on Monday, July 21, 1969 re updating the current project networks. In order to properly relate the terminology, updating in this instance means a re-evaluation of the project and an examination of both logic and durations to determine if changes are appropriate. As a result of the discussion which pointed out certain job delays but also brought out the fact that some of these delays and apparent lags were caused by adherence to desired logic situations, a full updating was requested by the architect and owner. This updating was prepared in conjunction with Mr. Dryburgh and consisted of re-evaluating and revising the Issue #1 network where necessary. Minimal changes to the logic were required. However, major revisions to end time restraints which were placed on late tasks in major groupings to establish target ranges were revised and new delivery dates set to the best of everyone's ability were incorporated in the revised diagram. New end dates established are still well within contract limitations and all work in Group 1, 2 and 3 is anticipated to be completed by the end of 1970.

An important element to be recognized in the evaluation of any network plan is that it represents to the best of current knowledge the future procedures of parties to the contract. In this particular instance, the major planning elements are field work by the generalist and his related sub-contractors. In order to expedite this work certain logic patterns are established, some of which have desired beginning or ending restraints to insure that float time is kept within manageable ranges. A revision of these beginning and end time restraints still keeping the field construction operations within contract limits was accomplished in the updating.

The updated network has been computerized and is now being run and drawings being revised. This new network will be issued as was the Issue #1 diagram in the form of three logic plan groupings 1, 2 and 3, along with three computer printouts. It should be understood that these printouts contain information arrayed in various manners so as to expedite evaluation of the project along with critical analysis where appropriate. A brief explanation of the various printout forms is below.

The network printout contains five different listings: Node - a listing of the tasks in ascending order of i and j node numbers; Early Start (ES) - tasks arranged in ascending order of earliest possible starting dates; Late Start (LS) - tasks arranged in ascending order of latest allowable starting dates; Late Finish (LF) - tasks arranged in ascending order of latest allowable finish dates; and Total Float (TF) - tasks arranged in ascending order of total float time available. The various listings are used as follows:

Node Sequence

The node sequence is generally used when referring from the network into the printout. If a task is located in the network, its starting and ending nodes identified, it can then be quickly located in the node sequence listing and data read directly from the printout.

Also, the node sequence is the master listing which is altered, changed and revised whenever an updating is made. It contains all restraints in the network, dummy and tasks alike.

Early Start

The early start listing is a convenient check list generally used by the field managers to keep current on what tasks are on time and what tasks are beginning to slip. It is not always necessary, nor desirable to begin a task at its earliest possible starting date, however, the early start listing allows a constant first check on job progress by merely reviewing all tasks listed above the current early start date.

Late Start

This listing is used for monitoring since by evaluating the status of each task above the current date in the late start column, all tasks can be checked insofar as whether they have started or not. Those that have not started, of course, should be further investigated to see whether the lack of a start has been caused by a desired or a necessary logic situation. If caused by a desired logic situation, then this matter should be further evaluated to see whether the change in logic has harmed the project. If caused by a necessary logic situation, it must be reviewed with the idea in mind to recapture the time lost by compressing durations or making major revisions to logic.

Late Finish

The late finish listing is used to evaluate current status by relating to the current date, all task late finish dates. Any task above the current late finish date in the late finish column should be complete. If not complete then a similar evaluation regarding desire vs necessity should be made as was explained under the late start analysis.

Total Float

The total float array is used to determine the relative criticality of any given task. It also is an indicator as to what other tasks become critical as the entire project slips, provided an end goal is to be maintained. This is a rather sophisticated printout and should be used with caution.

It does, however, clearly identify the critical path in the network, and is often used solely for this purpose.

It can be seen that in essence the computer printout gives you a remarkable tool, if used properly, to watch starting dates on a chronological basis, both early start and late start, to watch completion dates on a late finish basis, and to evaluate not only the position of the critical path on the project, but all those paths that are nearly critical. Normally in network planning applications, it is considered on a project of this size that any task having from 1 to 20 working days is potentially a critical task since slippage of this magnitude are not uncommon. Thus used, the computer printout is often the major day to day working document from which the project is managed on a day to day basis, with the graphic network being used to make qualitative analyses of progress by means of appropriate color coding. In the current updating, we are, of course, revising all three computer outputs and these will be issued along with revised arrow diagrams both of which in conjunction should give all parties to the project an excellent monitoring tool.

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General progress on the work despite its slippage of some two to three months from the original network is still good although some of the original desired situations cannot be totally achieved by the contractor. However, no major dislocation of end dates relative to contract agreements will be necessary. The updated network should be issued sometime the early part of August.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. William Dryburgh

M.

RALPH J. STEPHENSON

CONSULTING ENGINEER

September 2, 1969

Subject: Monitoring Report #3

Burroughs Home Office Remodeling, Detroit, Michigan

Project: 68:54

Date of Monitoring: August 29, 1969

Monitored from: Issue #2 dated July 21, 1969 for Groups I, II & III

Actions taken:

- Reviewed job progress with Mr. Dryburgh
- Evaluated job progress
- Color coded networks
- Inspected project

Group I (Building B4)

As of August 29, 1969 the current lag in erection of precast is approximately 3 working days. (Current lag is the number of days behind based upon a comparison with the current date. Expected lag is the number of days behind based upon an expected start or finish date.) The evaluation is made based upon a change in sequence from erecting one half of the unit building (east or west) and then moving to the other half of the unit to a procedure whereby all of one elevation is erected for the entire building before moving to the ends and the other elevation. It appears at this time if no appearance or strength deficiencies are encountered that this three day lag could be picked up over the next several weeks.

It is planned that a temporary roof will be placed on the entire B4 unit which will allow spray-on fireproofing and other semi finish operations to proceed on the fourth and fifth floors. Completion of all roofing on B4 is held pending total erection of precast on the exterior of B4 and at the connecting links.

Group II (Building B6)

As of August 29, 1969 there is no Group II current lag over the Issue #2 network. Work is underway to a degree in Building B6



primarily to keep sheet metal crews at a high manpower level on the total project. This area is now being used as a reservoir for tradesmen. However, present restoration work being done on Building B6 under the direction of the architect/engineer and owner is causing some interferences with continuity of sheet metal installation in these reservoir sectors.

### Group III

As of August 29, 1969 work is moving relatively well in Group III. An item of major concern at present is the current lag in fabrication and delivery of precast units for the center, east and west connecting links. Currently the lag ranges from 10 to 14 working days. The expected lag based upon current target dates is about 15 working days. This lag is in shop work. There is some possibility that time can be picked up both in the shop and on the job when erection starts, and Mr. Dryburgh feels this lag will be made up during the next two or three months.

Other work in Group III is currently moving between early start/late start, early finish/late finish ranges.

### General Summary

The major lags currently still revolve around precast and continuity of production and erection. This particular trade shows some signs of evening out since the last monitoring but there are still coordination problems that should be worked on jointly by the owner, architect and contractor. The major difficulties to date are matters of basic communication and technical difficulties which are currently being slowly resolved. I suggest strongly that all parties to the project consider that their mutual responsibility is to construct for the owner an adequate and jointly satisfactory office facility. This particular team approach to the project will insure that the optimum cooperation and assistance by all competent parties is given and accepted properly. Other elements of the project are in relatively good condition and now are substantially in alignment with the Issue #2 networks. These Issue #2 networks were distributed early in August and presently form the basis of job evaluation.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. William Dryburgh

RALPH J. STEPHENSON

CONSULTING ENGINEER

October 22, 1969

Subject: Monitoring Report #4  
Burrroughs Home Office Remodeling  
Detroit, Michigan

Project: 68:54

Date of Monitoring: October 21, 1969 (working day 206)

Monitored from Issue #2 dated July 21, 1969 for Groups I, II and III

Actions taken:

- Reviewed job progress with Mr. Dryburgh
- Evaluated job progress
- Color coded networks
- Inspected project

Group I (Building B4)

As of October 21, 1969 the current lag on Group I ranges from 4 to 23 working days. Precast, considered as an isolated trade, lags by about 21 working days. However, precast has now proceeded far enough so far as erection is concerned that those trades it restrained earlier are now freed up for work to proceed. It will be necessary to complete precast on B4 concurrent with the erection of precast on the east, center and west connecting links. This connecting link work is now, according to the Issue #2 network, scheduled to be complete on December 15, 1969, (working day 244). It is projected by Mr. Dryburgh that it will be complete on or about December 31, 1969 (working day 255). This represents an expected lag of 11 working days on precast. The present lag then should be in part recaptured by the end of the year.

In Units B4 and B6 a total of 328 window panels are needed. As of October 20th, 249 of these have been cast. There are needed for the links a total of 496 flat panels of which, on October 20th, 181 had been cast. In respect to the window panels about 60 have already been made for B6 which gives enough for one elevation. Therefore, panel supply to the job should be on a continuous basis from here on out to completion of erection.

Of greater significance presently insofar as a lag is concerned is the gradual dropping behind of spray-on insulation, rough-in electrical work at the columns and latching and plastering interior and exterior columns in the B4 Unit. Also, four strips per floor have been left out of the floor finish for later installation of header duct. It is difficult to start and maintain any continuity on latching of interior column UNIT1 using header ducts are lagged, installed and the finish completed. This item must be resolved as quickly as possible.

Spray-on insulation has just started at the exterior surfaces of the building. This work now lags by a projected time of 23 working days. The time should be picked up in part since the trade will move rapidly once started and a continuous work pattern is established. Electrical rough-in, latching and plastering of column lags from 12 to 22 working days. It too should pick up if started within the next two weeks before cold weather sets in.

Installation of glass on the exterior of the B4 Unit has started and lags the current network by about 13 working days. It is intended now ~~that~~ ~~if~~ ~~work~~ of this glass be installed on the west and north elevations as possible to provide a windbreak for the coming cold weather. Glazing should move ahead immediately.

The only other lagging item in the B4 Unit currently is piping and Fin tube work which trails the network by some 5 to 8 working days.

I recommend that because of the chance of reoccurring much of the current lag, particularly in interior trades and because of the evening out of the present production and delivery, that major updating of this network be deferred until completion of present at which time a more reasonable evaluation can be made of the appropriateness of a revision. The current situation can be read easily from the Issue #2 network and current and projected lags in the job determined quickly and accurately. An updating should only occur when the lags are too great to reapture or the network becomes difficult to read and relate to the current job status. This is not the case with the Issue #2 network for Group I activities (Building B4).

#### Group II (Building B6)

As of October 21, 1969 there is no Group II current lag over the Issue #2 network. Considerable progress has been made in sheet metal and other trades on the job and all activities are now being done well ahead of early start dates. No updating of the current network is recommended or considered desirable for Group II (Building B6).

#### Group III (Connecting Links and Basement Work)

As of October 21, 1969 the only major lag in the connecting links is an expected delay of approximately 11 working days in erection of exterior present. As mentioned under the Group I analysis, the original date for completion of present

was December 15, 1969 (working day 244), ending at the west connecting link. The expected end date currently is December 31, 1969 (working day 255). This accounts directly for the eleven day lag.

All other work is moving substantially in accordance with early start/late start dates. I recommend that no updating be made of this Group III network since the actual field progress is relatively well in alignment with the current Issue #2 plan of work.

#### General Summary

Major lags currently still revolve around precast but are now being reflected back into those items that precast restrains such as interior and exterior plastering on columns, spray-on insulation and glazing. The total lag in precast and related trades ranges from 4 to 23 working days on the B4 Unit and is about 11 working days in the connecting links. Since there is some chance that this lag could be reduced relative to precast, and since interior work has begun to move better than before, I recommend we defer any major updating on the network until completion of precast which presently is anticipated to be totally erected on Group I and Group III work by the end of this year. At that time a further evaluation should be made to determine the appropriateness of an updating.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Wm. Dryburgh  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

RALPH J. STEPHENSON  
CONSULTING ENGINEER

December 1, 1969

Subject: Monitoring Report #5  
Burroughs Home Office Remodeling  
Detroit, Michigan

Project 68:54

Date of Monitoring: December 1, 1969 (Working day 234)

Monitored from Issue #2 dated July 21, 1969 for Groups 2  
and 3 and Issue #3 dated October 28, 1969  
for Group 1

Actions taken:

- Reviewed job progress with Mr. Dryburgh
- Evaluated job progress

Group 1 (Building B4)

As of December 1, 1969 current lags on Group 1 range from 15 to 27 working days. Projected lags ranges upwards to 37 working days although these are not a wholly valid measure of delay on the project.

The major problems facing construction at present are closing in of the building, being held by slow work on precast erection coupled with difficulties in fitting glass into the panels. Glazing is falling behind precast although every effort is being made to close in the north and west elevations to provide protection from the weather. Wherever glazing has been restrained, temporary visqueen panels have been installed to provide weather protection for the trades.

Another major lag is in lathing and plastering columns. This ranges from 16 to 21 working days currently and is due to the trade requirement that building closure be substantially complete before lathers come on the job. Work is expected to proceed this week since the building now is substantially closed at the areas where lathers can work. This particular delay is serious since lathing and plastering of columns restrains meaningful start of ceiling suspension.

Another delay factor has been fin tube piping required for heat. Mr. Dryburgh expects most fin tube to be complete by the end of this month.

The largest projected delay item is insulation and roofing which is restrained by completion of precast. It is expected that all precast will be erected about the first of the year which gives it a projected lag in the B4 unit of 20 working days. Roofing will

follow immediately if weather permits. Roofing is not totally essential for a dry building since a cap sheet has been applied and with reasonable care could keep the building dry throughout the winter.

The major problem is closing in vertical surfaces against driving weather. Precast continues to be a serious problem, no longer from a supply standpoint but as an erection matter. Conversations with the precast sub-contractor should be intensified so that no further lag in the work pace occurs. At present close-in of the B4 unit is critical to consecutive performance on the interior finish trades and until interior finish work can start there is a tendency for all trades affected to delay their work.

#### Group 2 (Building B6)

Very little major work has been done on B6 since the last monitoring primarily due to a need for concentration on B4. Some precast has started and as mentioned in earlier reports, considerable progress had been made in sheet metal and other rough trades. Active work on this unit is not due to begin until after the first of the year.

#### Group 3 (Connecting Links and Basement Work)

As of December 1, 1969 exterior precast at the east and west connecting links show a projected lag of approximately 30 working days with trades at the center connecting link lagging by about the same amount due to delays in precast erection. In the center connecting links the problem of close-in is becoming critical and this is particularly evident in penthouse work where spray-on was due to be complete by December 1, 1969 but cannot start until the enclosure is complete and the roof is on. Roofing and total enclosure are, in turn, restrained by completion of precast at the center connecting link. Roofing lags by a projected 27 working days.

#### General Summary

Major lags still revolve around precast and reflect now in difficulty moving interior work due to lack of total close-in and temporary heat. The lag on the project due to precast and related trades is approximately 30 working days. This delay is now getting critical particularly in the B4 unit. It is particularly important to move trades that can proceed immediately so that they do not contribute an additive lag. Of particular concern are glazing, spray-on fire-proofing, lathing and plastering of exterior and interior columns, and start of ceiling suspension. Every effort should be made to expedite precast so that total close-in can be completed along with provision of temporary heat without the need for extensive temporary enclosures.

Ralph J. Stephenson, P.E.

RALPH J. STEPHENSON

CONSULTING ENGINEER

September 18, 1970

Subject: Monitoring Report #6

Burroughs Home Office Facility Remodeling

Detroit, Michigan

Project: 70:36

Date of Monitoring: September 16, 1970 (Working day 181)

Monitored from updated Issue #6 dated August 31, 1970 (in work)

Actions taken:

- Reviewed job progress with Barton Malow personnel
- Evaluated job progress from previous on-site inspections

Building B-4 and B-6

The network plans for buildings B-4 and B-6 have been combined into one set of eleven diagrams dealing with each floor in each of the two units, splitting the fifth floor into an east and west half. The east half of the fifth floor on B-4 is totally held so far as planning is concerned, until a release is made by the owner.

In accordance with the updated network diagram and reading only early start/early finish dates, the following represents job status as of September 16, 1970 (working day 181).

B-4 Second Floor (B4 - 2)

Stud walls lag early start/early finishes by about 3 working days. This time could be picked up according to field management and every effort is to be made to regain these three days as quickly as possible since the critical path through the project generally is determined by erection of stud walls.

B-6 Second Floor (B6 - 2)

No lag in this floor at this time.

B-4 Fourth Floor (B4 - 4)

Stud walls will start on this floor September 18, 1970 (working day 183). This will give a projected lag of one working day over the updated network. This time can be picked up and should.

B-6 Fourth Floor (B6 - 4)

No lag in this floor at this time.

B-4 West Fifth Floor (B4 - W5)

No lag in this floor at this time.

B-6 Fifth Floor (B6 - 5)

No lag in this floor at this time.

B-6 First Floor (B6 - 1)

The first floor of B-6 is a relatively high priority area and the raised floor slab at the west end may provide some difficulties. Work is in progress there now but should be managed carefully to insure it is complete on the present anticipated early finish date.

B-4 East Fifth Floor (B4 - E5)

As of September 16, 1970 this area is still held. It has not been included in the total sequencing and revised plan of work due to this hold.

B-4 Third Floor (B4 - 3)

No lag in this floor at this time.

B-6 Third Floor (B6 - 3)

No lag in this floor at this time.

B-4 First Floor (B4 - 1)

No lag in this floor at this time.

General Summary

As of September 16, 1970 (working day 181) we are monitoring the project from Issue #6 dated August 31, 1970.



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**RALPH J. STEPHENSON**

CONSULTING ENGINEER

The project was evaluated in terms of early start/early finish dates and the current lag, which can be recaptured and should as soon as possible, is in erection of stud walls at the second floor of B-4. Also, to be watched is construction of the raised floor slab in B-6 at the first floor. These floor slabs are important to sequential prosecution and completion of the work and should be installed as quickly as possible to allow ceiling work to proceed without interruption.

**Ralph J. Stephenson, P.E.**

RJS/m

To: **Mr. Hartzel Kaisner**  
**Mr. Floyd Wieland**

September 30, 1970

**Subject:** Monitoring Report #7  
Burrage Home Office Facility Remodeling  
Detroit, Michigan

**Project:** 70136

**Date of Monitoring:** September 28, 1970 (working day 189)

**Monitored from:** Updated issue #6, dated August 21, 1970 (in work)

**Actions taken:**

- Reviewed job progress with Barton Malow personnel
- Continued updating connecting links
- Evaluated job progress

**Building B4 and B6**

The evaluations below relate to early start, early finish dates without special regard to float time available except where noted. As such, the evaluation is predicated upon the tightest time schedule. It is recognized that in some instances there is float time available on tasks that are designated as behind. However, at this point it is appropriate to consider that target dates should be early starts and early finishes.

**B4 - Second Floor (B4-2)**

Elevator door frames were shipped last Friday, September 25, 1970 (working day 188). The projected lag on setting frames over early start, early finish dates is approximately ten working days.

Interior door and hardware installation has not yet started. However, this task has approximately five weeks of float time and currently lags the early start date by four days. Although not serious installation should start as soon as possible so that work on the floor can be cleaned up on a total basis and a move off the floor made when it is complete without having work left to be done. This also applies to other finish trades such as glazing, convactor covers, taping and sanding, marble finishes, and painting.

It should be emphasized that the schedules for each floor are predicated upon the floor being complete so far as each trade is concerned so that

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the total end of the floor construction on the early finish date means that all finish work is complete on that floor.

B6 - Second Floor (B6-2)

Work lags by two working days on acoustic tile, frames and light fixtures. However, resilient floor tile has just begun and is about three working days ahead, as is underfloor duct service fittings. The item to watch is start of stud walls due for working day 197 (October 8, 1970).

B4 - Fourth Floor (B4-4)

As of September 28, 1970, stud walls lag by two working days. The holdup is due to late delivery of interior door frames at the west end. It was hoped to have these on the job September 24, 1970 (working day 187), but as yet they have not arrived, and there is no assurance that delivery will be made until the middle of October. The Barton Malow field office will check at the plant.

B4 - Fourth Floor (B4-4)

This floor currently lags by three working days on installation of ceiling gyp board. The lag could be picked up easily in the field and an attempt will be made to improve manpower on board work tomorrow.

B4 West Fifth Floor (B4-W5)

No lag.

B4 Fifth Floor (B4-5)

No lag.

B4 - First Floor (B4-1)

There is no current lag on this floor over early start, early finish dates. The raised floor slab at the west end is about to be put into work and it appears that there will be little difficulty meeting its projected pour date of November 3, 1970 (working day 215).

In-ceiling mechanical and electrical rough work is continuing and the target is to finish ceiling and floor slab work concurrently.

B4 - East Fifth Floor (B4 - E5)

As of September 28, 1970, this area is still held and has not been included in the total sequencing.

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3A - Third Floor (3A-3)

No lag.

3B - First Floor (3B-1)

No lag.

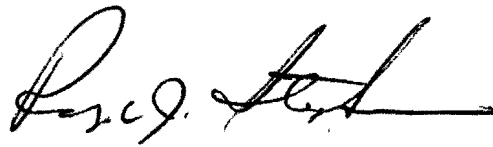
3C. Central and West connecting links

Connecting link work is moving fairly well with the exception of the central areas where difficulties have been encountered on delivery of linear diffusers which must be placed prior to installation of ceiling suspension. It was originally thought that these diffusers were available immediately, but it now appears there is a long lead time on delivery. This item is critical to continued efficient work at the center connecting links. Every effort must be made to expedite delivery of these to the job site or work at the ceilings will be brought to a stop.

The west and east connecting links are proceeding fairly well.

General Summary

Critical items are interior door frames, elevator door frames, linear diffuser frames and general interior work following completion of stud walls. General lags behind early start, early finish dates range from two to ten working days.



Ralph J. Stephenson, P.E.

RJS/ev

TO: Mr. Harburt Kaiser  
Mr. Floyd Wieland

RALPH J. STEPHENSON  
CONSULTING ENGINEER

October 16, 1970

Subject: Monitoring Report #8  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

Project: 70:36

Date of Monitoring: October 12, 1970 (working day 199)

Monitored from: Updated Issue #6, dated August 31, 1970 (in work)

Actions taken:

- Reviewed job progress with Barton Malow personnel
- Evaluated job progress

Building B4 and B6

Evaluations below relate basically to early start, early finish dates except where noted.

B4 - Second Floor (B4-2)

As of October 12, 1970, the lag on this floor is approximately two working days. However, marble was due to start at a late start of October 12, 1970 (working day 199), convector covers on October 16, 1970 (working day 203), and following that other interior finish work such as doors, hardware, glazing and painting. Some marble is available. However, executive toilet rooms are still being held pending release of finish schedules by the owner. This type of hold on small areas imposes delays that are serious and prevent floors from being completed. Therefore, all owner decisions so far as finishes are concerned should be obtained to the greatest extent possible now.

Painting is another potential delay item. The finish coat paint has been approved by the owner, but the primer has not. A primer sample is being delivered to the job this week for review by the owner. Painting should be planned to start no later than working day 211 (October 28, 1970), or it will fall behind its late start date.

Convector covers, with a late start of working day 203 (October 16, 1970) are still not on the job. There are delays to painting samples to be approved, and in delivery of the grills. Every

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possible effort should be made to free up convactor covers for completion of fabrication, delivery to the job site, and installation.

Elevator door frames have been delivered to the job. However, ~~a major piece on the frame was missing at the threshold.~~ This piece was re-ordered on October 6, 1970, but there is no word yet from the elevator fabricator as to when it will be on the job. Frames restrain completion of walls on the floor.

#### B6 - Second Floor (B6-2)

As of October 12, 1970, the lag ranges from seven to nine working days. Although air light fixtures show a larger lag, other work that was planned to follow has started and the delay is basically in acoustic tile installation and to a lesser extent in stud walls. Stud walls, which were due for an early start of October 8, 1970, have begun and if the progress can be maintained in these stud walls, the job could regain most of the delay. It is important to realize that the same items that may hold B4-2 will soon affect B6-2. The problem shaping up as serious is that these items are critical on all floors and if work can proceed up to their installation and no further, then when final finishing work does start it will be necessary to work multiple floors concurrently to pull the job back on schedule.

#### B4 - Fourth Floor (B4-4)

As of October 12, 1970, the lag on this floor is from about eleven days primarily in installation of light fixtures and stud walls. Stud walls erection has been delayed by late deliveries of interior door frames. These frames are expected on the job about October 26, 1970 (working day 209). This will delay completion of interior stud walls and directly affect other finish work on the floor. Every effort must be made to improve delivery on these door frames, although at present it does not appear this is possible.

#### B6 - Fourth Floor (B6-4)

As of October 12, 1970, a lagging item on B6-4 is acoustic ceiling tile installation. This currently lags by five to eight working days. However, it has been found that the ceiling work tempo can normally be picked up where lags occur if stud wall layout can be initiated prior to the ceiling being completed.

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B4 - West Fifth Floor (B4-W5)

No lag.

B6 - Fifth Floor (B6-5)

Gyp board ceiling at the B6 fifth floor lags by about ten working days. It will be important to pick up this time, since it could reflect directly in a delay to remaining portions of the floor. The lag in ceiling board work is apparently caused by low manpower on the job in this trade. Additional manpower should be provided to start this board work as soon as possible.

B6 - First floor (B6-1)

Major finish work on this floor is not due to start for some time as yet. However, the new raised floor slab at the west end is being constructed and concurrently, all in-ceiling mechanical and electrical rough work is being completed. In-ceiling rough work is moving slowly and presently it does not appear that it will be completed at the same time as the new raised floor slab so as to start ceiling suspension in conduit on working day 215 (November 3, 1970). However, there is enough time left before November 3rd for an improvement in installation performance to be made. I suggest every effort be made to complete this work so ceiling suspension can start on the target date of November 3, 1970.

B4 - East Fifth Floor (B4-E5)

As of October 12, 1970, this area is still held and has not been included in the total sequencing.

B4 - Third Floor (B4-3)

No lag.

B4 - First Floor (B4-1)

No lag.

General Summary

Trades following stud wall completion including painting, marble, glazing, doors, mill work, and convactor covers are rapidly becoming extremely critical. All efforts should be concentrated on freeing up this work at the B4 second floor, which is the first floor in the sequence, so that

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Detroit, Michigan

RALPH J. STEPHENSON  
CONSULTING ENGINEER

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subsequent delays to corresponding work in other areas is not encountered. If this is not done then the current lag of ten to fifteen working days over the updated network Issue #6 can be expected to grow larger. Now is when such increases should be stopped before they become cumulative throughout the building.

The connecting links were not monitored as of this date since we are still inserting information regarding linear diffusers at the center connecting link on all floors. Information will be available shortly on delivery of these diffusers and we will complete planning of the center connecting link and other connecting links between B4 and B6 within the next few days.

Ralph J. Stephenson, P.E.

TO: Mr. Hartmel Kaiser  
Mr. Floyd Wisland



RALPH J. STEPHENSON  
CONSULTING ENGINEER  
October 29, 1970

Subject: Monitoring Report #9  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

Project: 70:36

Date of Monitoring: October 26, 1970 (Working day 209)

Monitored from Updated Issue #6 dated August 31, 1970

Actions taken:

- Reviewed job progress with Barton Malow personnel
- Evaluated job progress
- Continued adding information to all networks

Buildings B4 and B6

This set of units is now at a point where the computer run for interior work can be corrected and completed for issue. Center link completion dates corresponding to main floor completion dates will be difficult to meet, primarily because of delays to delivery of linear diffusers and in approval of escalator stainless steel handrail. Therefore, comments below apply only to the main buildings.

B4 - Second Floor (B4-2) Target completion date - January 15, 1971

As of October 26, 1970 it was assumed that convector covers will be started on November 2, 1970 (working day 214) which gives it a lag of 11 working days over late start dates. Marble finishes are planned to begin almost immediately with floor marble due in about November 26th. If floor marble can be started on the 26th of November, it will lag by approximately nine working days. Marble and convector covers are critical items at the B4 second floor and must be given careful attention.

Lags are measured in relationship to the original end date of middle December. This end date is now being modified so that the B4 and B6, second, fourth and fifth floors, (minus the east end of B4 - 5) are to be complete the evening of January 15, 1971. However, it should be realized that this does not mean these floors will be totally finished. There will still be work to do in the links and there will be minor finishing to do in the major floor areas.

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CONSULTING ENGINEER

B4 - Second Floor (B4-2) Target completion date - January 15, 1971 (Cont.)

December 15th is a date against which we are measuring B4-2 work progress since floors must be delivered on a staggered basis to avoid excessive tradesman requirements.

B6 - Second Floor (B6-2) Target completion date - January 15, 1971

As of October 26, 1970 stud wall erection, taping and sanding lag by about five working days. This lag is measured over a projected end date of the middle of December. The same considerations apply here as for the B4 second floor.

B4 - Fourth Floor (B4-4) Target completion date - January 15, 1971

As of October 26, 1970 this floor is generally meeting early start/early finish dates.

B6 - Fourth Floor (B6-4) Target completion date - January 15, 1971

Acoustic ceiling tile installation has slowed at this level and now lags by approximately 14 working days. This lag could be serious if immediate steps are not taken to improve performance.

B4 - West Fifth Floor (B4-W5) Target completion date-January 15, 1971

As of this date, no lag.

B6 - Fifth Floor (B6-5) Target completion date - January 15, 1971

As of October 26, 1970 ceiling suspension is approximately 95% complete at the floor and installation of ceiling gyp board is due to start October 27, 1970 (working day 210). This gives a lag of approximately ten working days.

B6 - First Floor (B6-1) Target completion date - March 15, 1971

The floor at the west end is due to be poured out within the next two weeks. Above ceiling installation of rough mechanical and electrical work has moved slowly here, but should also be finished within the next ten working days. It is the intent to start ceiling suspension and conduit on November 2, 1970 (working day 214) at the east end. This will keep field work in substantial alignment with the plan of work. However, it should be realized that to maintain the schedule, it will be necessary to complete the raised floor at the west end along with the in-ceiling work at that area so no delay to ceiling suspension is incurred as it moves from east to west.

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CONSULTING ENGINEER

B4 - Third Floor (B4-3) Target completion date - April 1, 1971

As of October 26, 1970, no lag.

B6 - Third Floor (B6-3) Target completion date - April 1, 1971

As of October 26, 1970, no lag.

B4 - First Floor (B4-1) Target completion date - May 1, 1971

As of October 26, 1970, no lag.

#### Center Connecting Links

The center connecting links are critical portions of each floor and to properly occupy the total floor, the links must be substantially complete. However, due to delays in delivery of linear diffusers, delays in obtaining doors and delays in getting escalator handrails into fabrication, these links will be delivered at dates slightly later than those on which the floors themselves are to be delivered.

Tentatively, at the center connecting link the second floor will be completed in early February, the fourth floor in late January, the fifth floor in middle February, the first floor in middle February and the third floor in middle January. Another crucial element in these links is activation and proper operation of the mechanical equipment rooms in the penthouses. In all likelihood heat will be available from these equipment rooms by the above dates and air conditioning can be provided by utilizing outside makeup air. Balancing of the total system though cannot be done until warmer weather and therefore, the full system probably will not be available until mid-May. The building can be occupied provided all parties understand the conditions under which the equipment rooms will be operating.

#### East and West Connecting Links

As of October 26, 1970 the east and west connecting links are moving relatively well and in conformance with the updated Issue #6 network. Target dates for the east and west connecting links are the same as for main floors they adjoin.

The comments for the mechanical equipment room at the center connecting link apply to the equipment rooms at each of the east and west connecting links. It will be very important to control work closely at the connecting links since there are so many of them and the work there is all small trade work. This is the type of field operation that tends to spread men over a large

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CONSULTING ENGINEER

East and West Connecting Links (Cont.)

area and make effective control difficult. I suggest that floors be completed in the links in a specific sequence and that the work on a floor be completed to the greatest extent possible before moving off the floor to the next level.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Hartzel Kaisner  
Mr. Floyd Wieland  
Mr. R. Wilkening

RALPH J. STEPHENSON

CONSULTING ENGINEER

November 12, 1970

Subject: Monitoring Report #10  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

Project: 70:36

Date of Monitoring: November 9, 1970 (Working day 219)

Monitored from Issue #6 dated August 31, 1970

Actions taken:

- Inspected main B4 and B6 Units
- Evaluated job progress

B4 - Second Floor (B4-2) Target completion date - January 15, 1971

As of November 9, 1970 installation of convector covers has not yet started on the second floor. They were assumed, as of the last monitoring, to be able to start on November 2, 1970 but no work has begun. Thus, this trade as well as the marble finish trades, still lag early start/early finish dates. They are becoming increasingly critical so far as late start/late finish dates are concerned and should be expedited immediately.

B6 - Second Floor (B6-2) Target completion date - January 15, 1971

As of November 9, 1970 installation of air light fixtures lags slightly although stud wall work has moved well and is now mid-way between early start and late start dates. It will be critical to stay on the early start/early finish side of these trades to avoid bunching up near B4 - B6 completion. At present, stud wall work is too close to late start/late finish dates to allow following work to finish without excessive manpower buildup.

B4 - Fourth Floor (B4-4) Target completion date - January 15, 1971

As of November 9, 1970 this floor is meeting late start/late finish dates but has slipped considerably over early start/early finish

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RALPH J. STEPHENSON

B4 - Fourth Floor (B4-4) Target completion date - 1-15-71 (Cont.)

dates against which it was previously measured. The floor must immediately get into finishes including painting, convector covers, marble and other such trades or it will soon lag over projected end dates.

B6 - Fourth Floor (B6-4) Target completion date - January 15, 1971

As of November 9th, 1970 there is still a hold on the B6 fourth floor from column line 24 to 17. The hold is basically on stud partitions and since partitions are about to start there, this hold directly affects progress of work at the floor. Presently there is also a slight lag on acoustic tile and light fixtures but if the hold can be released and stud walls can start, it is possible the lag could be picked up.

B4 - West - Fifth Floor (B4-W5) Target completion date - January 15, 1971

As of November 9, 1970 no lag.

B6 - Fifth Floor (B6-5) Target completion date - January 15, 1971

As of November 9, 1970 ceiling board work is about 50% complete. This gives it a lag of approximately five working days. The previous monitoring lag reported was approximately 10 working days so there has been a slight improvement in work progress at this area. However, continued improvement must occur for stud walls and other work that follows to be started on schedule.

B6 - First Floor (B6-1) Target completion date - March 15, 1971

This floor lags considerably. Ceiling suspension was due to start on November 3rd, and it was projected it would start on November 2. No ceiling work has yet started. Ceiling suspension is the measure by which the lag at the floor is directly evaluated. As of today this lag is approximately 8 working days.

This floor is a key sector and it will be critical to continue construction of the supported floor slab at the first floor concurrently with ceiling installation to maintain proper progress.

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B4 - Third Floor (B4-3) Target completion date - April 1, 1971

As of November 9, 1970 no lag.

B6 - Third Floor (B6-3) Target completion date - April 1, 1971

As of November 9, 1970 no major lag.

B4 - First Floor (B4-1) Target completion date - May 1, 1971

As of November 9, 1970 no major lag over late start/late finish dates. Ceiling mechanical and electrical work will be important since ceiling suspension is due to start on November 24th and is critical. I suggest the work plan be reviewed immediately so as to insure starting this task no later than the late start date.

Center Connecting Links and East and West Connecting Links

These will be monitored in more detail at the next monitoring session. As of November 9, 1970 linear diffusers have not been delivered to the site, nor have the aluminum handrails for the escalator at the second floor arrived. Both are urgently needed.

Ralph J. Stephenson, P.E.

RJS/m

To: <sup>E.H.</sup> Mr. Hartzel Kaisner  
Mr. Floyd Wieland  
Mr. R. Wilkening

*001 American*

RALPH J. STEPHENSON

CONSULTING ENGINEER  
November 25, 1970  
(Dictated 11-18-70)

Subject: Monitoring Report #11  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

Project: 70:36

Date of Monitoring: November 17, 1970 (Working day 225)

Monitored from Issue #6 dated August 31, 1970

Actions taken:

- Inspected project
- Evaluated job progress
- Reviewed link networks

Second Floor

B4 - Second Floor (B4-2) Target completion date - January 15, 1971 ✓

As of November 17, 1970 finish trades following completion of stud walls are becoming increasingly critical. Installation of convector cover brackets has started but convector covers are ~~not on the job~~ as yet. It is understood they are available and I recommend that installation start as quickly as possible.

Floor marble is still on the boat from Italy with no word as to when it is due in. Papers on the marble have arrived and generally delivery of the marble to the port is about one week after this. These finish trades become increasingly important as pointed out in Monitoring Report #10 since there are six major units and nine connecting link areas that currently have a target date of January 15, 1971. It is quite apparent that all of these areas cannot be finished simultaneously and thus, the importance of finishing in sequence is obvious.

B6 - Second Floor (B6-2) Target completion date - January 15, 1971

Currently this floor is meeting dates between early finish and late finish. However, the same trades mentioned above for B4 - second floor will soon become critical here. I understand there are partition changes to be made near column lines 12 and 16. The exact nature of these changes should be defined and the changes made just as quickly as possible.



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RALPH J. STEPHENSON  
CONSULTING ENGINEER

B4, B6 Center Connecting Link - Second Floor - Target completion date -  
January 15, 1971

As of today linear diffusers have not been delivered to the job site and currently the lag in installation of ceiling suspension and lath for plaster areas is nine working days over a projected completion date of February 3, 1971. This is only one of many areas currently affected by late deliveries of the most critical trades on the job.

B4, B6 West Connecting Link - Second Floor - Target completion date -  
January 15, 1971

Generally OK as of November 17, 1970.

B4, B6 East Connecting Link - Second Floor - Target completion date -  
January 15, 1971

Wall lathing for plaster has not started and currently lags about 25 working days over a projected link completion date of December 18, 1970.

#### Fourth Floor

B4 - Fourth Floor (B4-4) Target completion date - January 15, 1971

The current lag here is in stud wall work, primarily taping and sanding. This trade lags by about 15 working days. Painting and other interior finishes will soon become critical.

B6 - Fourth Floor (B6-4) Target completion date - January 15, 1971

As of November 17, 1970 stud walls have not yet started and lag by a projected 15 working days.

B4, B6 Center Connecting Link - Fourth Floor - Target completion date -  
January 15, 1971

Linear diffusers are holding up installation of ceiling suspension and lath for plaster. The current lag here is 9 working days over a projected link completion date of January 26, 1971.

B4, B6 West Connecting Link - Fourth Floor - Target completion date -  
January 15, 1971

Lathing and plastering of walls is substantially complete but ceiling lath and plaster have not as yet begun. To complete on December 4, 1970 this lath must have started on working day 198 (October 9, 1970). The current lag over the end date of December 4, 1970 is 27 working days.

B4, B6 East Connecting Link - Fourth Floor - Target completion date -  
January 15, 1971

No lath has been started for plaster walls and this task currently lags by 14 working days over a projected completion date of January 6, 1971.

Fifth Floor

B4 - West - Fifth Floor (B4-W5) Target completion date - January 15, 1971

As of November 17, 1970, no lag.

B6 - Fifth Floor (B6-5) Target completion date - January 15, 1971

The lagging item here is acoustic tile and frames. Ceiling board is about 80% complete and acoustic was due to start on October 27, 1970 (working day 210). It is projected now that acoustic work will get underway about November 23, 1970 (working day 229). This gives a projected lag of 19 working days.

Revisions to wall layouts are pending.

B4, B6 Center Connecting Link - Fifth Floor - Target completion date -  
January 15, 1971

Ceiling suspension and lath for plaster is held by delivery of linear diffusers. Wall work was due to start at a late start of working day 209 (October 26, 1970). It has not as yet begun and thus lags by 16 working days over a projected completion date of February 1, 1971 for the link.

B4, B6 West Connecting Link - Fifth Floor - Target completion date -  
January 15, 1971

Lathing is just beginning on the walls with the current lag on lathing and plastering about 5 working days over a projected link completion date of January 14, 1971.

B4, B6 East Connecting Link - Fifth Floor - Target completion date -  
January 15, 1971

Lathing on walls was due to start at working day 217 (November 5, 1970). It has not as yet begun and currently lags 8 working days over a projected completion date of January 15, 1971.

First Floor

B6 - First Floor (B6-1) Target completion date - March 15, 1971

Gyp board at ceiling was due to start on November 17, 1970 (working day 225).

B6 - First Floor (B6-1) Target completion date - March 15, 1971 (Cont.)

It now is anticipated to start about December 1, 1970 (working day 234). This gives it a projected lag of nine working days. A problem on this floor is being encountered in working around stored materials. Since ceiling work depends upon a clear area for maximum effectiveness, steps should be taken to clear this floor to the greatest extent possible of materials other than those needed for immediate work.

B4 - First Floor (B4-1) Target completion date - May 1, 1971

Ceiling suspension was due to begin on November 24, 1970. It is anticipated now that the suspension will start about December 1, 1970 (working day 234). This gives it a projected lag of four working days.

B4, B6 Center Connecting Link - First Floor

Working to a projected completion of February 16, 1971 at this area, the lag is two working days on ceiling suspension and lath for plastering. This delay is due to lack of delivery of linear diffusers.

B4, B6 West Connecting Link - First Floor

Ceiling suspension and lath for plaster areas was due to start here on working day 214 (November 2, 1970) for a projected completion of January 22, 1971. This work has not as yet begun so the lag over the projected end date of January 22 is currently 11 working days.

B4, B6 East Connecting Link - First Floor

Ceiling suspension for plaster was due to start at an early start of November 9, 1970 (working day 219), to achieve a completion date of January 29, 1971. This work has not as yet started and lags early start dates currently by 6 working days.

(It should be noted that lags in the connecting links are projected on the basis of anticipated completions rather than on target dates for adjoining floors in the main buildings. Therefore, some of the lags as reported above are not as serious as others. However, they are reported against the anticipated completion dates so as to point up the large manpower buildup that would be required if all trades were bunched up at the end.)

Third Floor

B4 - Third Floor (B4-3) Target completion date - April 1, 1971

As of November 17, 1970, no lag.

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RALPH J. STEPHENSON  
CONSULTING ENGINEER

B6 - Third Floor (B6-3) Target completion date - April 1, 1971

As of November 17, 1970, no lag.

B4, B6 Center Connecting Link - Third Floor - Target completion date -  
April 1, 1971

Ceiling suspension and lath for plaster was due to start on working day 224 (November 16, 1970). Lack of linear diffusers has held this start.

B4, B6 West Connecting Link - Third Floor - Target completion date -  
April 1, 1971

Based upon a projected link completion date of January 20, 1971 plastering on walls was due to start at working day 224 (November 16, 1970). This work currently lags by one working day over the January 20th date.

B4, B6 East Connecting Link - Third Floor - Target completion date -  
April 1, 1971

Lathing for walls was due to start here on working day 205 (October 20, 1970). This work has not as yet started and currently lags by 21 working days over an anticipated link completion of December 28, 1970.

#### General Summary

An analysis of the current job status shows that one of the most serious potential bottlenecks at the present time is lathing and plastering in the connecting links, particularly at the second, fourth and fifth floors. One major cause for delays to ceiling work has been lack of linear diffusers but nevertheless there are many areas on the project where lathing and plastering could get underway. It is critical that this work not be left until too near the end of the project since there are a large number of individual units that, because of design characteristics, must be built individually, spread large distances throughout the B4, B6 complex.

Again, it should be stressed that the earlier projected completion dates as compared to target completion dates is a factor that gives some of the connecting links adequate time to pick up tempo to meet the target completion dates. However, as pointed out above, delay in these areas tends to bunch up finish trades at the end of the project. The links are bottlenecks geographically and being small in size and strategically located could effectively jam up trade communication at the links and between the main buildings.

I urge that the expediting of any pending changes to any portion of B4, B6 be given high priority. There are some revisions still pending and of course, there still is a hold on the east end of the fifth floor of B4 partitions. This should be released just as quickly as possible or it will not be possible to finish that floor by the projected completion date of the entire B4, B6 complex.

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RALPH J. STEPHENSON  
CONSULTING ENGINEER

Of increasing importance is the detail plan for the move-in of the owner to B4 and B6. By now it certainly must be recognized that some sections, particularly in the connecting links, will not be available for passageway into the new sections. Because of the complexity of the building layout, it will be necessary to plan carefully how the owners' employees are going to be able to gain access to each floor both vertically and horizontally. This matter is of utmost importance.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaisner  
Mr. Floyd Wieland  
Mr. R. Wilkening

RALPH J. STEPHENSON

CONSULTING ENGINEER  
December 7, 1970

**Subject:** Monitoring Report #12  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

**Project:** 70:36

Monitored from Issue #6 dated August 31, 1970

Actions taken:

- Attended sub contractor expediting conference
- Inspected job
- Evaluated project progress

Second Floor

B4 Target completion - January 15, 1971

As of December 1, 1970 finish trades following stud walls continue to increase in importance. Convecter covers now lag by a current 7 working days and marble lags by a current 11 working days. In the case of marble, painting which, in the desired logic plan, followed installation of a portion of the marble, has gone ahead. There is some problem with the fineness of the paint mix but this is being remedied and painting should be able to soon proceed more rapidly provided material is available. Finish trades, including glazing, convecter covers, marble finishes and finish and trim must be expedited to the greatest extent possible.

B6 Target completion - January 15, 1971

Current lagging items in B6 are similar to those in B4. Marble currently lags 8 working days, convecter covers 3 working days and glazing 3 working days. This lag will increase each day the above items show no progress.

B4, B6 Center Connecting Link - Target completion - January 15, 1971

The network being used to monitor shows an anticipated completion of February 3, 1971. The analysis below refers to lags over that date. Ceiling suspension and lath was due to start on working day 216 (November 4, 1970) and had not yet started on December 1, 1970 (working

Second Floor

B4, B6 Center Connecting Link - Target completion - January 15, 1971 (Cont.)

day 234), giving a current lag of approximately 18 working days. This matter is serious since the connecting links are critical to the owner's move-in and occupancy.

The escalator handrail is now available and installation has begun at the second floor.

B4, B6 East Connecting Link - Target completion - January 15, 1971

The lag in wall lathing is currently 24 working days over an anticipated completion of December 21, 1970 (working day 248). This lag pushes the probable completion date past the target.

B4, B6 West Connecting Link - Target completion - January 15, 1971

Currently the lag in work following plastering and ceramic tile is approximately 32 working days over an anticipated completion of November 19, 1970 (working day 227). This lag is currently not sufficient to push the projected end date past the target date of January 15th but immediate steps should be taken to finish work in this link if required to meet the January 15th date.

Fourth Floor

B4 Target completion - January 15, 1971

Taping and sanding of the stud walls was due to be completed on November 17 (working day 225). There still remains work to be done in this trade as of December 1, 1970 which gives a current lag of approximately 9 working days. Other major finishes following stud walls have just barely begun. The current lag in these ranges from 5 to 15 working days.

B6 Target completion - January 15, 1971

Erection of stud walls was due to start on this floor October 30, 1970 (working day 213). As of December 1, 1970 no significant start has been made and the current lag at the B6 fourth floor is approximately 21 working days.

B4, B6 Center Connecting Link - Target completion - January 15, 1971

The current lag at this area over an anticipated completion of January 26, 1971 (working day 272) is approximately 18 working days, primarily in ceiling suspension and lath. This places the projected completion well past the target date of January 15. Lathing and plastering are the critical trades at this level.

Fourth Floor (Cont.)

B4, B6 East Connecting Link - Target completion - January 15, 1971

As of December 1, 1970 lathing has just started on walls. This work was due to start on October 28, 1970 to achieve an anticipated completion of January 7, 1971. The lag is 23 working days which puts the projected completion past the target date of January 15, 1971.

B4, B6 West Connecting Link - Target Completion - January 15, 1971

Ceiling lath and plaster has gotten underway and currently lags the anticipated completion of December 7, 1970 by about 32 working days. This places the projected completion past the target of January 15, 1971.

Fifth Floor

B4 West Target completion - January 15, 1971

As of December 1, 1970 no lag.

B6 Target completion - January 15, 1971

The current lag in ceiling work is about 20 working days. This area will have to be expedited continuously to insure that no further lag occurs.

B4, B6 Center Connecting Link - Target completion - January 15, 1971

Plastering of walls is now underway and currently lags by about 11 working days. This represents a slight pickup over the previous monitoring. However, delivery of linear diffusers may delay installation of ceiling suspension and lath. The lag is over an anticipated completion of February 1, 1971 (working day 276).

B4, B6 East Connecting Link - Target completion - January 15, 1971

Plastering at walls has just gotten underway. The current lag is about 12 working days over an anticipated completion of January 15, 1971 (working day 265).

B4, B6 West Connecting Link - Target completion - January 15, 1971

Plastering of walls is underway and lags currently by about 9 working days over an anticipated completion date of January 15, 1971



First Floor

B6 Target completion - March 15, 1971

As of December 1, 1970 ceiling suspension and gyp board has not yet begun at the first floor area. The current lag taken over a target completion date of March 15th gives a value of 10 working days. This delay could be picked up if gyp board and acoustic starts soon and moves as well as it has on other floors.

There are several matters regarding materials, approvals and field conditions at the first floor that should be settled as quickly as possible since they are all potential delay items. Some of these were discussed in the sub contractor's expediting meeting and I recommend they be reviewed carefully.

B4 Target completion - May 1, 1971

Not monitored at this inspection. Lag as of last monitoring projected at four working days.

B4, B6 Center Connecting Link

Working to an anticipated completion of February 17, 1971 ceiling suspension has not yet started which gives a current lag of 10 working days at this area.

B4, B6 East Connecting Link

Not monitored at this inspection.

B4, B6 West Connecting Link

Not monitored at this inspection.

NOTE: For B4, B6 east and west connecting links, see previous Monitoring Report #11

Third Floor

B4 Target completion - April 1, 1971

As of December 1, 1970, no lag.

B6 Target completion - April 1, 1971

As of December 1, 1970, no lag.

Third Floor (Cont.)

B4, B6 Center Connecting Link - Target completion - April 1, 1971

With an anticipated completion of February 11, 1971, the lag is measured in wall plastering which was due to start on working day 219 (November 9, 1970) but has not yet begun as of December 1, 1970. This gives a current lag of approximately 15 working days. Since the anticipated completion date is well in advance of the target completion, this area is not yet in trouble. However, plastering is growing increasingly critical.

B4, B6 East Connecting Link - Target completion - April 1, 1971

Measured against an anticipated completion of December 29, 1970, the current lag is about 25 working days.

B4, B6 West Connecting Link - Target completion - April 1, 1971

Currently this area is awaiting plastering of walls and lags approximately 10 working days over an anticipated completion of January 21, 1971. The delay measured against the target completion is still not serious.

General Summary

The current job status shows that lathing and plastering in the connecting links, as well as in some areas of the main floor, are still one of the most serious bottlenecks. Also, finish trades are becoming increasingly important since, as pointed out previously, the buildup of tradesmen required if all finishes are delayed to late starts is far more than can be expected on the project. It is important to finish an area to the greatest extent possible and then move out of it so as to avoid this excessive manpower buildup.

In the sub contractor expediting conference, items discussed included painting, electrical work, carpentry work, mechanical and electrical installation, controls, aluminum trades and masonry. In each one of these there were minor as well as some major problems that need quick resolution. The holding of a sub contractor conference each week is a good idea and I recommend this practice continue to insure all sub contractors are fully aware of work to be scheduled and accomplished in the coming week.

I also urge that any unresolved approvals or other items to be accomplished by the owner, the architect and the engineer be cleared away to the greatest extent possible now. The project can no longer afford any administrative delays.

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Burroughs Home Office Facility Remodeling  
Detroit, Michigan  
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RALPH J. STEPHENSON  
CONSULTING ENGINEER

The matter of vertical transportation is one that has become very critical over the last few weeks. It is increasingly apparent that certain areas, particularly at the connecting links and on some main floors, due for a delivery of January 15, 1971 are going to be delayed past that date. Recognition should be given these areas and a concentration of effort placed in the trouble spots.

Currently, all areas in B4, B6 have been diagrammed and either computed by electronic data processing or by hand. The B9 building has been planned with the use of a summary network. This information has been given to the Barton Malow field staff who have passed it along to the owner. It should be emphasized that the starting point of the B9 work will depend completely on the owner's move into the B4, B6 area.

As pointed out in monitoring #11, certain sections, particularly in the connecting links may not be totally available for passageway into the new sections. Thus, the owner's traffic pattern should be planned carefully both vertically and horizontally to avoid excessive and costly intermingling of owner's and construction traffic.

The fifth floor east end has now been released up to start of finish trades. I caution that a clear definition be established as to what work is to be done so all contractors and sub contractors are working to the same set of standards. A partial release on finishes is sometimes difficult to interpret insofar as scope of work is concerned.

Another item of importance on the staged move-in is access of all sub contractors to the project. It is realized that partitions must be installed in certain areas that will severely limit, in some cases, access to the floors by contractual forces.

At the sub contractor's conference, it was mentioned there was a 16 week delivery on grills at the computer room areas. This is a potential holdup and should be followed through immediately. There also has been some difficulty with routing of sprinkler lines. This matter is being taken care of presently. Installation of controls on the mechanical and electrical systems now that the owner's move-in is approaching is also a serious item and must be paid special attention so that proper balancing within the limits available of the systems can be accomplished.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaiser  
Mr. Floyd Wieland  
Mr. R. Wilkening

RALPH J. STEPHENSON

CONSULTING ENGINEER  
December 17, 1970

Subject: Monitoring Report #13

Burroughs Home Office Facility Remodeling, Detroit, Michigan

Project: 70:36

Date of Monitoring: December 15, 1970 (Working day 244)

Monitored from Issue #6 dated August 31, 1970

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

As of this monitoring we will compare progress to a revised set of target end dates from those previously used. The new dates represent points at which the owner is planning to move into the areas as designated. In the evaluation below, the new target dates are used for analysis and the current job condition is measured against these revised dates. The sequence of listing corresponds to the listing as issued by the Burroughs Company is arranged in ascending order of occupancy dates.

B4, B6 West Link, First Floor Target - January 23, 1971

This area is being used as a construction entry into the building and little, if any, finish work has been started. The network shows a projected lag over the January 23rd delivery date of approximately 24 working days. If the west entry is to be finished off in its entirety and used as a major entrance, finish work there must begin immediately.

*(Will be closed in)  
w/ light only* 12/3-4.

B4 Lobby, First Floor Target - January 23, 1971

The lag at the first floor is currently about ten working days in the main B4 unit at the middle area and about 36 working days in the center connecting link (for delivery January 23rd). However, if only limited portions of the two areas are to be used for access to the building, these could be concentrated upon now and finished off for such access, allowing construction to proceed in adjoining areas at the main floor and center link. All center links tend to be

B4 Lobby, First Floor Target - January 23, 1971 (continued)

the major bottlenecks on the project. This is particularly true at the first floor where major access is had to the building.

Although provisions are now being made for transferring location of vertical transportation routes, it should be kept in mind that some method of gaining construction access to the building vertically is going to be essential as the owner progressively takes over.

B4 West Second Floor Target - January 23, 1971

Work here is good and no projected lag exists. Interior finishes and painting should be expedited to the fullest extent so the floor is completed just as quickly as possible. Because some out-of-sequence actions are necessary, heavy attention should be given this area, along with B6 second floor.

A very important item on these area floors is approval of the marble mockup. ~~There has been some problem resolving the size of joint to be used and a decision on this by the owner is critical. Also, as on other floors, convector covers are a major finish trim item, and although it is estimated that only five working days per floor per unit will be required to complete these, they should be started just as quickly as possible. Painting and approval of material has been resolved as of today and no delays due to paint selection are expected from here to the end of the work in B4 B6.~~

B6 West Second Floor Target - January 23, 1971

Projected lag is about four working days and is concentrated in interior finishes. With approval of marble, release of paint sample and start of convector cover installation, it is possible that this time can be picked up. These items are critical to completion of the entire second floor.

B4 East Second Floor Target - January 30, 1971

No lag currently. Comments generally same as above for B6 west.

B6 East Second Floor Target - January 30, 1971

No current lag. Comments, generally same as for B6 west.

B4 East Fourth Floor Target - February 13, 1971

Current lag is approximately one working day, primarily in finishes to walls and in other areas.

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Burroughs Home Office Facility Remodeling  
Detroit, Michigan  
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RALPH J. STEPHENSON  
CONSULTING ENGINEER

B6 East Fourth Floor Target - February 13, 1971

Current lag is approximately one working day. Same comments here as for B4 East Fourth Floor.

There is currently a hold on the wall along column line H at column line 12 through 16. This should be resolved and clarified immediately so it does not become a delaying factor to occupancy of the floor. *(Hold released 12/27/70)*

B4 West Fourth Floor Target - February 20, 1971

No current lag. However, finishes are running very tight to scheduled completion dates and should be moved rapidly.

B6 West Fourth Floor Target - February 20, 1971

No current lag. It should be pointed out that the floor plan at the cafeteria is designed to temporarily accommodate these facilities. It also should be mentioned that there still is a delay on approval of construction at the exterior wall along column line H, between column lines 12 and 16. This should be resolved as quickly as possible so there are no pending matters of design approval, particularly for early delivery floors.

*12/20/70 Not resolved*

B4 Third Floor Target - March 20, 1971 and March 27, 1971

No current lag.

B6 Third Floor Target - March 20, 1971 and March 27, 1971

No current lag.

B4 West Fifth Floor Target - April 3, 1971

No current lag.

B6 West Fifth Floor Target - April 3, 1971

No current lag.

B6 East Fifth Floor Target - April 10, 1971

No current lag.

B6 West First Floor Target - April 17, 1971

Currently this area is on schedule, in accordance with the revised completion date. However, a release to proceed with construction at the hospital area has not as yet been received by Barton Malow. This is a sizable sector of the floor and from now on any delay in releasing the work can be expected to result in a corresponding lag on floor construction. I suggest the matter be concentrated on immediately. *Hospital release (12/30/70) on 11/24/70*

The first floor of both B4 and B6 will tend to be problems because they are the major access routes in and out of the building. Careful planning will have to be done by all contractors as well as the owner to insure proper and efficient traffic flow during partial occupancy and throughout construction.

B6 East First Floor Target - April 17, 1971

No current lag. Ceiling work has started and should proceed rapidly from here on. There has been some discussion about sprinkler problems in the overall first floor areas. If such problems exist, they should be cleared immediately so no delay to ceiling installation will occur. *12/30/70 Sprinkler being corrected*

B4 West First Floor Target - May 1, 1971

Current lag here is approximately fifteen working days. This, along with the B6 First Floor, is very tight and critical. Ceiling suspension has just begun and every effort will have to be made to clear the area so effective work can move in a continuous fashion. There still are problems with mechanical trades but if the floor can be made available for full working operations, it is possible these difficulties can be minimized.

B4 East First Floor Target - May 1, 1971

Same comments as for B4 West First Floor.

B6 East First Floor Target - May 1, 1971

No lag here currently.

General Comments

Current problem areas include release of the wall on B6 Fourth Floor, column line H between column lines 12 and 16; approval of a go-ahead on revisions to

General Comments (continued)

the hospital area at the first floor; concentration of efforts on finish work in the center connecting links; completion of the entrance at the B4 - B6 west connecting link; completion of vertical transportation adequate to handle the staged move-in; approval of marble setting pattern; installation of convector covers; and absolute and total expediting control over all products, materials and other items needed on the job in this critical period from now through the start of partial move-in on January 23, 1971.

The project is at a most critical phase since it is essential to complete floors in staged fashion to allow progressive move-in. Comments above are predicated upon a revised set of completion dates as specified and are those given by the owner as their move-in points.

Notice B4 Fifth Floor East End has not been included in the analysis since this area is still not released. The owner's specified target occupancy date on this area is May 1, 1971. However, it is not possible with the present status of the work and design to consider May 1st a realistic move-in date. I suggest the target completion for the B4 Fifth Floor East End be held until more information is available.

*reword*

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaisner  
Mr. Floyd Wieland  
Mr. R. Wilkening



RALPH J. STEPHENSON

CONSULTING ENGINEER  
December 23, 1970

**Subject:** Monitoring Report #14  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

**Project:** 70:36

**Date of Monitoring:** December 19, 1970 (Working day 241)

**Monitored from:** B9 Unit, Issue B2

Actions taken:

- Revised network and bar chart translation for Unit B9 with H. Kaiser

General

At this meeting we re-evaluated the Unit B9 network diagram from start of demolition on through to completion of construction at the first floor of B9. Demolition for B9 is assumed to start on April 1, 1971. Concurrently with this, the concrete building at the east end of B9 will be removed. The two units are rebuilt together with precast panels and general close-in is moving along about the same time.

The pattern of interior work for the unit will be similar to that in Units B4 and B6. Sequence of work is projected from the fifth floor down, finishing at the first floor in the current plan. The fifth floor is due to be completed near the first of February 1972 with the end of the project presently anticipated near the end of April 1972.

The network, as it stands presently, is translated into a summary bar chart which will be used as a guide in evaluating early work. It will be necessary, according to Mr. Kaiser, to have more complete working drawings than presently available once we have moved past demolition, precast erection and spray-on fireproofing. It is critical that these drawings be completed just as soon as possible since the long lead times experienced on B4/B6 make it desirable to get orders in early and have materials scheduled tightly into the job so that the delays due to late deliveries are not experienced.

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RALPH J. STEPHENSON  
CONSULTING ENGINEER

Precast erection is due to start about the middle of June and therefore, close-in can be expected about early fall. This means all interior materials for this unit should be decided upon and placed on order just as quickly as possible. I stress the importance of completing whatever working drawings are needed for the building as quickly as possible.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaiser  
Mr. Floyd Wieland  
Mr. R. Wilkening

RALPH J. STEPHENSON

CONSULTING ENGINEER

January 7, 1971

Subject: Monitoring Report #15  
Burroughs Home Office Facility Remodeling  
Detroit, Michigan

Project: 70:36

Date of Monitoring: December 30, 1970 (Working day 254)

Monitored from Issue #6 dated August 31, 1970

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

This monitoring, as did the previous monitoring dated December 15, 1970, will compare progress to current target end dates on which the owner is planning to move into the designated areas. The sequence is the preliminary move-in schedule as set by the owner's memo dated November 30, 1970.

B4, B6 West Link First Floor Target - January 23, 1971

The west link is still being used as a construction entry into the building and no major finish work has started. Apparently this sector of the project, which will be the entry point for those coming from the parking lot to the west, will merely be rough finished with temporary protection so that people can enter and move to upper floors at this point.

B4 Lobby, First Floor Target - January 23, 1971

The lobby area, as with the west link, will be provided with temporary facilities to allow safe passage of employees.

B4 Lobby, First Floor Target - January 23, 1971  
(Continued)

The center connecting link at the first floor is still in the plastering stage and it appears currently that about 50 to 60 working days (10 to 12 weeks) may be required to complete unless work there is intensified considerably. This would bring completion of the link to the middle or end of March. As has been stressed in previous reports, it is important that all parties to the project understand and make accommodations for the necessary traffic patterns generated by partial occupancy of the building.

B4 West Second Floor Target - January 23, 1971

This area is still in reasonably good shape with no current lag existing. Convector covers have been started and it is anticipated that once the sequence has been established, covers can be installed at the rate of one building (B4 or B6) in 3 working days per floor. Marble floor finishes have been eliminated in B offices in favor of a vinyl floor finish and this should assist in saving some time. The substitution of vinyl for marble is at all floors.

There have been some additional questions about paint finishes and I urge this matter be resolved immediately since it affects a trade critical to completion of the finishes.

B6 West Second Floor Target - January 23, 1971

Currently this area shows a slight gain over the last monitoring and no lag is projected here at present. However, it will be critical to keep work moving on installation of finishes to achieve current target dates.

B4 East Second Floor Target - January 30, 1971

No current lag. Comments generally the same as for B4 West.

B6 East Second Floor Target - January 30, 1971

No current lag. Comments generally the same as for B6 West. The second floor east, center and west connecting link progress was evaluated in relation to their availability on the anticipated target dates. Currently, the west link lags by about 8 working days over an occupancy of January 23, 1971. The center link

B6 East Second Floor Target - January 30, 1971  
(Continued)

lags by almost 32 working days over an occupancy date of January 30, 1971 and the east link lags by 23 working days over a January 30, 1971 target date. These lags are critical since it is not certain that the time loss can be recaptured. There has been little, if any, progress in these areas since the last monitoring and as a result they have now become extremely critical. It was hoped intensification of plastering work on the job would allow the second floor links to be brought back in reasonable alignment with the network.

I suggest immediate steps be taken to expedite all finish work at the three connecting links on the second floor.

B4 East Fourth Floor Target - February 13, 1971

No current lag at this area.

B6 East Fourth Floor Target - February 13, 1971

The current lag is approximately 7 working days, an increase in behind-time over the last monitoring.

The hold on column line H at column line 12 through 16 was released on December 23, 1970.

B4 West Fourth Floor Target - February 20, 1971

No current lag. Finishes must be expedited at this area to meet the current target date.

B6 West Fourth Floor Target - February 20, 1971

Current lag here is approximately two working days, a slight slowing of progress from floor status at the last monitoring.

The east and center links at the third floor lag by approximately 15 working days. Since the connecting links are prime access points for floor areas, it is emphasized again that these areas must be expedited if proper occupancy of the floors is to be made.

B4 Third Floor Target - March 20, 1971 and March 27, 1971

No current lag.

B6 Third Floor Target - March 20, 1971 and March 27, 1971

No current lag. However, this area has reached a point where if work progress is not maintained at a steady pace from here on, lags will appear soon in the work progress.

B4 West Fifth Floor Target - April 3, 1971

No current lag.

B6 West Fifth Floor Target - April 3, 1971

No current lag.

B6 East Fifth Floor Target - April 10, 1971

No current lag.

B6 West First Floor Target - April 17, 1971

Currently this area lags from 10 to 15 working days over a completion date of April 17. The hospital area has been released and there are currently no holdups to work on this floor insofar as design decisions are concerned. The area is still being used as a storage floor and it will be critical to clean out the entire section in the near future so as to maintain continuous work progress.

First floor areas will have to recognize interference inasmuch that it is a key position so far as access to the job is concerned. As stated in Monitoring Report #13, careful planning will be necessary to assure proper traffic flow during partial occupancy.

B6 East First Floor Target - April 17, 1971

Current lag is approximately 10 to 15 working days. Same comments generally apply here as for B6 West First Floor.

The area to be released on April 17, 1971 is the purchasing section. The remainder of the east first floor in B6 is scheduled for a May 1st release.

B4 West First Floor Target - May 1, 1971

Current lag is approximately 14 working days, about the same as reported at the last monitoring. This area is critical and it will be necessary to move all work at the first floor of the project much more quickly than it is moving at present to maintain occupancy schedules.

B4 East First Floor Target - May 1, 1971

Same comments as for B4 West First Floor.

B6 East First Floor Target - May 1, 1971

Current lag is 5 working days, an increase over the zero lag reported in Monitoring Report #13

General Comments

Current lags on the job range from 5 - 7 working days on through to as high as 30 - 35 working days. Major delays at present are on the entire first floor both both B4 and B6, including the connecting links, and on upper floor connecting links, particularly at the center on the second and fourth floors which are early occupancy areas. The major trade needing expediting on these links, particularly at the center, is lathing and plastering.

Another trade of concern now is that of the passenger elevators. Platforms have been installed and most frames set. Cab work to follow along with controls is a long time task and should be started immediately.

The B4 Fifth Floor east end has not been included in this analysis since the area is now in work and will be constructed to the extent outlined in the present design documents. It does not appear presently that any difficulty will be encountered in finishing work to the information available at this time on the area by May 1, 1971.

Remaining architectural and finish trades will wait on issuance of final finish drawings for executive areas.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaisner  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

RALPH J. STEPHENSON  
CONSULTING ENGINEER  
January 16, 1971

Subject: Monitoring Report #16  
Burroughs Home Office Facility, Detroit, Michigan

Project: 70:36

Date of Monitoring: January 13, 1971 (Working day 263)

Monitored from Issue #6 dated August 31, 1970

Report dictated January 14, 1971

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

Heavy efforts are being exerted at the first and second floors to allow the owners' move-in to be initiated as presently scheduled. It will be important to properly coordinate finish work that can be put in place now at the first floor, along with provision of safe and acceptable temporary access corridors, and to concurrently clean up and turn over those second floor areas the owner is going to accept and occupy. The turnover procedure should start immediately so that minimal interference to move-in traffic is encountered when the actual take-over begins.

B4, B6 West Link First Floor Target - January 23, 1971

Extensive work is being done at the west link and the sheltered walkway in the west courtyard between the two buildings. It appears that if the present pace can be maintained an access through this section of the building can be provided by January 23, 1971.

B4 Lobby, First Floor Target - January 23, 1971

Terrazzo is now being placed in the vestibule and lobby and an extremely heavy concentration of work forces is allocated to this sector of the building. The intent is to provide access through the lobby area to a temporary reception desk from which visitors and occupants of the building can move to stairways up at the center connecting link between B4 and B6. It should be understood that the escalator area of the center connecting link will not be available for occupancy on January 23rd. Stairway access is to be through a temporary corridor.



B4 West Second Floor Target - January 23, 1971

Cleaning of floor tile has begun and final finishing is in work. There is a slight one day lag on this area at the present time, primarily in installation of convector covers. This work will have to be picked up considerably in tempo and volume of material delivery. However, the total area is close enough to completion so no major problems should delay occupying this portion of the building. Apparently the paint finish problem now has been resolved.

B6 West Second Floor Target - January 23, 1971

This early occupancy area has slipped slightly and now shows a lag of about one week. However, as with the B4 second floor, the time can be picked up rapidly if a concentrated effort is made since lags are in finish work that could be compressed. I suggest a careful evaluation be made of the target date and work status here to insure if extra attention is needed, it be given immediately.

B4 East Second Floor Target - January 30, 1971

No current lag. Comments generally the same as for B4 West.

B6 East Second Floor Target - January 30, 1971

The lag here is about one working day over the present target date. Comments, however, are generally the same as for B6 West Second Floor.

B4, B6 Second Floor Connecting Links Targets - January 23, 1971 and January 30, 1971

The west connecting link lags by about 8 working days over January 23. The center connecting link lags by 15 working days over January 30 and the east connecting link lags by 25 - 28 working days over January 30. These lags, particularly in the east and center connecting links are serious. There is still considerable work to do and unless a heavy work pattern is initiated immediately these areas will not be completed until sometime after major occupancy of the floor. It is doubtful at the present time if enough compression of the remaining work to be done in these links, with the exception of at the west, can be made to achieve the current target. I suggest, however, for ease in occupancy of the floors and for minimal interference to work subsequent to the first two move-ins that every effort be made to get the links into occupiable shape.

B4 East Fourth Floor Target - February 13, 1971

No current lag at this area. However, ahead-time has diminished over the last two weeks.

B6 East Fourth Floor Target - February 13, 1971

The current lag at this floor has been reduced to approximately two working days, an improvement over the last monitoring.

B4 West Fourth Floor Target - February 20, 1971

No current lag. However, a slight loss in ahead-time is noted here.

B6 West Fourth Floor Target - February 20, 1971

No current lag. This is a slight improvement over the situation reported in the last monitoring.

B4, B6 Fourth Floor Connecting Links Targets - Feb. 13, 1971 and Feb. 20, 1971

The west connecting link shows no lag, the center connecting link is approximately 25 working days behind and the east connecting link is approximately 17 working days behind. All connecting links at the fourth floor show a dropoff in progress over the last two weeks.

Lags at the east and center connecting links at the second floor are most serious. These areas will have to be worked on more intensively to accomplish completion dates near the targets. I suggest that consideration of owner traffic flows on the fourth floor be made assuming the center and east links will not be available until sometime after the initial occupancy of the fourth floor.

B4 Third Floor Targets - March 20, 1971 and March 27, 1971

No current lag. Slight loss of ahead-time since last monitoring.

B6 Third Floor Target - March 20, 1971 and March 27, 1971

Current lag is about two working days. This is a slight dropoff from the last monitoring and the floor should be watched carefully since if steps are not taken to pick up the work pace on installation of finishes, the lag could increase rapidly.

B4, B6 Third Floor Connecting Links Target - March 27, 1971

No current lag. However, all three links are getting close to late start/late finish dates. More detailed evaluation will be made of this area at the next monitoring.

B4 West Fifth Floor Target - April 3, 1971

No current lag.

B6 West Fifth Floor Target - April 3, 1971

No current lag.

B6 East Fifth Floor Target - April 10, 1971

No current lag.

B4, B6 Fifth Floor Connecting Links Targets - April 3, 1971 and April 10, 1971

No current lag.

B4 East Fifth Floor Target - not yet defined

The B4 east fifth floor can now be carried up to a finished work condition in accordance with the recently received working drawings and specifications.

All parties should be aware that the traffic pattern into the east half of the B4 Fifth Floor will have to be maintained from the connecting links between B6 and B9. Therefore, any occupancy should be based upon the fact that men and material used in construction of the east end of B4 at the fifth floor will be provided through the east connecting link corridor.

B6 West First Floor Target - April 17, 1971

Currently the lag at this area has increased to approximately 25 working days over a completion date of April 17, 1971. There still are some design detail holdups to proceeding full tilt on the floor. These should be resolved so immediate work can be initiated.

The first floor area of B4 and B6 continue losing ground. This undoubtedly is related to the more distant completion target on these areas than for the upper floors. However, the work to be done is still there and if adherence to present target dates is desired, then an immediate increase in pace and a turn-around in lost time gain will have to be established.

B6 East First Floor Target - April 17, 1971

Current lag has increased to approximately 25 working days. The same comments generally apply here as to B6 West First Floor.

B4 West First Floor Target - May 1, 1971

The current lag has increased to approximately 20 working days and general comments for B6 apply here.

B4 East First Floor Target - May 1, 1971

Same comments as for B4 West First Floor.

B6 East First Floor Target - May 1, 1971

The current lag in the computer area is about 15 working days. The same comments apply here as for other B6 first floor areas.

Summary

The project over the last two weeks has shown a slight pickup in some critical areas. These pickups deal mainly with bringing work into line so that the easier finish trades can be expedited and completed on a heavily concurrent basis. Of strong concern is still the providing and installing of convactor covers at the second and fourth floors, work on the connecting links at the second and fourth floors and the crash program work now being done on the first floor access points.

It appears, in my evaluation at the present time, that the initial move-in date of January 23, 1971 on second floor areas can be met provided a careful and cooperative cleanup and acceptance procedure is initiated immediately. This is a critical point in the job.

Another element of concern is passenger elevator work progress. Some installation has started on the cabs and there has been a slight bit of progress since the last monitoring. However, it does not appear presently that this progress is sufficient so that we can comfortably assume we will meet our targets for turnover of this passenger elevator bank. It would be appropriate to investigate the proposed work schedule for the elevator in detail at this time. This will be done.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaisner  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

RALPH J. STEPHENSON  
CONSULTING ENGINEER  
January 30, 1971

Subject: Monitoring Report #17

Burrroughs Home Office Facility, Detroit, Michigan

Project: 70:36

Date of Monitoring: January 26, 1971 (Working day 272)

Monitored from Issue #6 dated August 31, 1970

Report dictated January 28, 1971

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

Work continues on readying the first and second floors of B4 and B6 for occupancy. The target dates as noted below, established by the owner's memo dated November 30, 1970, have been revised slightly insofar as some of the initial move-ins are concerned. Most dates, however, are being kept as targets. The exceptionally cold weather of last week delayed some of the make-ready work for initial occupancy, particularly where entrances adjoin outside areas.

B4, B6      West Link      First Floor      Target - January 23, 1971

The sheltered walkway at the west link is enclosed and additional finish work is being installed for access from the west end of the building. The required condition of this passageway for temporary access is being determined on a day to day basis by field management forces. It is expected that some move-in can start the week end of January 30th. If so, this area must be ready for foot traffic at that time.

B4 Lobby, First Floor. Target - January 23, 1971

Terrazzo has been placed and ceiling suspension is almost ready for lathing. The heavy concentration of work in this portion of the building continues although it appears doubtful that the area can be completed in time for full occupancy on January 30th. The scope of work expected for initial move-in is being determined by day to day field management in conferences with the owner and the architect.

B4 West Second Floor Target - January 23, 1971

Move-in to this area is expected to be able to start January 30, 1971. Some slight work remains to be done on partitions that have been revised in late bulletin work.

B6 West Second Floor Target - January 23, 1971

Same comments as for B4 West Second Floor.

B4 East Second Floor Target - January 30, 1971

Comments same as for B4 West Second Floor.

B6 East Second Floor Target - January 30, 1971

Comments generally the same as for B4 West Second Floor.

B4, B6 Center Floor Connecting Links

The west connecting link still lags slightly but is expected to be available with the remainder of the floor on January 30, 1971. East connecting link work was deferred while telephone cable was being pulled. There is considerable work yet to do and the current lag shows as being from 30 to 35 working days behind the target of January 30, 1971. If a heavy concentration of effort was placed on this area, it could be delivered with less lag if needed.

The center connecting link lags by 20 working days and it appears that work here has begun to pick up in tempo. All the way up in the building, center connecting links are behind but recognition of this fact has been made and temporary protection to floor access points at the center link is being made.

Some discussion has been held that center connecting links will be done in 12 weeks from February 1, 1971. This brings completion near the end of April which should be possible taking into consideration current lags on the project.

B4 East Fourth Floor Target - February 13, 1971

No current lag at this area. Ahead time, however, continues to diminish and is now at a point where within one week the area will lag late start/late finish dates if the work tempo is not increased.

B6 East Fourth Floor Target - February 13, 1971

No current lag, with some improvement in performance since last monitoring.

B4 West Fourth Floor Target - February 20, 1971

No current lag. However, a slight loss of ahead-time over last monitoring has appeared.

B6 West Fourth Floor Target - February 20, 1971

Current lag here is about one working day - a slight loss over last monitoring. However, this time can be picked up easily if necessary.

B4, B6 Fourth Floor Connecting Links Targets - February 13, 1971  
February 20, 1971

The west connecting link shows no lag. The center connecting link lags by about 38 working days and the east connecting link is approximately 26 working days behind. The center and east connecting links show a distinct loss over the last monitoring. Since these are critical areas, attention must be paid them immediately if the restated target dates are to be met. The target on the connecting link, for instance, was February 13, 1971 (working day 286). A lag of 38 working days at the link added to the target date gives working day 324 which is April 8, 1971. This appears to be within the limits now being considered for completion of the total escalator lobby of 12 weeks as discussed above.

B4 Third Floor Targets - March 20, 1971  
March 27, 1971

No current lag. A slight loss in ahead-time over the last monitoring and the one before that is noted.

B6 Third Floor Targets - March 20, 1971  
March 27, 1971

Current lag at the B6 Third Floor is 3 working days. This area is holding steady now but work should be watched so that it does not get too far behind.

B4, B6 Third Floor Connecting Links Target - March 27, 1971

No current lag. All three links continue to have a decreasing ahead-time situation, however, and within a week the areas will begin to drop behind late start/late finish dates.

B4 West Fifth Floor Target - April 3, 1971

No current lag.

B6 West Fifth Floor Target - April 3, 1971

No current lag.

B6 East Fifth Floor Target - April 10, 1971

No current lag.

B4, B6 Fifth Floor Connecting Links Targets - April 3, 1971  
April 10, 1971

No current lag.

B4 East Fifth Floor

No substantial amount of work has been done in this area over the past two weeks. The area could get critical quickly if there is a demand to use it for some temporary purpose. Therefore, every effort should be made to install all materials that appear as a part of the present job scope. We have not set any final target date on this floor yet.

B6 West First Floor Target - April 17, 1971

Current lag here is 39 working days. These first floor areas continue to be critical and are presently one of the major concerns insofar as job progress is concerned on the project. (See Monitoring Report #16 for remarks).

B6 East First Floor Target - April 17, 1971

This area is now 29 working days back of the network plan work. Generally, comments for this area are the same as for B6 West First Floor.



B4 West First Floor

Target - May 1, 1971

Current lag is approximately 26 working days. This is an increase in behind-time of about 6 working days over the last monitoring. As with B6, this first floor lag must be corrected as quickly as possible since the first floor is critical.

B4 East First Floor

Target - May 1, 1971

Same comments as for B4 West First Floor.

B6 East First Floor (Computer Area)

The current lag in the computer area has increased to approximately 29 working days. Same comments as for other first floor areas.

#### Summary

The project over the past two weeks shows a general stable condition with respect to most areas. However, at the first floor lags continue to increase as well as at the second and fourth floor center connecting links. These are perhaps the most critical of all sectors of the building.

Passenger elevator work appears to have picked up slightly and cabs are being installed at the present time.

The turnover of the project is anticipated by field management to be possible starting at the entire second floor on January 30, 1971, provided a well coordinated punch list procedure is followed. If this initial move can be made in a minimum of delay and confusion, subsequent turnover should be more easily accomplished.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaimser  
Mr. Floyd Wieland  
Mr. R. M. Villanov

RALPH J. STEPHENSON

CONSULTING ENGINEER

March 4, 1971

Subject: Monitoring Report #18

Burroughs Home Office Facility, Detroit, Michigan

Project: 70:36

Dates of Monitoring: February 23, 1971 (Working day 292)  
February 25, 1971 (Working day 294)

Monitored from Issue #6 dated August 31, 1970

Report dictated March 1, 1971

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

As of February 25, 1971 the owner has not yet fully occupied any spaces on the job. The second floor of B4 is now locked to all trades except those punching out and cleaning up.

Preparation of the main entrance at the first floor lobby continues intensively with plastering of ceilings and grinding of terrazzo in work at present. Access corridors to the upper floors can be provided by the contractors when needed for owner occupancy.

B4, B6 West Link First Floor

Entrances to the project at the first floor are to be provided based upon day to day conferences between the field management forces. Foot traffic could now be moved into the project.

B4 Lobby First Floor

Heavy concentration of activity continues in this area with putty coating of the ceiling and grinding of terrazzo now underway.

B4 West Second Floor

The B4 second floor has been substantially completed and is now locked to construction trades.

B6 West Second Floor

This area is practically complete and cleaning could start immediately.

B4 East Second Floor

Comments same as for B4 West Second Floor, above.

B6 East Second Floor

Comments same as for B6 West Second Floor, above.

B4, B6 Second Floor Connecting Links

The west connecting link is substantially complete except for minor trim and cleanup. This work could be finished comfortably along with cleaning of B6 Second Floor. At the center connecting link, plastering is finished and trim work is now starting along with painting and finish work at the escalator. The east connecting link still must be putty coated at the wall surfaces.

Lags in the center and east connecting links are such that there is generally from 10 to 20 working days more to do in them.

B4 East Fourth Floor Target - February 13, 1971

The current lag is approximately 13 working days behind the target date.

B6 East Fourth Floor Target - February 13, 1971

The lag has increased to approximately 18 working days over the past month. Very little progress appears to have been made in this period and if the fourth floor is expected to be occupied soon, heavy effort must be concentrated both here and in B4 immediately.

B4 West Fourth Floor Target - February 20, 1971

Same comments as for B4 East Fourth Floor, above.

B6 West Fourth Floor Target - February 20, 1971

Same comments as for B6 East Fourth Floor, above.

B4, B6 Fourth Floor Connecting Links                      Targets - February 13, 1971  
February 20, 1971

The west connecting link lags the target date by about 12 working days. The center connecting link lags by about 28 working days and the east connecting link lags by about 39 working days. As with the main floors, if occupancy of the areas is to be expected in the near future, immediate pinpointing of effort on this floor is essential.

The project is at a point where a tendency exists to distribute forces widely throughout the project and thus, lose the benefit of concentrated work efforts in the most critical areas. If a staged occupancy is expected, the sequence of floors to be occupied must be spelled out definitively and a procedure be followed to work each floor in its given order.

B4 Third Floor    Targets - March 20, 1971  
March 27, 1971

No current lag. However, the floor continues to lose its ahead time and has now slipped to a point where it is only seven working days ahead of late starts/late finishes.

B6 Third Floor    Targets - March 20, 1971  
March 27, 1971

Considerable time has been lost at the B6 third floor over the last month. The floor had steadied out as of January 26, 1971 but has lost sufficient time in the last month to bring its lag there now to 22 working days. This is very serious and could affect move-in dates.

B4, B6 Third Floor Connecting Links                      Target - March 27, 1971

The west connecting link lags by about 11 working days. The center connecting link is maintaining an on-schedule pace although it is tight and the east connecting link now lags by about 9 working days. All three links are at a point where they must be worked on concurrently with the main floor areas or they will not be completed concurrently.

B4 West Fifth Floor    Target - April 3, 1971

This area shows no current lag although the ahead time has decreased to 13 working days from a position of 31 working days as of January 26, 1971. This slip is one that should be watched and work there should be started as soon as forces are available.

RALPH J. STEPHENSON

CONSULTING ENGINEER

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B6 West Fifth Floor Target - April 3, 1971

The ahead time here is approximately 7 working days over late start/late finishes. This is a sizable loss since the last monitoring. It appears that little, if any, work has been done on this floor over the last month.

B6 East Fifth Floor Target - April 10, 1971

No current lag.

B4, B6 Fifth Floor Connecting Links Targets - April 3, 1971  
April 10, 1971

The west and east connecting links at this floor are in reasonably good shape showing little, if any, lag. However, the center connecting link is now 19 working days behind the monitoring network, aiming at the target of April 3, 1971

B4 East Fifth Floor

Little work appears to have been done here except in sheet metal work over the past month.

B6 West First Floor Target - April 17, 1971

The current lag has increased to approximately 58 working days. This is a large loss over the monitoring of January 26, 1971, and is most serious. First floor areas have now become as critical or more critical than the upper floors.

B6 East First Floor Target - April 17, 1971

This area is now 45 working days back of the network plan dates. Comments here, same generally as for the B6 West First Floor.

B4 West First Floor Target - May 1, 1971

Current lag is approximately 52 working days. This is an increase in the behind-time over the last monitoring.

B4 East First Floor Target - May 1, 1971

Same comments as for B4 West First Floor.

B6 East First Floor (Computer Area)

The current lag in the computer area has increased to approximately 45 working days. Same general comments as for other first floor areas.

RALPH J. STEPHENSON

CONSULTING ENGINEER

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Summary

The project over the past month shows a tendency to lose time in critical portions of the job.

The owner has not as yet occupied any space permanently in the building but it is anticipated his move-in will be intensified over the next several weeks.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaiser  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

RALPH J. STEPHENSON  
CONSULTING ENGINEER

March 29, 1971

Subject: Monitoring Report #19  
Burroughs Home Office Facility, Detroit, Michigan

Project: 70:36

Dates of Monitoring: March 9, 1971 (working day 302)  
March 23, 1971 (working day 312)

Monitored from Issue #6 dated August 31, 1970

Report dictated March 24, 1971

Actions taken:

- Inspected project
- Conferred with Barton Malow personnel re job progress
- Evaluated job progress

General

The project was monitored on March 9th and March 23rd. The March 9th report was delivered in a conference with Barton Malow personnel at the job site on March 11, 1971. Observations from both monitorings, March 9th and March 23rd, are combined in this report.

As of March 24, 1971, the owner has laid some carpet on the second floor and has moved in a small amount of furniture at this level. However, the owner has not, as yet, taken full occupancy.

Following is a summary of the lags over stated target dates as of March 9th and March 23rd, 1971.

Monitoring Report #19  
 Burroughs Home Office Facility Remodeling  
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RALPH J. STEPHENSON  
 CONSULTING ENGINEER

*Current log  
 as of  
 4/15/71*

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current as of 3-9-71 (working days)	Current as of 3-23-71 (working days)	
<b>First Floor</b>				
B4, West	5-1-71	62	72	- 89
B4, East	(working day 86)			
B6, East Computer area	5-1-71 (working day 86)	53	63	- 80
B6, West	4-17-71	63	73	- 90
B6, East Purchasing	(working day 76)			
Center Connect- ing link	5-1-71 (working day 86)	13	22	- 25
East Connect- ing link	5-1-71 (working day 86)	16	25	- 41

\* \* \* \* \*

**Second Floor**

Main floor areas B4		Complete		-
Main floor areas B6		Substantially complete - ready for final cleanup and owner move-in		-
Center Connect- ing link	1-30-71 (working day 21)	41	42	- 54
West Connect- ing link	1-23-71 (working day 16)	36	42	Substant comp
East Connect- ing link	1-30-71 (working day 21)	36	40	Substant comp.

\* \* \* \* \*

**Third Floor**

B4	3-20-71 and 3-27-71 (working days 56 & 61)	0	9	- 20
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*Current  
 log as of  
 4/15/71*

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current as of 3-9-71 (working days)	Current as of 3-23-71 (working days)	
<u>Third Floor (Continued)</u>				
B6	3-20-71 and 3-27-71 (working days 56 & 61)	24	26	- 39
West Connect- ing link	3-27-71 (working day 61)	17	14	- 19
Center Connect- ing link	3-27-71 (working day 61)	5	9	- 20
East Connect- ing link	3-27-71 (working day 61)	18	16	- 25
* * * * *				

Fourth Floor

B4, West	2-20-71 (working day 36)	17	27	<i>Substant comp</i>
B4, East	2-13-71 (working day 31)	22	32	<i>Substant comp</i>
B6, West	2-20-71 (working day 36)	17	27	<i>Substant comp</i>
B6, East	2-13-71 (working day 31)	22	32	<i>Substant comp</i>
West Connect- ing link	2-20-71 (working day 36)	15	29	<i>Substant comp</i>
Center Connect- ing link	2-13-71 (working day 31)	33	47	- 47
East Connect- ing link	2-13-71 (working day 31)	32	39	- 51
* * * * *				

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current as of 3-9-71 (working days)	Current as of 3-23-71 (working days)	
<u>Fifth Floor</u>				
B4, West	4-3-71 (working day 66)	3 days ahead	3 days behind	- 14
B6, West	4-3-71 (working day 66)	7 days ahead	3 days behind	- 11
B6, East	4-10-71 (working day 71)	12 days ahead	4 days ahead	- 6
West Connect- ing link	4-3-71 (working day 66)	11 days ahead	1 day ahead	Substantial comp
Center Connect- ing link	4-3-71 (working day 66)	20	25	- 29
East Connect- ing link	4-10-71 (working day 71)	5	12	- 25

General Comments

First Floor

Work continues to move slowly at the first floor and board work at ceilings is still not underway. The concentration of activity over the past month has been at the entry and lobby, along with very heavy efforts at the center connecting link and the connecting corridor at the west connecting link. There have been problems that slowed work in this area, including elimination of linear diffusers at the perimeter, bulletin 25 at the hospital area which was resolved on March 11, 1971, and extremely slow progress in finishing up rough mechanical and electrical work in the ceilings.

Presently, the status at the center connecting link and the entry to the west is that the ceiling is ready for plastering. Painting at the lobby area was due to start early this week but a temperature drop in the building caused by lack of controlled heat, deferred this action until the building was brought back up to painting temperature. At this point in the job continuous heat at the inside of the building is absolutely critical. The large number of finish surfaces already installed and the enormous amount of work still to be done with finish materials demands a consistent temperature level be kept to avoid dimensional changes, and freezing and damage of items such as acoustic tile, resilient flooring, plaster and painting, to name only a few.

### Second Floor

Second floor areas are in reasonably good shape with B4 locked up and ready for the owner to move in. B4 second floor has been available since the early part of February but as yet no major transfer of operations into this area has been made by the owner. The B6 unit is in such shape that it could be turned over practically any time the owner wishes cleanup to start. The owner has laid some carpet in B6 and most sections of the floor are done except for a room near the center link now being finished.

At the center connecting link resilient floor tile is being laid and most plaster and trim work is well along. This area is now ready for final work and cleanup. The second floor generally could be made available on short notice for total occupancy except at the connecting links.

### Third Floor

In B4 and B6 convector covers are slow. This is a finish trade that apparently is held for installation of vertical venetian blinds. Installation of finish items such as the blinds and convector covers is important to completion of the floor and turnover. It is, along with finishing of the rubber base, painting and trim work, essential to cleanup and turnover. The third floor is in such shape that beginning efforts should be made to get the areas of the building that are almost complete, finished and locked to construction trade occupancy. The links at the third floor are about at the same point as on other floors. These could be brought into line quickly with main floor status if heavy concentration of effort is brought on them.

### Fourth Floor

The base is being placed on the walls and generally the floors are at a point where with extra concentrated effort over the next two to three weeks, the owner could move in.

The sequence now, in order to get into B9 for demolition at the earliest possible date, is to consider providing temporary partitions around the food preparation area at the second floor of B9 and to transport food by cart and elevator to B6 fourth floor where a temporary cafeteria will be established. This changeover is important to getting into B9 for demolition and plans should be made for this now.

### Fifth Floor

A decision has been made to concentrate efforts on finishing the west end of the fifth floor in B4 to serve as a temporary executive area. To do this it

Fifth Floor (Continued)

will be essential that design changes to rough work above the ceiling stop immediately. There have been revisions to this mechanical work even as late as the week of March 23rd and of course, this disrupts sequencing of ceiling installation, and plastering of required areas.

The fifth floor of B6 is relatively far along with finish work and most stud walls in and taped. Some painting has started and finishing is underway to clean up the floor and move off.

General

The lags on the project continue to increase, partially due to a spread of personnel throughout the building, large numbers of small unfinished areas to be cleaned up and difficulty in coping with continuous changes and revisions still being imposed upon the project that require enormous over and above administrative attention of the construction field offices. The heavy concentration of effort now seems to be in administering the project and keeping up with required revisions rather than working from a clear-cut set of working documents and specifications that allows construction to proceed in an orderly and planned fashion. This disruption of sequencing has imposed serious burdens upon the project and made scheduling of deliveries, expediting of work and coordination of contractor and sub contractor activities difficult.

Of prime importance now is to complete all areas nearly finished and to get them locked up so a narrowing of the areas in which trades are working is accomplished. This narrowing or reducing of the area of work is critical to pickup of any job progress whatsoever. At the present time control of manpower by all sub contractors on the job is difficult due to widespread work areas. I suggest a heavy concentration of effort be placed upon cleaning up in a planned sequence those areas that are almost finished and locking them to all construction trades to the greatest extent possible.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaisner  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

RALPH J. STEPHENSON  
CONSULTING ENGINEER

April 19, 1971

Subject: Monitoring Report #20  
Burroughs Home Office Facility, Detroit, Michigan

Project: 70:36

Date of Monitoring: April 14, 1971 (working day 328)

Monitored from Issue #6 dated August 31, 1970

Report dictated April 15, 1971

Actions taken:

- Inspected project
- Conferred with H. Kaiser re job progress
- Evaluated job progress

General

The owner is now moving furniture and laying carpet at the second and fourth floors. The owner, however, has not as yet taken full occupancy of any space.

Following is a summary of the lags over stated target dates as of April 15, 1971:

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current Lag Over Target as of 4-14-71
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First Floor

B4, West and B4, East	5-1-71 (working day 86)	-89
B6, East Computer area	5-1-71 (working day 86)	-80
B6, West and B6, East Purchasing	4-17-71 (working day 76)	-90

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current Lag Over Target as of 4-14-71
<u>First Floor (Continued)</u>		
Center Connect- ing link	5-1-71 (working day 86)	-25
East Connect- ing link	5-1-71 (working day 86)	-41
* * * * *		
<u>Second Floor</u>		
Main floor areas B4		Complete
Main floor areas B6		Substantially complete
Center Connect- ing link	1-30-71 (working day 21)	-54
West Connect- ing link	1-23-71 (working day 16)	Substantially complete
East Connect- ing link	1-30-71 (working day 21)	Substantially complete
* * * * *		
<u>Third Floor</u>		
B4	3-20-71 and 3-27-71 (working days 56 & 61)	-20
B6	3-20-71 and 3-27-71 (working days 56 & 61)	-39
West Connect- ing link	3-27-71 (working day 61)	-19
Center Connect- ing link	3-27-71 (working day 61)	-20
East Connect- ing link	3-27-71 (working day 61)	-25
* * * * *		

Location	Target Completion Date (Owner's Move-in Schedule dated Nov. 30, 1970)	Current Lag Over Target as of 4-14-71
<b><u>Fourth Floor</u></b>		
B4, West	2-20-71 (working day 36)	Substantially complete
B4, East	2-13-71 (working day 31)	Substantially complete
B6, West	2-20-71 (working day 36)	Substantially complete
B6, East	2-13-71 (working day 31)	Substantially complete
West Connect- ing link	2-20-71 (working day 36)	Substantially complete
Center Connect- ing link	2-13-71 (working day 31)	-47
East Connect- ing link	2-13-71 (working day 31)	-51
* * * * *		
<b><u>Fifth Floor</u></b>		
B4, West	4-3-71 (working day 66)	-14
B6, West	4-3-71 (working day 66)	-11
B6, East	4-10-71 (working day 71)	- 6
West Connect- ing link	4-3-71 (working day 66)	Substantially complete
Center Connect- ing link	4-3-71 (working day 66)	-29
East Connect- ing link	4-10-71 (working day 71)	-25
* * * * *		

General Comments

First Floor

Work continues to move slowly at the first floor due to continued delays in installing ceiling suspension, blank iron and dependent above ceiling mechanical work. The major need is to bring ceiling work to a point where installation of board can start along with light frames, diffusers and other elements that are integral parts of the ceiling. The first floor is probably at this point to be considered the most critical and longest completion time area in both 24 and 25.

The concentration of trades at this first floor, particularly concurrent with installation of terrazzo has caused a heavy traffic pattern with substantial interference. However, the effort at the corridor from the west entrance and at the center connecting link, along with the lobby and 24 have given a nearly complete entrance into the building.

Second Floor

The second floor of both 24 and 25 is substantially complete with the exception of the center connecting link. Here, there remains some additional work that can only be finished after the terrazzo at the first floor is ground. However, the floor is complete enough so that the only delays at this floor now should be those incurred by the owner in changes to work yet to be installed or work already installed. A major problem at the second floor presently is the change being made to the vending areas at the end connecting links. As of April 9th, 1971 these vending areas were still being revised and currently there is some doubt as to whether the specified bluges on the drinking fountains and fire hose cabinets are heavy enough to carry the revised loads. This matter is being investigated and must be resolved before the plumbing stack enclosure and other millwork can be completed.

Third Floor

At the third floor heavy work concentration now is in installing blinds and louvers which must precede installation of connector covers. The floor is in reasonably good position so far as completion is concerned. However, here, as with the other floors, it is the small items of finish and trim that are causing delays. Such things as wood paneling, vertical blinds, trim items and general cleanup slow progress at the floor considerably.

There are no major owner delays at this area presently, except at vending areas. The comments regarding the vending machine area for the second floor apply to the third also.

Fourth Floor

Here the major current problem is a decision on the temporary cafeteria electrical changes. The owner has requested a cost on Change Item 398 dated April 13, 1971.



for making these changes so that the temporary cafeteria can be placed in service and be served from the present food preparation area in B9.

### Fifth Floor

Work here is proceeding reasonably well although as late as April 7, 1971 changes were still being made at the elevator lobby ceiling in B4. These changes, of course, have continued to delay work at critical points of the fifth floor. The west connecting link at the fifth floor is substantially complete and there is a good chance that if work can proceed without serious interruption or additional changes, that the floor can be completed shortly, probably within a month to month and a half.

### General

Lags on the project continue to increase, basically due to the somewhat paralyzing effect of day to day changes, revisions and delays. As has been mentioned many times before, it would assist greatly on the project if two or three major points were observed.

- 1) Those areas that are completed to the greatest extent possible without further decisions by the owner should be locked to construction trades and work stopped until owner's decisions have been made and work can again proceed.
- 2) The owner, architect, contractor and sub contractor should continually reinforce to each other the need for working at this project as a team. It is only by everyone cooperating at this stage that the job can actually be closed out.
- 3) A cutoff point on changes that affect finishing of floors should be established in relationship to the desires of Burroughs in moving from B9.
- 4) An immediate decision must be made on the cafeteria and food preparation area to allow B9 to be cleared.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. E. H. Kaiser  
Mr. Floyd Wieland  
Mr. R. M. Wilkening

August 30, 1971

**Subject:** Monitoring Report #21 (B-4, B-6)  
Burroughs Home Office Facility, Detroit, Michigan  
Area B4 East Fifth Floor

**Project:** 71:57

**Date of Monitoring:** August 25, 1971 (working day 166)

**Monitored from Issue P1 dated June 24, 1971, sheet 1**

Actions taken:

- Inspected east end of fifth floor at B4
- Conferred with H. Kaiser and F. Wieland re job progress
- Evaluated job progress

General

The network plan for the executive area at the fifth floor east on B4 was prepared in rough on June 24, 1971 and issued as the working document to the owner and architect on June 30, 1971. Currently, brown coating is complete on ceilings and drapery pockets and putty coating is about two days into work. In addition, single columns that are to be plastered have been partially brown coated. Columns to be plastered in walls will be included with wall plastering.

Putty coating was due to start on the ceiling and drapery pockets at working day 141 (July 21, 1971). It actually began on working day 164 (August 23, 1971). This is a lag of 23 working days. One of the major reasons for the lag is a delay caused by design revisions to light frames necessitated by the double lathed ceilings. The frames for the light fixtures were all delivered to the job and installation had started when it was found that these light frames could not be made to fit the thicker ceiling. It was necessary to send them all back for refabrication and redelivery. It was estimated that this revision which was a change order revision delayed work at the floor an absolute amount of 15 working days and in addition, caused a slowdown due to interruption of continuity.

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There are coming up within the next few weeks some very critical elements in construction at the 5th floor. I suggest careful attention be paid these generally critical areas so deliveries and other field operation problems are minimized. These include:

- Installation of frames, both wood and aluminum, in stud walls
- Laying of marble floor finishes
- Lathing and plastering trades scheduling
- Delivery of linear diffusers at the ceilings
- Delivery of leaved drapes
- Delivery of finish paneling

It is anticipated that stud walls will start within two days which will give it a starting point of 168 as opposed to a planned working start of 153. This would put the job approximately 15 working days behind and this lag is directly accounted for then in the delay caused by the revisions to light frames.

Looking ahead over the next two month period, tasks to be put into work or completed include:

- Erection of stud walls
- Completion of in-wall mechanical and electrical work
- Lathing of stud walls
- Taping and sanding toilet room drywall walls
- Installation of ceiling light fixtures
- Start of wall plastering

Work at this area is now going through a critical phase and careful attention should be given it immediately so no delays to erection of stud walls is experienced.

Ralph J. Stephenson, P.E.

RJS/n

To: Mr. H. Kaiser  
Mr. F. Wieland  
Mr. Wilkening