

November 18, 1975

**Subject: Monitoring Report #1**  
**Hurley Hospital New Utility Building**  
**Flint, Michigan**

**Project: 75:81**

**Date of Monitoring: November 11, 1975 (working day 221)**

**Monitored from Issue P1 dated November 11, 1975**

**Actions taken:**

- Reviewed job scope briefly with major contractors
- Prepared preliminary network through erection of structural steel
- Reviewed early job problems

**General Summary**

This conference was a brief meeting to review the current status of field work, identify major long lead time items and prepare a preliminary network model up through erection of structural steel.

Presently there do not appear to be any major early delivery difficulties, although primary switchgear and secondary switchgear could prove to be somewhat troublesome next year since their projected arrivals on the job site are considerably later than would be desirable. Efforts will be made by the electrical contractor to improve delivery dates on these items. Information regarding delivery items is shown on sheet P1 of Issue P1 dated November 11, 1975.

It is expected to begin foundation work on or about November 25, 1975 (working day 231) and to proceed with installation of under slab electrical distribution and plumbing work. It is believed presently that the subbase, after construction of footings and walls, can be backfilled to approximately 18" below the bottom of the floor slab and protected from frost by visqueen and straw. The intent currently is to remove and replace this visqueen and straw carefully in selected areas as electrical and mechanical installation proceeds.

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**RALPH J. STEPHENSON  
CONSULTING ENGINEER**

**Our preliminary diagramming shows that under slab electrical distribution and plumbing work will probably be complete about the end of January. Structural steel is currently due in on January 28, 1976 (working day 274) and once steel is up and roof metal deck is on the building, the visqueen and insulation will be stripped from the subbase and floor slab work completed.**

**It is desired to complete this floor slab no later than March 1, 1976 (working day 297) since it is a very critical part of the building and much of the equipment rests on either thickened slabs or machine foundations that must be in place for work to proceed.**

**At our next session we expect to have additional information that will allow us to complete diagramming building close-in and installation of the major pieces of equipment.**

**This facility is critical since it provides mechanical and electrical services to several new Hurley installations.**

**I shall be in touch with Mr. Koentopp regarding the next diagramming session.**

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

**RJS/m**

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**

February 12, 1976

Subject: Monitoring Report #2  
Hurley Hospital New Utility Building  
Flint, Michigan

Project: 75:81

Date of Monitoring: February 3, 1976 (working day 23)

Monitored from Issue P2 dated February 3, 1976

Actions taken:

- Completed Issue P2 network
- Reviewed job progress with contractors, owner and architect/engineer
- Evaluated current job status

General

This meeting was for the purpose of preparing a complete network for the entire project with as accurate information as is available now.

Currently foundations are substantially complete and ready for structural steel. The interior of the building has not been backfilled as yet due to problems of cold and inclement weather.

A good share of the planning discussion was concerned with how to get underground interior work started at an early date so that the interior floor slab on grade and subsequent work could be initiated as early as possible.

An early part of our diagramming concerned establishment of currently known delivery dates. A brief review of these follows.

- Structural steel - to be delivered on February 11, 1976  
(working day 29)
- Metal roof deck - to be delivered on February 11, 1976  
(working day 29)

- Hollow metal frames - currently in for approval, expected to be delivered by March 2, 1976 (working day 43)
- Hollow metal doors - currently in for approval, expected to be delivered by March 9, 1976 (working day 48)
- Overhead doors - shop drawings currently being prepared, door delivery scheduled for about April 13, 1976 (working day 73)
- Louvers - currently in for approval, expected to be delivered by April 27, 1976 (working day 83)
- Miscellaneous iron - currently being detailed, expected to be delivered on March 8, 1976 (working day 47)
- Emergency power package - currently in fabrication, expected on job April 1, 1976 (working day 65)
- Chillers - due to be delivered on April 29, 1976 (working day 85)
- Cooling towers - currently in fabrication, expected to be delivered on April 20, 1976 (working day 78)
- Early delivery circulating pumps - currently in fabrication, expected to be delivered on March 24, 1976 (working day 59)
- Sump pumps - currently in fabrication, expected to be delivered on February 16, 1976 (working day 32)
- Expansion tanks - currently in for approval, expected to be delivered by April 13, 1976 (working day 73)
- Oil tank - currently in for approval, expected to be delivered by March 23, 1976 (working day 58)
- Unit heaters - expected on the job February 5, 1976 (working day 25)
- Heat exchanger - expected on the job March 24, 1976 (working day 59)
- Secondary switchgear - expected to be fabricated and delivered by March 15, 1976 (working day 52)

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- Distribution panels - currently in for approval, expected to be on the job by March 15, 1976 (working day 52)
- Transformers and panel board - presently in fabrication, expected to be delivered by February 16, 1976 (working day 32)
- Large motor starters - currently in fabrication, expected to be on the job by April 1, 1976 (working day 65)
- Transfer switch - currently in fabrication, expected to be delivered by April 1, 1976 (working day 65)
- Primary cable - no current word on delivery, some measurements must be taken before the cable can be cut to length
- Light fixtures - currently in fabrication, expected on the job by July 1, 1976 (working day 129)
- Substations - in fabrication, expected to be delivered by March 1, 1976 (working day 42)
- ASCO sync equipment - currently in for approval, expected to be delivered on April 1, 1976 (working day 65)
- Primary switchgear - currently being fabricated; to be delivered by March 1, 1976 (working day 42)
- Late delivery circulating pumps - currently in fabrication; to be delivered on May 17, 1976 (working day 97)

The above deliveries are tentative. They were tied into installation dates for each of their respective areas of the building on sheets 2 and 3 of the Issue P2 network dated February 3, 1976. For the time being, we shall assume that the above are tentative targets and monitor job progress based upon this current information.

It is important to hold the delivery date for structural steel since this is a critical item. Presently the plan is to erect structural steel, install metal deck, place roof fill and install built-up roofing after which the cooling tower framing will be erected and the roof equipment set. Meanwhile, as

soon as roof metal deck is on the building, it is anticipated that some protection and thawing of sub-base will be initiated. This will allow backfilling at the building interior and permit under-floor electrical distribution, plumbing and other work of this type to proceed at the east end. It is hoped that the east end underground utility work can begin now. The east end is a most complex area and allowing the mechanical and electrical work to proceed early there will free up a good deal of activity.

It is expected that filling and fine grading for the interior slab on grade will start as early as April 5, 1976 (working day 67) and that the floor slab on grade at the east end will be poured out by April 9, 1976 (working day 71). This will allow equipment bases to be constructed and east end work on the slab and above the floor to begin.

It is expected that major east end electrical equipment can be set starting on April 16, 1976 (working day 76) and proceed generally from the east to the west. Most major mechanical equipment is at the west end and it is expected that this equipment can be set starting April 29, 1976 (working day 85).

Exterior masonry is anticipated to be able to start as soon as structural steel is erected and trimmed out. The present target is to substantially complete erecting exterior masonry by about April 13, 1976 (working day 73).

Most of the major above floor mechanical/electrical services to the various pieces of equipment are expected to be started by April 29, 1976 (working day 85), and to continue on through while remaining architectural and other trades are being completed.

The current completion target of the project has been set tentatively at August 30, 1976 (working day 170) and all agree that with the current data available it is a reasonable date to strive for for the building work.

Exterior service piping is expected to begin from the utility building to the west side of Patrick on March 15, 1976 (working day 52). The sequence of this will be generally to install the service piping from the utility building to Patrick then across Patrick and from there to the M Building. Meanwhile the underground oil tank will be installed along with its related piping.

The emergency high voltage duct from Patrick to the utility building is planned to be started sometime about April 9, 1976 (working day 71) with cable expected to be pulled from the phase 1 building to the utility building

by April 29, 1976 (working day 85). Cable from the utility building to Building M is expected to be pulled by May 13, 1976 (working day 95). It should be noted that these last two dates on cable pulling are tentative since they depend upon delivery of cable and other factors not presently predictable. The critical element is to complete pulling all cable by the time electrical equipment and control wiring are completely installed and ready for checkout in the utility building.

**General Summary**

Overall the project appears presently to be able to be completed by late August, 1976, with the target being set at August 30, 1976 (working day 170). This is dependent upon the delivery schedules of equipment and materials being met and being able to get an early start on interior backfilling and underground utility work. The project was planned quite carefully with the contractors and the plan of work is shown on sheets 2 and 3 of Issue P2 dated February 3, 1976. These networks have been distributed to all parties concerned and presently are being drafted into final form.

It would be appreciated if each contractor involved would review the preliminary networks to insure that they reflect the decisions made at the meeting of February 3, 1976. I shall check with each contractor before issuing that work but would appreciate having any revisions desired called to my attention at the earliest possible time. It should be noted that this project is very critical since it provides the utility services for the major Building M and the operation of Building M is dependent to a large extent upon this utility building being complete and in service.

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

RJS/m

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**

March 26, 1976

**Subject: Monitoring Report #3**  
**Harley Hospital New Utility Building**  
**Flint, Michigan**

**Project: 75:81**

**Date of Monitoring: March 22, 1976 (working day 57)**

**Monitored from Issue P2 dated February 3, 1976**

**Actions taken:**

- Reviewed job progress with Mr. Bob Little
- Inspected project
- Evaluated current job status

**General**

At present there is a work stoppage of truck drivers hauling masonry and concrete. This has caused some delay, particularly to completely stocking the job with masonry units and also to starting work on the floor slab. Presently it is not possible to evaluate with any exactness when this work stoppage will be over, therefore, its impact must be evaluated on a day to day basis. However, it is delaying the project.

Structural steel is erected and trimmed out, roof deck is installed and some masonry has been put in place. Roof fill will be placed as soon as downspouts and curbs are set. Of critical importance is that backfilling has moved very well and is presently substantially complete as is most underground plumbing and electrical work. Thus, the floor slab on grade is ready to start.

Work on underground service piping has not yet started. It was due to begin by March 15, 1976 (working day 52). It probably will not start for another week or so. This should cause no major delays since there is some float time available in this sequence.

170  
27  
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93



**Mr. Little and I reviewed most major delivery items. A brief summary of their status follows:**

- **Structural steel - on job and erected**
- **Metal roof deck - on job and erected**
- **Hollow metal frames - on job**
- **Hollow metal doors - have been approved and probably are available**
- **Overhead doors - have been approved and are available**
- **Louvers - are approved and probably will be available shortly**
- **Miscellaneous iron - most early miscellaneous iron required is on job**
- **Emergency power package - in fabrication; no current word on delivery**
- **Chillers - available**
- **Cooling tower - no information currently - was expected to be delivered by April 20, 1976 (working day 78)**
- **Early delivery circulating pumps - were expected March 24, 1976 (working day 59) - no current word**
- **Sump pumps - are available**
- **Expansion tanks - were expected by April 13, 1976 (working day 73) - are available**
- **Oil tank - expected to be shipped March 26, 1976 (working day 61)**
- **Unit heaters - were to be on job February 5, 1976 (working day 25) no current available delivery information**
- **Heat exchanger - was expected on job March 24, 1976 (working day 59) - no current information**
- **Secondary switchgear - is fabricated and available**

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

- **Distribution panels - were expected on the job March 15, 1976  
(working day 52) - no current information**
- **Transformers and panel board - were expected by February 16, 1976  
(working day 32) - no current  
information**
- **Large motor starters - were expected on the job April 1, 1976  
(working day 65) - no current information**
- **Transfer switch - was expected on the job April 1, 1976 (working  
day 65) - no current information**
- **Primary cable - no current word**
- **Light fixtures - were expected on the job July 1, 1976 (working  
day 129) - no current information**
- **Substations - were due on job March 1, 1976 (working day 42) -  
no current information**
- **ASCO sync equipment - was expected on the job April 1, 1976  
(working day 65) - no current information**
- **Primary switchgear - Mr. Little feels this might be currently  
available**
- **Late delivery circulating pumps - were to be delivered May 17,  
1976 (working day 97)- no  
current information**

**Mr. Little made a note of the items upon which information was not  
available and will check the status of these.**

**Generally it was felt that most delivery items should be available in  
advance or in time to accommodate the current network plan. However,  
a further check will be made and a followup report issued based upon  
the information available.**

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

**RS/m**

**To: Messrs. Gilbert, Little, Stiles, West, Shand &  
Fugard, Orth & Assoc.**

April 26, 1976

**Subject:**       Monitoring Report #4  
  
                  Hurley Hospital New Utility Building  
  
                  Flint, Michigan

**Project:**       75:81

**Date of Monitoring:** April 19, 1976 (working day 77)

**Monitored from Issue P2 dated February 3, 1976**

**Target Completion Date:** August 30, 1976 (working day 170)

**Working days remaining:** 93

**Actions taken:**

- Inspected project
- Reviewed job progress with Mr. Bob Little
- Evaluated current job status

**General**

As of April 19, 1976 (working day 77) the strike by ready mix and masonry unit drivers is beginning to slow the project, particularly construction of floor slabs on grade and remodeling of the loading dock at Building M. The drivers are to vote on April 20, 1976 as to whether to accept the latest offer. If it is not accepted, it is expected that concrete for floor slabs will be mixed at the site. In any event, concrete pouring is to start April 22, 1976 (working day 80). If ready mix is available, the floor slabs should take 2 to 3 days. If job mixed, they probably will take 5 to 6 working days to place. Floor slabs on grade were due to be complete no later than April 21, 1976 (working day 80). If plans proceed as presently set, pouring out of the floor slab will be from 3 to 6 working days late.

At the basement area water is being encountered on a continuing basis. However, this should pose no problem to completing the floor slab on grade and subsequently the supported deck. It was originally intended that the

supported deck would be done at an early date but it has been held by the strike of concrete ready mix truckers. This strike has been in effect since March 3, 1976 (working day 44).

It has been decided to hold the start of service piping until after it is determined whether laborers will go out on strike or not. This will be known on May 3, 1976 (working day 87). At the M Building loading dock, work on foundation walls has also been held because of the ready mix drivers strike. Both these project elements show as lagging in the network. However, they were given arbitrary early finish dates and as such, are not yet in difficulty relative to the project target end date of August 30, 1976 (working day 170).

Delivery of materials is in excellent shape. A brief review of these in accordance with information obtained from Mr. Little is as follows:

- Hollow metal doors - available
- Overhead doors - available
- Louvers - to be delivered in late April
- Emergency power package - ready to ship
- Chillers - ready to ship
- Cooling towers - ready to ship, will be on the job April 30, 1976  
(working day 86)
  
- Early circulating pumps - available
- Sump pumps - available
- Expansion tanks - available
- Oil tank - delivered and installed
- Unit heaters - in shop and available
- Heat exchanger - in shop and available
- Secondary switchgear - in storage in Flint and available
- Distribution panels - in storage in Flint and available
- Transformers and panel board - in storage in Flint and available
- Large motor starters - probably in storage (?)
- Transfer switch - in storage in Flint and available
- Primary cable - not ordered as yet; field measurements must  
be made prior to ordering it.
  
- Light fixtures - available
- Substations - available
- ASCO sync equipment - no current information; Mr. Little will check
- Primary switchgear - in storage in Flint and available
- Late circulating pumps - no current information; Mr. Little will check

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

**In summary, project work has moved very well and all underground electrical and mechanical work is in place ready for the floor slab on grade to be poured. In addition, the mechanical contractor has done a good job of proceeding with above floor mechanical piping and large amounts of the heavier pipe are already in place. Job performance has been hampered by the ready mix and masonry unit suppliers truck strike which has caused difficulty in obtaining concrete and masonry units. Nevertheless, it is presently expected that the target completion date can be maintained.**

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

**RJS  
m**

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**

May 17, 1976

**Subject: Monitoring Report #5**  
**Hurley Hospital New Utility Building**  
**Flint, Michigan**

**Project: 75;81**

**Date of Monitoring: May 12, 1976 (working day 94)**

**Monitored from Issue P2 dated February 3, 1976**

**Target Completion Date: August 30, 1976 (working day 170)**

**Working days remaining: 76**

**Actions taken:**

- Inspected project
- Reviewed job progress with Mr. Bob Little
- Evaluated current job status

**General Summary**

Currently the project is meeting most major targets between early and late starts and finishes inside the building. Exterior work, however, is beginning to lag and I recommend that careful attention be given to installation of service piping and other connections between the Utility Building and Building M. Presently it does not appear the lag is a serious problem but it is far better to pick up potential delays in work early and make corrections than it is to play catchup later. Therefore, I suggest that the exterior work be carefully evaluated now in relation to the current target date of August 30, 1976 (working day 170).

The concrete ready mix strike has ended and all floor slabs in the building are complete. Masonry work is proceeding and since most major equipment has been set, can proceed on out to completion.

There is a minor difficulty with the Transvac fan but this should not delay completion of exterior walls.

Most major mechanical and electrical equipment arrived on the job site between May 4, 1976 (working day 88) and May 10, 1976 (working day 92). Apparently there was an excellent job of coordination and the equipment was set smoothly and with minimal difficulties. Most roof mounted equipment including radiators, mufflers and the cooling towers are also in place.

A brief review of delivery items follows:

Hollow metal doors - available

Overhead doors - available

Louvers - on job

Emergency power package - on job

Chillers - on job and set

Cooling towers - on job and set

Early circulating pumps - on job

Sump pumps - available, to be brought to job as needed

Expansion tanks - available

Oil tank - delivered and installed

Unit heaters - on job and installed

Heat exchanger - available

Secondary switchgear - on job and set

Distribution panels - on job and set

Transformers and panel board - on job and set

Large motor starters - on job and set

Transfer switch - will arrive May 28, 1976 (working day 105)

Primary cable - not ordered - field measurements yet to be made

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

**Light fixtures - available**

**Substations - on job and set**

**ASCO sync equipment - will arrive May 28, 1976  
(working day 105)**

**Primary switchgear - on job and set**

**Late circulating pumps - on hand and available**

**In summary, building work has moved in excellent fashion over the past month and presently it appears the job can be brought home on target. It will, however, require the continuing excellent field and office management that the job has obviously received to this point. The only items within the building that may pose some problems are deliveries of the transfer switch and the ASCO sync equipment and the Transvac fan modification. There also is a pending revision to the oxygen supply system which is just now being designed. A bulletin will be issued soon.**

**Outside the building, I strongly recommend that careful attention be given now to planning for connections between the Utility Building and Building M. There appears to be adequate time to complete this work, however, if further slippage occurs, it may get excessively tight.**

**There is a sheet metal workers strike on presently that began on April 30, 1976 (working day 86). No current word as to when they will be back to work has been heard. In the building, installation of automatic dampers and completion of the Transvac system piping are done by sheet metal workers. For the present, this is not critical.**

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

**RJS  
m**

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**



July 8, 1976

**Subject: Monitoring Report #6**  
**Hurley Hospital New Utility Building**  
**Flint, Michigan**

**Project: 75:81**

**Date of Monitoring: July 2, 1976 (working day 130)**

**Monitored from Issue P2 dated February 3, 1976**

**Target Completion Date: August 30, 1976 (working day 170)**

**Working days remaining: 40**

**Actions taken:**

- Inspected project
- Reviewed job progress with Mr. Little
- Reviewed job status with mechanical and electrical superintendents
- Evaluated current job status

**General Summary**

Currently the project is moving well and it is fully expected by all responsible field managers that the plant can be operative and providing chilled water and steam to building M by the present target completion date. All materials and equipment are on the job with the exception of some large motor starters and the primary cable. Large motor starters will be on the job about July 8, 1976 (working day 133) and primary cable is expected to be delivered about July 27, 1976 (working day 146).

The current strikes in Flint only minimally affect the project. The major strike difficulties are in erection of the structural steel support frame for the expansion tank and installation of the canopy at the building M loading dock. Neither of these should prove to be severe

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

**problems so long as the strike is over by the end of July or early August.**

**Roofers are also on strike but major roofing is complete and only minor flashings, trim and coping remain. These should not affect operation of the building.**

**Exterior utility work is slightly behind the targets that had been set but each item there was made artificially critical to allow for adequate completion time. Most piping is installed, underground electrical duct is in place and final testing of piping and other underground installations is presently proceeding. Installation of underground work apparently proceeded very well and there have been several compliments concerning the smooth operation and excellent coordination among contractors on installation of this exterior work.**

**In summary work is proceeding well on schedule with current strikes being the major potential for delay.**

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

**RJS  
m**

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**

August 20, 1976

**Subject:       Monitoring Report #7**  
**Harley Hospital New Utility Building**  
**Flint, Michigan**

**Project:       75:81**

**Date of Monitoring: August 13, 1976 (working day 159)**

**Monitored from Issue P2 dated February 3, 1976**

**Target Completion Date: August 30, 1976 (working day 170)**

**Working days remaining: 11**

**Actions taken:**

- **Inspected project**
- **Reviewed job progress with Mr. Little**
- **Reviewed job status with field managers**
- **Evaluated current job status**

**General Summary**

As of August 13, 1976 (working day 159) the chilled water line is complete, connected and being filled. One chiller will be made ready next week and should be on line directly to cool and circulate water in Building M. According to the field managers, this system will then be shut down, the line drained and refilled, necessary adjustments made and the chiller again started up. Thus, within two weeks, chilled water should be available to Building M.

The steam line is complete and could provide heat as needed. The emergency electrical system will be tested out and available within 8 to 10 working days. The other two chillers will be worked upon and brought into service as they are completed. It is anticipated that the one chiller will be able to adequately service current Building M needs.

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

**There is a considerable amount of control work yet to be done and still remaining in the building is much miscellaneous trim. It appears probably the building can be totally complete by early October. However, it will be functionally available within the next two weeks.**

**I would like to compliment the general, mechanical and electrical contractors on this project for their good work in meeting key target dates. They have been good at isolating the necessary work to be done and pursuing it with vigor and determination. Since most day to day followup on the project will now be a function of the field forces, I shall not plan to monitor the job again unless special conditions arise.**

**I wish the hospital well on the use of this building and congratulate them on the completion of an excellent facility.**

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

**RJS  
m**

**To: Mr. Austin Gilbert  
Mr. Bob Little  
Fugard, Orth & Assoc.  
Mr. Jim Stiles  
Mr. Robert West  
Mr. Howard Shand**