ARCHITECTURAL AND ENGINEERING WORK ON A BUILDING CONSTRUCTION PROJECT FINANCED BY FEDERAL AND STATE FUNDS

> Thesis for the Degree of C. E. MICHIGAN STATE COLLEGE Gaylord C. Dowd 1940

THESIS

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# SUPPLEMENTARY MATERIAL IN BACK OF BOOK

### THESIS

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#### PREFACE

The purpose of this paper is to show the work required in planning and constructing buildings financed by the Public Works Agency and the State of Michigan and to show the problems encountered due to poor management and lack of sufficient capital on the part of the General Contractor.

The writer wishes to thank Mr. Louis C. Kingscott for granting his permission to use the office file material in the preparation of this paper and Mr. C. L. Allen for his valuable suggestions.

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#### INTRODUCTION

"There is no panacea for feeblemindedness. There will always be mentally defective persons in the population of every state and county. All of our experience in dealing with the feebleminded indicates that, if we are adequately to manage the individual defective, we must recognize his condition while he is a child, protect him from evil influences, train and educate him according to his capacity, make him industrially efficient, teach him to acquire correct habits of living, and, when he has reached adult life, continue to give him the friendly help and guidance he needs." 1

This paragraph, taken from the Letchworth Village Survey, eloquently sets forth the need for institutions equipped to train feebleminded children. The State of Michigan has recognized this need and has been bending every effort toward this end. This paper deals with one of these institutions, namely, the Michigan Children's Village.

Of all the institutions in the State of Michigan, the youngest and smallest is the Michigan Children's Village, located just north of the city limits of Coldwater on U. S. 27. This institution was established in 1935 on the property which had previously belonged to the State Public School, now moved to Ann Arbor and renamed the Michigan Children's Institute.

The buildings thus inherited were built to accommodate only 250 children---normal children. Hence it is at once apparent that they were not equipped to train feebleminded children. Nevertheless the institution struggled along until the State decided in 1938 to remedy the bad

1. Letchworth Village Survey, 1937, p. 3.

condition existing there, by launching a building program with the aid of Federal funds through the Public Works Administration.

Upon close inspection of the buildings it was found that, with the exception of five, they were old and inadequate for the demands being made of them. They had been built with no thought of future growth. No plan had ever been made showing the institution as it might ultimately be, if growth were ever possible.

It was therefore necessary to construct a master plot plan. A great deal of study was put on this item before the plan was begun. Visits to other institutions were made to determine the requirements involved in building locations, space and service needs, and numerous other details necessary for an efficient institution. Literature was obtained on other children's institutions, and interviews were held with authorities to compile the information necessary for making a master plan. This plan shows to scale the location of all buildings both present and future, together with a road and side-walk layout.

From this master plan the buildings to be constructed under this program were selected. A total of 12 new buildings and a sewage disposal plant were decided upon. Of these, the writer has chosen a group of 8 to discuss in this paper. They are girls' dormitories and will be mentioned herein as Dormitory "A", "B", "C", etc. A print of the Master Plot Plan is attached to this paper. The 8 buildings under discussion are shaded in red and the remaining 4 buildings constructed under this program are shaded in yellow.

#### PRE\_CONSTRUCTION WORK

To design a dormitory, the requirements of that particular building must be determined in order that the Architects and Engineers will have definite information with which to work. Information must be obtained as to the number of persons who will live in the building, whether dining facilities will be needed, how much indoor recreation space will be necessary, what laundry and storage space must be provided, and what types of special rooms, such as a matron's suite, office, visitors' waiting room, etc. will be needed.

After these requirements have been listed the Architects and Engineers proceed to prepare preliminary sketches. These sketches show only the controlling dimension on the floor plans and plot plan. The floor plans show the room layout, together with room sizes, window and door locations and stairways. The plot plan, floor plans, and elevations comprise the Preliminary Plans. Those sketches, together with a preliminary estimate showing the approximate cost of the project are then discussed with the various interested parties, such as the Chairman of the Hospital Commission, the Budget Director, and the Institution Officials. Suggestions are made as to possible changes which may be found necessary. If satisfactory, signatures of approval are placed on the plans by the Head of the Institution, the Chairman of the Building Committee, and the Budget Director.

The Architects and Engineers are now ready to proceed on working drawings and specifications. Working drawings consist of the Plot Plan, Floor Plans, Elevations, Sections and Details, Structural Plans, and

Mechanical Plans---all to scale and completely dimensioned. Since it is from these working drawings and from the specifications that the building is to be built, it is essential that they be as complete as possible, giving all necessary information for bidding and comstruction.

The Plot Plan is a topographical map which locates the new buildings in relation to existing buildings. It shows the topography of the site, and, by means of various contour lines shows both the existing and future grades. It also shows all existing buildings, trees, fences, roads, walks, bench mark information, cardinal points, and any other information pertinent to the building of the new structures.

The Floor Plans show the floor layout. The Basement Floor Plan shows the partition, door, window, and equipment locations, and the column and wall footings. The First and Second Floor Plans show partition, door, window, and stair locations, etc. Each sheet in addition to the above mentioned, contains schedules of door types, room finishes, and any other information relating to the architectural construction of that floor.

The Roof Flan shows the method of roof framing, the spacing of rafters, the location of supporting partitions, vents, ventilators, details, etc.

Sections and details are very essential to a set of plans as they show innumerable details on a larger scale. These details convey the intent of the Archetects and Engineers as to type and method of construction. Some details are shown on the working drawings, but, as time is an important factor when working drawings are being prepared, many details are made after construction has begun.

Structural Plans are of great importance as they show the structural framing of the building. On these plans appear the details which show

all the types of framing to be used, the reinforcing in the floor slabs, floor slab thickness, joist spacing and bridging, lintels, the size and location of beams and columns, etc. Schedules are made up giving all the necessary information concerning beams, columns, footings, lintels, and joists.

The Mechanical Plans contain all the information about the plumbing, heating, ventilating, and electrical work. The locations of all piping, duct work, fixtures, switch boxes, mechanical equipment, etc. is shown on them together with schedules covering many of these items, and details giving necessary information.

This project contains a system of heating tunnels which connect all buildings with the new Power House. It was necessary to include one sheet covering profiles and sections of these tunnels.

It is impossible to place all the necessary information concerning materials, method of construction, etc. on a set of plans. As a building contract now-a-days requires so many items such as bonds, insurance, subcontracts, material approval, etc., it is necessary to compile a set of specifications which cover, in printed form, the numerous items. These specifications are very important and, if carefully written, save all parties concerned with the project a great deal of trouble.

Specifications, in general, contain the following:

Title Sheet Index Advertisement Alternates Contract Form Performance Bond Form Labor and Material Bond Form Proposal Forms General Conditions Supplementary General Conditions The various chapters which follow the Supplementary General Conditions include a detailed description of materials, methods of construction, work required, guarantees, etc.

Coming back to the above list, it should be noted that the successful contractor must not only enter into a contract with the Owner promising to do certain work, but must also furnish Performance and Labor, and Material Bonds. This requirement is necessary to protect the Owner, the Sub-Contractors, and the Material Suppliers in the event that the Contractor might for some reason be unable to fulfill his part of the contract.

The General Conditions and Supplementary General Conditions are extremely necessary to a project. Such items as the time of starting and completion of the work, wage rates, insurance, reports, construction requirements, subcontracts, shop drawing requirements, required facilities for inspectors and employees, protection requirements, order of completion, sample requirements, approval of materials by the Architects and Engineers, etc. are covered by these two general headings.

As soon as the plans and specifications are completed two complete sets are delivered to the Regional Office of the P.W.A. for their approval. Upon receipt of this approval the work is advertised for bids. It should be noted here that the construction of each building is accomplished under three separate contracts, namely the General Contract, the Plumbing, Heating, and Ventilating Contract, and the Electrical Contract. Then the advertisement for bids is published in the Michigan Contractor and Builder magazine for two consecutive weeks. The advertisement gives a description of the project, the time and place where bids will be opened, the address where plans and specifications may be obtained, the amount of deposit required for each set of plans and specifications, and includes the sentence---"The Owner reserves the right to reject any or all bids and to waive any informalities in bidding."

Upon receipt of requests for plans and specifications, such are immediately sent to the contractors. A complete record of all sets of plans and specifications is kept, together with the date of sending, name of contractor, type of deposit (if a check, its number is recorded), and the date on which the plans and specifications were returned.

During the time between completion of the plans and specifications, and the time for the opening of bids, the Architects and Engineers are carefully checking these documents. If errors and/or omissions are found, corrections must be sent to each contractor who has plans and specifications. Often contractors have questions concerning some particular item and request certain information from the Architects and Engineers. The answers to these questions and any corrections made on either the Plans or the Specifications are incorporated in addenda, any number of which may be issued in the time allowed. These addenda are mailed to each contractor by registered mail---return receipt requested.

The time having arrived for the opening of bids, representatives of the Owner, Architects and Engineers, P.W.A., and the Contractors submitting bids, assemble in the designated room where the opening of bids begins. As the bids are opened and read the various information is tabulated. As the Architects and Engineers read a bid, the P.W.A. representative checks the figures to be certain that no mistake is made. Special care is taken to see that the required Certified Check or Bid Bond accompanies a bid. After the last bid has been read, the meeting adjourns.

The Owner must now investigate the qualifications of the lowest bidder on each of the three contracts. These bidders are required to submit their complete financial records together with references. These references are contacted (providing the Owner is not familiar with the work of a contractor) and are requested to submit information concerning the contractor in order that the Owner may know the type of work this man does. As soon as the Owner is satisfied with the low contractors a resolution is passed by the State Administrative Board awarding the contracts to these individuals or firms. Before notifying the contractors, the Owner must receive concurrence from the P.W.A.

Immediately upon receipt of said concurrence the Contractors are notified by telegram of the awards. The Contractors, or some authorized representatives, meet with the Architects and Engineers to sign the necessary contract documents. The Contractors must furnish certificates covering Workmen's Compensation, Public Liability, and Property Damage Insurance. The contracts are drawn up between the State of Michigan (the Owner) and each contractor who agrees to do all the work called for in his part of the specifications.

Very shortly after approval of the principal contractors is given by the P.W.A., a P.W.A. Form No. I-13---"Record of Advertisement and Awards Principal Contractor" as shown on page 9 is made up and distributed by the P.W.A. for a record. P. W. A. Form No. I-13 (Revised 5-1-36)

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

## RECORD OF ADVERTISEMENT AND AWARDS PRINCIPAL CONTRACTS

Location	State	Docket No.
100000000		Section or
Owner's name		Project No.
Address		
Type of		
Project		
First advertisement date	Se	cond advertisement date
Bids opened date		
		Date award
Contract No.	for	approved
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Date \_\_\_\_\_

As soon as the contractors receive notice to proceed with the work, equipment is moved onto the site and work is begun. The first operation of clearing the site and excavating begins immediately. On this project the area around buildings A and B was to be filled, while the remaining area required a cut. Therefore work had to be started at the site of a building that required a cut. Building H was chosen as the starting point. As the excavation progressed temporary offices and storage sheds were constructed, power and telephone service were installed, and materials were brought to the site as rapidly aspossible.

In order to be properly coordinated, the work on a large project should be so arranged that as the first phase of construction is completed in the first building, the same phase is begun in the second building, while at the same time the second phase of construction is begun in the first building, etc. For example, as soon as the excavating subcontractor finishes one basement he should begin work on the next one at once, and the next trade should immediately begin work in the basement just excavated. As the eight buildings under discussion are identical in size, design, and construction a given type of work should have been carried out in a planned order form one to another as described above. But, as can be seen from the attached summaries (taken from daily inspection reports) at the end of this chapter, the work was not properly coordinated. Referring to both the weather and construction summaries it can easily be seen that the General Contractor did not take advantage of three exceptionally good months for construction.

The poor order and slow progress of the work on this project could

have been overcome by having one competent superintendent and possibly a good expeditor. A superintendent should have complete authority concerning the operation of the work and employment. An expeditor could study in detail the various steps of construction and the trades involved, in preparation for making a work schedule to cover all trades. With proper coordination and a good work schedule, the progress of the work would have been speeded-up to such an extent that, barring late deliveries on materials, the project would have been completed on time.

The General Contractor did have a competent superintendent on this project for a few months, but it was impossible for this man to properly superintendene the job, due to the fact that each time the contractor came on the job, he would countermand the orders given by his superintendent. Consequently, late in the Fall of 1938 a second man was placed on the job----apparently as an assistant superintendent. Friction immediately developed among the leborers, subcontractors, superintendent, and assistant superintendent, mainly because the new man, who was young and new to this type of work, thought he could handle the work better than the superintendent. He proceeded to countermand orders given by the superintendent, but he wasn't willing to accept the responsibility when things went wrong. Due to this situation, work did not progress well at all, and as the expeditor mentioned above was not used, there was no coordination between the various trades.

On all work of any size the Architects and Engineers place a man to represent them and inspect the work as it progresses. This man's duties are to answer questions, make necessary decisions, make reports to his home office, and carefully watch construction. On this job, this

man often found it necessary to take it upon himself to advise the various trades when to begin work in certain locations, to correct errors in construction, and to do numerous other things that should have been done by the contractor's superintendent. As various problems came up that he was unable to settle he would write or call the Architects and Engineers so that the necessary answers could be obtained, thus expediting the work to the best of his ability.

A project partially financed by the Federal Government requires numerous reports to be made by the Contractor, the P.W.A. Resident Engineer Inspector, and the Architects and Engineers. The Contractor must furnish the following:

(a) P.W.A. Form No. 96 which is a "Detailed Estimate" of all the items of work which come under his contract. Page 13 shows one of these forms. This Estimate must be turned in at the beginning of the project and is used to check the monthly estimates.
(b) P.W.A. Form No. I-23 which is a "Periodical Estimate for Partial Payment." This form is made out at the end of each month and is the true statement as to the percentage of each item of work done. The items are taken from the P.W.A. Form No. 96. Page 14 shows one of these forms. On the back of this form signatures of the contractor, the Architects and Engineers, and the Resident Engineer Inspector are required. These parties carefully check the I-23, as it is from that form that the amount earned during that month is shown. Upon receipt of their signed copy, the Owner makes the payment to the Contractor for the amount shown due him according to this estimate.
(c) P.W.A. Form No. I-81 which is a record of the "Weekly Payroll".

P. W. A. Form No. 96 (Rev. 4-27-38)

2.

Location \_\_\_\_\_

Owner's name and address \_\_\_\_\_

### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

Sheet\_\_\_\_of \_\_\_\_ sheets

### **DETAILED ESTIMATE**

Docket No. Contract No. \_\_\_\_\_ State \_\_\_\_\_ Type of project \_\_\_\_\_

Contractor's name and address .....

Estimated cost, \$\_\_\_\_\_\_(Unit price)

Contract price, \$\_\_\_\_\_

				TIMATED			
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Approved by \_\_\_\_\_ Date \_\_\_\_\_

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### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS \_\_\_\_\_

Sheet \_\_\_\_\_ of \_\_\_\_\_sheets

### PERIODICAL ESTIMATE FOR PARTIAL PAYMENT NO.\_\_\_\_\_, DOCKET NO.\_\_\_\_\_

Contract No.\_\_\_\_

Location\_\_\_\_\_ State\_\_\_\_\_ Type of project \_\_\_\_\_

Owner's name and address

Contractor's name and address \_\_\_\_\_

\_\_\_\_\_ Contract price, \$\_\_\_\_\_

\_\_\_\_\_ Estimated cost, \$\_\_\_\_\_ (Unit price)

\_\_\_\_\_ Estimated cost, \$\_\_\_\_\_

Date	DETAII	LED ESTIMATE	c	T 7/16	WORK PERFORMED	TO DATE	
Item No.	Number and Kind of Units	Unit Price	Estimated Cost	Number of Units	Amount Earned to Date	Value of Uncompleted Work	Percent Complete
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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	CERTIFICA	LE OF THE	OWNER'S SUPER	TSING ENG	NEER OR ARCHIT	ECT IN CHARGE	
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Section 9 of the Emergency Relief Appropriation Act of 1935, reads as follows: "Any person who knowingly and with intent to defraud the United States makes any false statement in connection with any application for any project, employ-ment, or relief aid under the provisions of this joint resolution, or diverts, or attempts to divert, or assists in diverting for the benefit of any person or persons not entitled thereto, any moneys appropriated by this joint resolution, or any services or real or personal property acquired thereunder, or who knowingly, by means of any fraud, force, threat, intimidation, or boycott, deprives any person of any of the benefits to which he may be entitled under the provisions of this joint resolution, or attempts so to do, or assists in so doing, shall be deemed guilty of a misdemeanor and shall be fined not more than \$2,000 or imprisoned not more than 10 years, or both, for knowingly and willfully making or causing to be made "any false or fraudulent statements \* \* \* or use or cause to be made or used any false \* \* \* account, claim, certifi-cate, affidavit, or deposition, knowing the same to contain any fraudulent or fictitious statement \* \* \* " relating to any matter within the jurisdiction of any governmental department or agency.

### CERTIFICATE OF THE CONTRACTOR OR HIS DULY AUTHORIZED REPRESENTATIVE

To the best of my knowledge and belief, I certify that all items, units, quantities, and prices of work and material shown on the face of Sheets No. ... of this Periodical Estimate are correct; that all work has been performed and materials supplied in full accordance

with the terms and conditions of the corresponding construction contract documents between \_\_\_\_\_\_ and \_\_\_\_\_ (Owner)

....., dated \_\_\_ -----, approved by the Regional Director, and all authorized (Contractor) changes thereto; that the following is a true and correct statement of the contract account up to and including the last day of the period covered by this estimate and that no part of the "total amount due" has been received:

(a)	Total amount earned (col. 6)	\$
<b>(</b> <i>b</i> )	Retained percentage	\$
(c)	Total earned less retained percentage	\$
(d)	Total previously approved	\$
(e)	Amount due this estimate	\$
<b>(</b> f)	Unpaid from previous estimates	\$
(g)	Total amount due	\$

I further certify that all just and lawful bills against \_\_\_\_\_\_ for labor, materials and expendable equipment (Contractor) employed in the performance of said contract have been paid in full in accordance with P. W. A. Regulations and contract requirements.

Contractor By \_\_\_\_\_

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

### CERTIFICATE OF THE OWNER'S SUPERVISING ENGINEER OR ARCHITECT IN CHARGE

I certify that I have verified this Periodical Estimate, and that to the best of my knowledge and belief it is a true and correct statement of work performed and materials supplied by the contractor, and that the contractor's certified statement of his account and the amount due him is correct and just, and that all work and material included in this Periodical Estimate have been performed in full accordance with the terms and conditions of the corresponding construction contract documents and authorized changes thereto.

Name	 3v	

Date \_\_\_\_\_

#### CERTIFICATE OF THE PUBLIC WORKS ADMINISTRATION ENGINEER INSPECTOR IN CHARGE

Title \_\_\_\_\_

I certify that all work and material included in this Periodical Estimate have been inspected by me or my duly authorized assistants and have been found to comply with the terms and conditions of the corresponding construction contract documents and authorized changes thereto.

Name				By					
T towns	Stumber and JEind	. Dale	Entimented Cont	Stumber of Units	Amount Earned to Date	Value of Bacquistered Wo	Connoiete		
Date	DELVIT	ED ERTMATE	· · · · · · · · · · · · · · · · · · ·	Title	WORK PERFORMED	S TO DATE			
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Locatio	u				- Ty	<sup>-</sup> Type of project			
							inclusive.		
						Contract No.			
PERIO	DICAL ESTI		R PARTIAL P	AYMENT N		Sheet of DOCKET NO.	sheets		
		FEDERAL E							

Page 16 shows one of these forms. Each contractor or subcontractor having any men working for him on the project must make out one of these forms each week that he has any one working. The employees<sup>1</sup> names, classifications, hours worked, rates, amounts earned, and acknowledgements of payment are shown on these forms. The employer must sign each copy and have his signature notarized.

(d) The Architects and Engineers require a daily report concerning the number and classification of employees, the amount of time worked, and a description of the work done during that day.
(e) The Contractor must furnish a progress schedule showing the starting and completion dates of each trade working for him. This schedule must be submitted shortly after commencing work.
(f) Every two weeks the Contractor must have two photographs taken to show the progress of the project, one print goes to the Owner, the other to the Architects and Engineers.

The Resident Engineer Inspector, besides checking the reports made by the Contractor, must make the following reports himself:

(a) P.W.A. Form PS-282- "Employment Report." Page 17 shows one of these forms.

(b) P.W.A. Form No. I-3- "Weekly Construction Report." See page 18 for one of these forms.

(c) P.W.A. Form No. I-92 - "Monthly Project Summary." Page 19 shows a sample form.

(d) P.W.A. Form No. I-22 - "Final Report." Page 20 shows one of these forms.

The above four reports are sent to the Regional Office of the P.W.A.

P. W. A. Form No. 1-81 (Revised Feb. 1, 1939)

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FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

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### PENALTIES

Section 35 of the Criminal Code, as amended, provides: "Whoever shall make or cause to be made or present or cause to be presented, for payment or approval, to or by any person or officer in the civil, military, or naval service of the United States, or any department thereof, or any corporation in which the United States of America is a stockholder, any claim upon or against the Government of the United States, or any department or officer thereof, or any corporation in which the United States of America is a stockholder, knowing such claim to be false, fictitious, or fraudulent; or whoever shall knowingly and willfully falsify or conceal or cover up by any trick, scheme, or device a material fact, or make or cause to be made any false or fraudulent statements or representations, or make or use or cause to be made or used any false bill, receipt, voucher, roll, account, claim, certificate, affidavit, or deposition, knowing the same to contain any fraudulent or fictitious statement or entry, in any matter within the jurisdiction of any department or agency of the United States or of any corporation in which the United States of America is a stockholder, shall be fined not more than \$10,000 or imprisoned not more than ten years, or both."

Section 1 of the so-called Kick-Back Statute, which is Public No. 324, Seventy-third Congress, approved June 13, 1934 (48 Stat. 948), provides: "That whoever shall induce any person employed in the construction, prosecution, or completion of any public building, public work, or building or work financed in whole or in part by loans or grants from the United States, or in the repair thereof to give up any part of the compensation to which he is entitled under his contract of employment, by force, intimidation, threat of procuring dismissal from such employment, or by any other manner whatsoever, shall be fined not more than \$5,000 or imprisoned not more than five years, or both."

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STATE OF	]					
COUNTY OF	88:					
I,					le hencher	contifer that
(Name of person signing affidavit)			(Title)	74)	, do nereby	certify that
1 am the employee of(Name of c	contractor or subcontractor)	who supe	ervises the payme	ent of the en	ployees of sai	d contractor

(subcontractor); that the pay roll on the reverse hereof is a true and accurate report of the full weekly wages due and paid to each person

employed by the said contractor	(subcontractor) for the construction of		for the
		(Name of project and docket number)	
weekly pay roll period from the	day of	, 19, to the day of	

19\_\_\_\_\_; that no rebates or deductions from any wages due any such person as set out on the pay roll on the reverse hereof have been directly or indirectly made; and that, to the best of my knowledge and belief, there exists no agreement or understanding with any person employed on the project, or any person whatsover, pursuant to which it is contemplated that I or anyone else shall, directly or indirectly, by force, intimidation, threat or otherwise, induce or receive any deductions or rebates in any manner whatsoever from any sum paid or to be paid to any person at any time for labor performed or to be performed under the contract for the above-named project.

		(Na	me of person signing affidavit)
Sworn and subscribed to before me this	day of	, 19	
My commission expires			

#### NOTICE CONCERNING AFFIDAVIT FORM

The above pay roll affidavit must be executed and sworn to by the officer or employee of the contractor or subcontractor who supervises the payment of its employees.

The clause in said affidavit which reads "\* \* \* that the attached pay roll is a true and accurate report of the full weekly wages due and paid to each person employed by the said contractor \* \* \*" is construed to mean:

- (a) Wages due are the wages earned during the pay period by each person employed by the contractor, less any deductions required by law.
- (b) At the time of signing the affidavit, the wages due each employee have either been paid to him in full or are being held subject to claim by him.
- (c) Such unpaid wages will be paid in full on demand of the employee entitled to receive them.

The clause "\* \* \* that no rebates or deductions from any wages due any such person as set out on the attached pay roll have been directly or indirectly made" does not apply to any legitimate deductions mentioned above which enter into the computation of full weekly wages due.

### REMARKS

(For use of employer only)

#### DOCKET No. WEEKLY PAY ROLL No.

Referred by U. S. K. S. Referred by Union. Certified from relief rolls.	Employer's name and address	Employer's name and address					
PEGEND	Owner's name and address	Contract No					
	Location	State		Type of project			
	For the period	to	nclusive				

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. . P. W. A. Form No. I-3 Rev. 1-26-39

### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS ENGINEERING DIVISION

## WEEKLY CONSTRUCTION REPORT NO.

	16-4598
Owner's name and address	Section No.
Location	
For week ending	Type of project
	Docket No.

### DESCRIPTIVE REPORT

(Give here a general statement of the work performed during the week. Toward the end of the job, supplement this with a statement of work still to do. Describe and explain any delays, or any present or anticipated shortages that are likely to cause delay. If there are any features of special interest, note them here.)

NOTICE TO DIVISION OF ACCOUNTS:

Docket as a whole, \_\_\_\_\_\_ % complete, as of this date. Docket as a whole, estimated to be 70% complete \_\_\_\_\_\_ Docket as a whole, estimated to be 100% complete \_\_\_\_\_\_ The Grantee proposes to submit a \_\_\_\_\_\_ Grant Requisition as of \_\_\_\_\_\_

Visitors.

P. W. A. Form No. I-92 Rev. 3-21-38

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

### MONTHLY PROJECT SUMMARY

Engineer Inspector.

16-4682

		No
For the month ending		Docket No
Location	State	Type of Project
Owner's name and address		

	Symbol No						
CONTRACT NUMBER	LATEST APPROVED	BUDGETED AND AWARDED	AUTHORIZED	OWNER'S SCHEDULED	TOTAL EARNED LINE "a" P. W. A. FORM	PERC	CENT PLETE
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### MONTHLY PROJECT SUMMARY

Engineer	Inspect	or.

Date\_

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### REMARKS

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#### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

### FINAL REPORT

State \_\_\_\_\_ Docket No. \_\_\_\_\_ Location \_\_\_\_\_

Owner \_

Type of Project ..... LIQUIDATED DAMAGES COMPLETION DATE STARTING DATE CONTRACT NUMBER CHANGE ORDERS ACTUAL ASSESSABLE ASSESSED SUBSTANTIAL CONTRACT CONTRACT ACTUAL (5) (6) (7) (8) (9) (3) (4) (1) (2)

Resolution or other documentary evidence authorizing extension of time in files. Yes 🗌 No 🗌 Owner's certificate of completion and acceptance, dated \_\_\_\_\_, attached.

**REMARKS**:

#### **APPROVALS:**

Regional Director.

... by ...

(Date)

U. S. GOVERNMENT PRINTING OFFICE 16-5263

The Architects and Engineers' Representative is required to make out a daily inspection report. (One of these forms can be found on page 22.) An original and three copies are made of each report. They are distributed as follows: the original is for the Architects and Engineers' file, copy one is for the Owner, copy two is for the Resident Engineer Inspector, and copy three is for the Representative's own file. This report, as can be seen from the sample form, shows the date, work day (numbered consecutively from the first day of construction), weather, temperature, classification and number of men employed, description of work done, causes for delays ( if any), material needed, drawings or information needed, visitors and titles, meetings or appointments, and general remarks concerning the progress of the job. He must also check estimates, and weekly payrolls to see that they are correct.

During the progress of a large project many unforseen problems arise. This project was no exception. A few of the problems which came up were, interpretation of the plans and specifications, employment and wage disputes, site conditions, weather conditions, and lack of power and heat.

Questions arising from the interpretation of the plans and specifications were as a rule immediately settled by the Architects and Engineers' Representative.

Employment disputes caused the loss of only one day, but a wagedispute arose which brought about a very thorough investigation by the Department of Investigation of the P.W.A. This investigation resulted in the finding of evidence to substantiate the claims made against the General Contractor. The Owner therefore called for a hearing in order that each claimant could present his claim. A brief summary of this hearing follows.

#### DAILY INSPECTION REPORT

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208 ELM STREET		PWA Docket Michigan 1469-F
Kalamazoo. Michigan	Day of Week	

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Michigan Children's Village Coldwater, Michigan PWA Docket Michigan 1469-F

208 ELM STREET Kalamazoo. Míchígan

Day of Week .....

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ARCHITECTS & ENGINEERS Day of Month

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## DAILY INSPECTION REPORT

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The hearing was scheduled for April 3, 1940, between the hours of 10 A.M.--12 P.M., 1 P.M. - 6 P.M., and 7:30 P.M. - 9:30 P.M. Each person found having a claim was notified by registered mail, return receipt requested. The General Contractor, The Architects and Engineers, and the P.W.A. were also notified. The hearing was held at the Institution at Coldwater, and all the claimants, except two, appeared and presented their claims.

These claimants were hired under the classification of mason tenders, whose minimum rate, according to the specifications is \$.75 per hour. However, they submitted evidence from records they had kept and from the pay envelopes they had retained, that they were paid only \$.60 per hour, the rate for common labor. This was a violation of the specifications. Consequently the General Contractor was found guilty of under-payment to these claimants and was ordered to pay the balance due each of them.

Soil conditions did not present any problem until the months of December, 1938 and January, 1939, when there was an unusual amount of rainfall and unseasonably warm weather. This weather caused a great deal of inconvenience and delay due to the excessive mud all along the construction road and around the buildings.

Lack of sufficient power for grinding machines caused delays in finishing the floors. Lack of any temporary or permanent heat caused damage to basement floors and tile partitions.

Most of these problems could easily have been overcome had the work progressed as it should have. The soil conditions as stated above did not cause any trouble until the month of December, 1938. By that time the buildings should have been enclosed, and work should have been in progress on the inside. Lack of power would not have caused any delay had the buildings been constructed consecutively, for there was sufficient power to operate grinding and finishing machines if used in only one building at a time. Lack of permanent heat would not have caused trouble had the buildings been enclosed by the time cold weather set in. Basement floors shouldn't have been poured until the roofs were on and the buildings enclosed. Temporary heat was requested, but none was used. Had it been used, no damage from frost would have occurred.

Besides field work on this project there was an immense amount of office work required. In order to properly and economically handle the office work, it was necessary to set up a system for handling all phases of the work. This was done and revised from time to time to expedite the work. One man was placed in charge of the administrative, expediting, and inspection work.

The greatest item any Architectural and Engineering office has on a project of this type is the correspondence involved. Since the P.W.A., the Owner, the Contractor, and the Architects and Engineers' Representative were all interested parties, each requiring one or more copies of each letter, it was necessary to compile a correspondence distribution schedule, a copy of which will be found on pages 25 through 31. This enabled us when writing letters to make the required number of copies and also prevented us from slighting some one who was interested in the subject of a given letter. The paragraphs which follow show some of the reasons why the volume of correspondence is so great.

Material Suppliers and Subcontractors must be approved by the Architects and Engineers. The Principal Contractor submits a written request for the approval. If it is a request for the approval of a Material Supplier the Architects and Engineers will review the request,

#### DISTRIBUTION OF CORRESPONDENCE

- Re: Michigan Children's Village Eight Girls' Dormitories, Docket 1469-F Tunnel Construction Work, Docket 1476-F Power House, Docket 1476-F Two Custodial Buildings, Docket 1477-F
- ITEM I CORRESPONDENCE (Contractors Having No Interest)

From Architects and Engineers

to Owners

- (a) One (1) original to Owner
- (b) One (1) carbon copy to Architects and Engineers Representative
- (c) Three (3) carbon copies to the R.E.I.

Correspondence to be mailed as follows:

- (a) to Owner
- (b) and (c) to the Architects and Engineers' Representative who

will distribute them.

ITEM II - CORRESPONDENCE (Contractors Having Interest)

From Architects and Engineers

to Owners

- (a) One (1) original to Owner
- (b) One (1) carbon copy to Architects and Engineers' Representa-
- (c) Three (3) carbon copies to the R.E.I. / tive.
- (d) One (1) carbon copy to Contractor

Correspondence to be mailed as follows:

- (a) to Owner
- (b) and (c) to Architects and Engineers' Representative who

will distribute.

(d) to Contractor

ITEM III - CORRESPONDENCE (Contractors Having No Interest)

From Architects and Engineers

to P.W.A. Regional Office, Chicago

(a) One (1) original to P.W.A. - Chicago

(b) One (1) carbon copy to Owner

(c) One (1) carbon copy to Architects and Engineers' Representa-

(d) One (1) carbon copy to the R.E.I. /tive.

Correspondence to be mailed as follows:

(a) to P.W.A. 1 Chicago

(b) to Owner

(c) and (d) to Architects and Engineers' Representative who will distribute.

ITEN IV - CORRESPONDENCE (Contractors Having Interest)

From Architects and Engineers

to P.W.A. Regional Office, Chicago

(a) One (1) original to P.W.A. - Chicago

(b) One (1) carbon copy to Owner

(c) One (1) carbon copy to Contractor

(d) One (1) carbon copy to Architects and Engineers' Representa-

(e) One (1) carbon copy to the R.E.I. /tive.

Correspondence to be mailed as follows:

(a) to P.W.A. - Chicago

(b) to Owner

(c) to Contractor

(d) and (e) to Architects and Engineers Representative who will distribute.

ITEM V - CORRESPONDENCE ( Contractors Having No Interest)

From Architects and Engineers

to Architects and Engineers Representative

- (a) One (1) original to Architects and Engineers' Representative
- (b) One (1) carbon copy to Owner
- (c) Three (3) carbon copies to the R.E.I.

Correspondence to be mailed as follows:

(a) and (c) to Architects and Engineers' Representative who will distribute.

(b) to Owner

ITEM VI - CORRESPONDENCE ( Contractors Having Interest)

From Architects and Engineers

to Architects and Engineers' Representative

- (a) One (1) original to Architects and Engineers' Representative
- (b) One (1) carbon copy to Owner
- (c) Three (3) carbon copies to the R.E.I.
- (d) One (1) carbon copy to Contractor

Correspondence to be mailed as follows:

(a) and (c) to be sent to Architects and Engineers' Representa-

tive who will distribute

- (b) to Owner
- (c) to Contractor

#### ITEM VII \_ CORRESPONDENCE

From Architects and Engineers

to Contractor

- (a) One (1) original to Contractor
- (b) One (1) carbon copy to Owner

(c) One (1) carbon copy to Architects and Engineers'

#### Representative

(d) Three (3) carbon copies to the R.E.I.

Correspondence to be mailed as follows:

- (a) to Contractor
- (b) to Owner
- (c) and (d) to Architects and Engineers' Representative who will distribute.

ITEM VIII - APPROVAL OF MATERIALS AND/CR MATERIAL SUPPLIER

(a) One (1) original to Contractor

(b) One (1) carbon copy to Owner

(c) One (1) carbon copy to the R.E.I.

(d) One (1) carbon copy to Architects and Engineers' Representa-Correspondence to be mailed as follows: /tive.

- (a) to Contractor
- (b) to Owner
- ((c) and (d) to Architects and Engineers' Representative who will distribute.

ITEM IX \_ APPROVAL OF SUB\_CONTRACTORS

(a) One (1) original to Contractor

(b) One (1) carbon copy to Owner

(c) Three (3) carbon copies to the R.E.I.

(d) One (1) carbon copy to Architects and Engineers' Representa-Correspondence to be mailed as follows: /tive.

(a) to Contractor

(b) to Owner

(c) and (d) to Architects and Engineers' Representative who will

distribute.

#### ITEM X \_ SUB \_CONTRACTOR'S INSURANCE CERTIFICATES

(a) One (1) original to Contractor

- (b) One (1) carbon copy to Owner
- (c) Three (3) carbon copies to the R.E.I.

(d) One (1) carbon copy to Architects and Engineers' Representa-Certificates to be mailed as follows: /tive.

- (a) to Contractor
- (b) to Owner

(c) and (d) to Architects and Engineers Representative who will

distribute. Certificates to be sent along with ITEM IX if possible. If not possible to send as aforementioned send letter of transmittal along with certificates.

ITEM XI \_ CONTRACTORS' SHOP DRAWINGS

- (a) One (1) copy to Architects and Engineers' File
- (b) One (1) copy to Contractor
- (c) One (1) copy to Sub-Contractor
- (d) One (1) copy to Architects and Engineers' Representative
- (e) One (1) copy to the R.E.I.
- (f) Three (3) or more copies to Contractor's Field Office Shop Drawings to be distributed as follows:
  - (a) to Architects and Engineers' Files
  - (b) and (c) to Contractor's Main Office
  - (d), (e), and (f) to Architects and Engineers' Representative who

will distribute and obtain receipt for same.

distribute.

ITEM X - SUB \_CONTRACTOR'S INSURANCE CERTIFICATES

(a) One (1) original to Contractor

(b) One (1) carbon copy to Owner

(c) Three (3) carbon copies to the R.E.I.

(d) One (1) carbon copy to Architects and Engineers' Representa-Certificates to be mailed as follows: /tive.

(a) to Contractor

(b) to Owner

(c) and (d) to Architects and Engineers Representative who will

distribute. Certificates to be sent along with ITEM IX if possible. If not possible to send as aforementioned send letter of transmittal along with certificates.

ITEM XI \_ CONTRACTORS' SHOP DRAWINGS

- (a) One (1) copy to Architects and Engineers' File
- (b) One (1) copy to Contractor
- (c) One (1) copy to Sub-Contractor
- (d) One (1) copy to Architects and Engineers' Representative
- (e) One (1) copy to the R.E.I.
- (f) Three (3) or more copies to Contractor's Field Office Shop Drawings to be distributed as follows:
  - (a) to Architects and Engineers' Files
  - (b) and (c) to Contractor's Main Office
  - (d), (e), and (f) to Architects and Engineers' Representative who

will distribute and obtain receipt for same.

## ITEM XII - CORRESPONDENCE

From Architects and Engineers

to R.E.I.

(a) One (1) original to R.E.I.

(b) Three (3) carbon copies to the R.E.I.

(c) One (1) carbon copy to Owner

(d) One (1) carbon copy to Architects and Engineers' Representative Correspondence to be mailed as follows:

(a) and (b) to the R.E.I.

(c) to Owner

(d) to Architects and Engineers' Representative

Note: Where Contractor has interest, one more carbon will be made and mailed to the Contractor.

check on the material and, if found satisfactory, will send a letter of approval to that effect. If the request is for the approval of a subcontractor the name and address of the subcontractor, the amount of the subcontract, and the insurance certificates, (covering Property Damage, Public Liability and Workmen's Compensation) in the amounts called for in the specifications, must accompany the request for approval. No subcontractor is allowed to start work until he has satisfied all the conditions set forth in the specifications and has received official approval. Page 32 shows Form E-13 which gives the information that must appear on the insurance certificate. Page 33 shows R.D.O. Form No. E-85 (a), "Bond and Insurance Coverage" which must be filled out by the Resident Engineer Inspector who is handling the project. Page 34 shows P.W.A. Form No. I-16, "Record of Subcontractors" which is the record of approval of the subcontractor by the P.W.A.

The I-96 and I-23 Forms, previously described, must be thoroughly checked by the Architects and Engineers before signing, because payments are made from the information shown on them. When signed, these estimates are sent to the Resident Engineer Inspector who carefully checks, signs, and distributes copies of them to the Owner, the Architects and Engineers, the Contractor, and the Regional Director.

The Principal Contractors are required to submit shop drawings, such as reinforcing plans, door and trim details, stair details, cut-stone details, framing plans, roof framing plans and details, locker details, etc., which show in detail the method of construction and the type of material to be used for various parts of the work. As these shop drawings are received, the date is stamped on each sheet. The following information, such as the date received, the name of the company that made the prints, the number received, the sheet numbers, the Contractor

H=13					
* OWNE	R'S CERTI	FICATE OF CC	NTRACTOR'S INS	URANCE COVERAGE	
I,		, the d	uly authorized	representative ( (herein called	of
(here insert the "Insurer") hereb legally authorized a the representations certificates and/or by the Insurer to th for whom this certific certificate; and (3) insurance described age as stated herein	name of oy certif and empow and stat endorsem ie Contra icate is that if below ar , in suc	insurance c y: (1) that ered by said ements herei ents of insu ctor or Sub- issued, and such polici e cancelled, h manner as	ompany) as such repres Company to ma n contained; a rance describe Contractor (he are in force es, certificat or changed du to affect this	entative I am ful ke this Certifica nd, (2) that poly d below have been rein called the ' as of the date of es and/or endorse ring the periods certificate, wr	lly and ate and lcies, h issued 'Assured") this ements of of cover-
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proper corporate	name of	Owner)			
te whom this certifi	cate is	issued, at 1	east five (5)	days prior to suc	h change
or cancellation.	•		<u>(</u>		
				2	
1.			2		
(Name and	address	of Owner to	whom certific	ate is issued)	
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(Derinite Tocari	on or the	e project co	vered by this	certificate) (Doc	ket No.)
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Insurance					Each
					Accident
(d) Contractor's Con-		***)#\$=#####,#####			Aggregate
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Liability Insur-					Terson
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(e) Contractor's Con-	-				Accident
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All operations of the in Paragraph 3 hereo:	e Assured f, are co	connected vered under	the policies of	and location, des or certificates 1	cribed isted.
All operations of the in Paragraph 3 hereo: subject, however, to above set out out	Assured f, are co the exce	connected w vered under ptions noted	with the work a the policies of below to each	and location, des or certificates 1 1 of the correspo	cribed isted, nding

Exceptions to liability under Sub-Paragraphs:

- (a) No exceptions must be statutory
- (b)
- (c)
- (d)
- (e)

The minimum amount of insurance coverage must comply with the requirements of the contract documents.

\* If an insurance company insists on using its own form of certificate, it must corporate thereon all the information elicited on this form.

5. In case the principal contractor covers all of the operations of the Assured Sub-Contractor, the form below should be filled out as may be applicable.

The Insurer has, by rider or endorsement to the original policy or certificate, assumed liability for the acts and operations of the Assured's Sub-Contractors on the work, and at the location, described in Paragraph 3' hereof as follows:

•	(1)	(2)	(3)	.(4)	(5) ,
		Rider at- tached to Policy No.	Effective Date of Rider	Expiration Date of Rider	Limits of Liability under Rider
(a)	Workmen's Compen- sation Policy in- suring employees				
(b)	Public Liability Policy - personal injuries				\$ Each Ferson \$ Each
(c)	Property Damage Policy				\$ Each Accident
(d)	Contractor's Con- tingent Liability Policy				<ul> <li>\$ Aggregate</li> <li>\$ Each</li> <li>Person</li> <li>\$ Each</li> </ul>
(e)	Contractor's Con- tingent Property Damage Policy				Accident \$ Each Accident
	If no liability ha	s been assum	ed for Sub-Co	ntractors, in	Aggregate Assert the word
	Dated this	d:	ay of	irance.	, 19
	•		(here i	nsert name of	Insurance Company)
			. D		
			"ByI	uly Authorize	d Representative
	I,		, the duly a	ppointed repr	esentative of
(he to a that the the	re insert corporate pprove Contractor' I have examined the coverage set out in contract documents	e name of Own s and Sub-Cor ne foregoing n said certif for the	, hereby her) htractor's in Certificate ficate as con	certify that surance cover of Insurance stituting ful	I have been authorized age for the Owner; and have approved 1 compliance with
·	WO1	(des rk on the cor	scribe as: genstruction of	neral, electr	ic, plumbing, etc.)
	(Project:	- School Bui	lding. Hospi	tal. Etc.)	at
	(City or 1	Fown)		·	
					*
	Dated this		day of		, 19
				• (80)	
			Duly a	uthorized rep:	resentative of Owner

- 2 -

R.D.O. Form No. E-85 (a)

FEDERAL WORKS AGENCY PUBLIC WORKS ADMINISTRATION REGION NO. 2 1701 - 20 North Wacker Drive, Chicago, Illinois

BOND AND INSURANCE COVERAGE

Docket No.

Type of Project\_\_\_\_\_

Location

TO: (Owner)

SUBJECT: Insurance

The bond and insurance coverage listed below and evidenced by the attached documents has been examined and is approved for compliance with the specifications for the work to be done under the contract.

Principal Contractor:\_\_\_\_\_ Contract No.\_\_\_\_\_

Sub-Contractor: Sub-Contract No.

 

 BOND OR POLICY

 Surety or Insurer
 Number
 Kind
 Effective Date
 Expiration Date
 Date Approved By Engr. Insp.

 Image: I

REMARKS:

DISTRIBUTION:

Engineer Inspector. (sign manually)

Original - Resident Engineer Inspector 1 copy to Owner 1 copy to Regional Director

(Field)

C 1 C L M.

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P. W. A. Form No. 1-16 (Revised 8-17-33)

1

## FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

## RECORD OF SUBCONTRACTORS

Location	State	DOCKET NO.
Owner's name		PROJECT NO.
Address Type of project		
General contractor		
Address		D. 4
Subcontract No.	for	approved
То		Amount
Address		Data amond
Subcontract No.	for	approved
То		Amount
Address		
Subcontract No.	for	approved
То		Amount
Address		
Subcontract No.	for	Date award approved
То		Amount
Address		
Subcontract No.	for	Date award approved
То		Amount
Address		

submitting the prints, and a description of the drawing, is recorded. Immediately after this record is made they are carefully checked against the plans and specifications. After the drawings have been thoroughly checked and stamped the following information is recorded; the distribution, a record as to how stamped, (approved, approved with corrections as noted, disapproved), the date sent out, checked by, and any remarks deemed necessary. Page 36 shows one of these sheets. A form letter of transmittal is used, one copy going to the Contractor, one to the Architects and Engineers' Representative, and one remaining in the office files. Page 37 shows a copy of a letter of transmittal.

During the progress of the project many enlarged details, showing special features or certain construction details, must be prepared. These consist of such information as stone details, special plaster details, brick details, etc. As soon as they are prepared, prints are sent to the Contractor and to the job in order that they may be followed.

From time to time, bulletins are issued, covering any construction changes or additions which for any reason must be made. For example, the tunnel reinforcing shown on the plans was not adequate, therefore additional reinforcing had to be used. The specifications did not call for the painting of certain items such as radiator grilles, firehose cabinets, and access doors, but the Architects and Engineers requested that this be done. Some door swings were changed for greater efficiency and freedom. Many such items were found during construction, and, as the Contractor was requested to make the changes or additions, bulletins were issued, giving a detailed description of each item. Pages 38 through 41 show a typical bulletin. The Contractor was then requested to submit an itemized breakdown, showing the cost of each item. Upon

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RECO	NAME OF COMPANY	RECD	DHEEL	RECD FROM	DESCRIPTION						DATE		REMARKS
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## SHOP DRAWING RECORD FOR

STEWART-KINGSCOTT COMPANY Architects & Engineers 208 Elm Street Kalamazoo, Michigan

	Date
	Re: Michigan Childran's Village, Coldwater PWA Docket No. Michigan 1469-F Eight Girls' Dormitories
Dear Sir: (enclose her We (are forward	ewith ) ( ) Approved ing under separate cover) ( ) Approved as noted ) ( ) Disapproved prints each of the following drawings;
for disposition	in accordance with the following schedule:
(	) To Contractor
	Copies for Contractor's office file.
	Copies for Subcontractor's office file.
(*	) To A & E Representative Coldwater, Michigan
	Copies for A & E Representative
	Copies for PWAREI
	Copies for Contractor's Field Office
(	) To Stewart-Kingscott Company Architects & Engineers Kalamazoo, Michigan
	Copies for Architects and Engineers' office file.
	Very truly yours,
	STEVART-KINGSCOTT COMPANY
	Ву

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- (b) Some statistical sectors are expressed in the sector of the sect



<sup>4. - 24 - 75.</sup> 

receipt of this breakdown, the Architects and Engineers carefully checked each item and its cost, and, if found satisfactory, then made up a change order.

A change order is made up with the following material:

- 1. A letter of transmittal to the Budget Director.
- 2. A letter showing the financial status of the contract before and after the change.
- 3. A copy of the Architects and Engineers' letter to the Contractor requesting the itemized breakdown.
- 4. The Contractor's itemized breakdown.
- 5. A copy of the bulletin.
- 6. A letter showing the Architects and Engineers' opinion of the change, together with a detailed description of each item and the reasons for the change.

A change order had to be sent to the Budget Director who is empowered by the State Administrative Board to approve any necessary changes. A letter approving the change order, together with statements to the effect that there was sufficient money in the contingency fund to cover the change and that he, the Budget Director, was empowered by a resolution of the State Administrative Board to approve changes, was attached to the order. The change order was then sent to the Resident Engineer Inspector, who had to write a letter to the Regional Director's Office wherein he had to comment on each item and had to recommend either approval or rejection of each item. The Regional Office, upon approval, sent copies of P.W.A. Form No. 84 to the Owner, Resident Engineer Inspector, and the Architects and Engineers. Page 43 shows one of these forms upon which is shown the contract change number, a schedule of the cost, and a description of the change and approval. Upon receipt of P. W. A. Form No. 84 (Revised 7-28-36)

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

#### CONTRACT CHANGE NO.

То		Docket No.
	(Name)	Type of Project
	(Address)	
		Symbol No.
	(Address)	
Contractor		Contract No.
	(Name only)	

Receipt is acknowledged of your communication, dated of the following contract change:

SCHEDULED COST LATEST APPROVED ESTIMATE CLASSIFICATION FROM-THIS CHANGE To-(1) (2) (3)(4) (5) 1. Preliminary, 2. Land and right-of-way, 3. Construction, 4. Engineering, 5. Legal and administrative, 6. Interest, 7. Miscellaneous, TOTAL,

Calendar days

NEW COMPLETION DATE

Description of change:

#### This Contract Change is

The Public Works Administration, in approving any change, assumes no obligation to finance the cost thereof, except to the extent to which the same may be paid out of funds expressly contracted for by it, and specifically makes no representation concerning any additional funds necessitated by any approved change.

Date \_\_\_\_\_

All requests for change, whether approved or disapproved, shall be recorded.

Regional Director. Engineer Inspector.

, requesting approval

(Use reverse side if needed for description and explanation of change)

their copy of this Form No. 84, the Architects and Engineers notify the Contractor that approval of the change order has been received, and give the contract change number in order that he may include it on his next I-23. He is then instructed to proceed with the work as outlined in the bulletin.

After construction has started the Owner must make out an Engineering Form No. 129 "Schedule of Contracts", a copy of which is shown on page 45. This form shows the total estimated cost of the project, the amount set up for construction, the project completion date, the contract number, the contract description, the cost of each contract, the date on which the documents were sent to the P.W.A., the date on which bids were opened, the date on which the contract was awarded, the date on which work was started, the date specified for completion; and the expected date of completion. If any new contracts are let during the progress of a project, or if the project time is extended, a new Form No. 129 must be filled out which includes the new contract or the new project completion date.

Some projects are completed within the specified time while others are not. This project, due to many delays, was in progress after the specified date of completion. It was therefore necessary for the Contractor to request an extension of time for the number of days he felt it would take him to complete the work. The Architects and Engineers made up a request for a Contract Extension of Time for that number of days and sent it to the Owner who approved it and sent it to the Regional Office. The Regional Office approved the request and showed its approval on P.W.A. Form No. 84. But later, after the docket or project time was exceeded and a project extension of time was requested, the

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

# SCHEDULE OF CONTRACTS

Date \_\_\_\_\_

Total e	estimated	cost	\$
---------	-----------	------	----

Eng. Form No. 129

Docket No.

For construction \$	Туре
Approved project completion date	Location

Contracts for all work in the project should be listed. Dates earlier than the date of this schedule should be actual historical dates, dates later than the date of this schedule should be dates as now expected.

Con- TRACT No.	CONTRACT DESCRIPTION	Cost Estimated or Actual	DOCUMENTS TO PWA	Open Bids	Award Contract	START WORK	Specified Date*	Expected Date**
		\$						
						1.5%		
	TOTAL	S	-					Sand State

REMARKS:

Proposed by

Approved

(Date)

(Date) (Title of owner's representative)

\*Completion date specified in the contract. \*\*Date when contract now is expected actually to be completed.

Regional Director.
approval was made on P.W.A. Form No. 194, "Project Change No. \_\_\_\_", a copy of which appears on page 47. This form was also used when the Project Funds were in any way changed, such as increasing or decreasing the amount the Owner could furnish.

Besides doing the administrative and expediting work, the man in charge of the office work often had to make inspection trips to the project. Conferences with contractors and others were held at the time of these visits to settle problems which had arisen. These trips made it possible for the Office to keep in closer contact with the job at all times. P. W. A. Form No. 194 (Revised 7-28-36)

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

# PROJECT CHANGE No.

То	(Name)	Docket No Type of Project
	(Address)	
		Symbol No.
	(Address)	

Receipt is acknowledged of your communication, dated \_\_\_\_\_, requesting approval of the following project change:

	APPROVED ESTIMATE			
CLASSIFICATION (1)	Froм— (2)	This Change (3)	То— ( <b>4</b> )	
1. Preliminary,				
2. Land and right-of-way,				
3. Construction,				
4. Engineering,				
5. Legal and administrative,				
6. Interest,				
7. Miscellaneous,				
Total,				

Description of change:

This Project Change is

The Public Works Administration, in approving any change, assumes no obligation to finance the cost thereof, except to the extent to which the same may be paid out of funds expressly contracted for by it, and specifically makes no representation concerning any additional funds necessitated by any approved change.

Date \_\_\_\_\_

All requests for change, whether approved or disapproved, shall be recorded.

(Use reverse side if needed for description and explanation of change)

\_\_\_\_\_

Regional Director.

U.S. GOVERNMENT PRINTING OFFICE 16-5197

#### PROGRESS

#### BUILDING "A"

```
<u>1938</u>
```

```
Sept. 6 - Stribping top soil
Cct. 5 - Excavation
     6 - Excavation
     11 - Placing footing forms
    12 - Placing footing forms call hand excountion
    13 - Building runways.
    14 - Pouring footings
    15 - Removed forting forms, Placed drain tile eround footings.
    17 - Placing wall from plates
     24 - Placing wall forms
     25 - Placing well forms
    26 - Placing wall forms
    27 - Pouring wells
    28 - Pouring walls
Nov. 1 - Pipe trenching
     4 - Pipe trenching
     7 - Soil lines
     8 - Soil lines
     9 - Soil lines
     10 - Soil lines
    14 - Caulking soil lines
     15 - Caulking soil lines
    16 - Steam and return lines and covering
    17 - Steam and return lines and covering
    21 - Pachfilling
     02 - Poured besement slab
Dec. 13 - Poured outsdie steps - clazed tile (tarement)
    14 - Glazed tile
    16 - Setting steel sesh
    19 - Glazed tile and face brick (basement)
1939
Jan. 5 - Framing first floor
      6 - Framing first floor
      9 - Framing first floor
     10 - Framing first floor
     11 - Framing first floor
     12 - Conduit first floor - sleeves - framing first floor - re-steel
          first floor
     13 - Sleeves - conduit - Poured first floor slab
     16 - Stripping first floor forms
     23 - Setting belt course
     24 - Setting belt course
     27 - Setting belt course, lights and switches
Feb. 2 - Duct work
     6 - Setting door tacks - outlet toxes (basement) - sheet metal work
```

```
1939
```

```
Feb. 7 - Setting door bucks
     8 - Setting door bucks
    10 - Recessed light boxes (harement)
    13 - Flush lights (basement) - soil and water lines
    14 - Brick and tile - setting stone at entrance - soil and water
           11 17 11
    15 -
                                                    - setting stone
         sill - outlet boxes
    16 - Cutlet boxes - soil and water
    17 - Face brick and glazed tile first floor
    22 - Sheet metal
Mar. 2 - Brick and tile
     3 - Face Brick and Tile first floor
     9 - Setting stone
    10 - Setting seah and caulking - setting stone
    24 - Caulking first floor window frames
    28 - Steam and return
    29 - Setting sesh 1 irst floor
    31 - Erecting column and beam forms for second floor - steam and
         return
Apr. 3 - Backfilling and leveling off - framing for second floor slab
     4 - Framing for second floor slab - setting joists
                  ....
                      11 11
                                   - 11
     5 - "
                  ....
                        11
                              11
          18
                                  " - setting re-steel - conduit
     5 -
     *7 - Pouring second floor slab
    10 - Cleaning debris from besement
    11 - Stocking brick on second floor - setting stone at entrance
    12 - Stripping second floor slab forms
                             11
            11
                   11
                                  11
    13 -
    14 - Stocking brick and tile on second floor - laying face brick
         and tile second floor
     17 - Laying second floor wall - setting sub sash frames second floor
          duct work
     18 - Laying second floor wall - soil and water
     19 - Soil andwater
     20 - Laying second floor brick and tile - soil stacks - duct work
     21 - Framing for attic slab - setting joists - soil and water
     22 - Setting joists
     24 - Framing for attic slab - water lines
     25 -
             11
                  11
                         11
                             " - re-steel - setting and caulking sash
         conduit (attic)
    *26 - Pouring attic slab - soil and weter
     27 - Brick cornice - soil and water
     28 - " " - sheathing gutter - soil and water
     1 - Stocking partition material first floor - stran steel roof -
May
          soil and water
      2 - Caulking sash second floor - framing gitter - sheathing roof -
          stran steel - soil and water
      3 - Sheathing roof - caulking second floor sash - soil stacks
      4 - Stripping slat forms - sheathing roof - attic vents
```

May	5 -	Stripping slab forms - soil and water
	8 -	Stripping attic slab forms - water lines - duct work
	9 -	Stripping attic slab forms - setting stairs - attic vents -
		duct work
	10 -	Stocking partition second floor - laying out partitions first
		floor - setting stairs - door bucks - alazing first floor
		sash - outlets - vents
	11 -	Laying out pertitions first floor - enclosing besement staris
		door bucks - glazing first floor sash vents
	12 -	Laying out partitions first floor - door bucks - clasing
		second floor sash - outlets
	15 -	Laying out partitions second floor - door bucks second floor
		duct work
	16 -	Stocking second floor - door bucks second floor - playing
		second floor sech
	17 -	Stocking first floor - Elazing second floor sash
	18 -	Steam and return
	19 -	Steam and return
	22 -	Setting rear proch railings - steam and return - duct work -
	_	outlets first and second floors
	23 -	Steam and roturn - duct work - copper gutters - rear porch
		rails
	24 -	Covering steam mains - steam and return - duct work - comper
	<u> </u>	mtter
	25 -	Steam and return - duct work - copper gutter - glazing base-
	<u> </u>	ment sash - door bucks
	25 -	Steam and return - radiators - outlets second floor - door
		bucks (desement) - copper gutters
	81 <b>-</b>	Steam and return - radiators - copper gutters - citlets second
		1100r - Zugzing second 1100r sash - door cucks first 1100r -
<b>T</b>	•	stocking research
oune	1 - 2	U U U U U U U U U U U U U U Design stepling
	J -	tile in hecoment
	5	Penale and Outlate - redictors - stoom and raturn lines
	6 -	Rediators _ steam and naturn _ outlete
	7 -	" " " " _ covering ducts _ outlets and
		panels hoses
	8 -	Outlets and papels - covering ducts, steam and return lines
		accesses the bound of constants and the proving the proving the proving

# PRCGRESS

#### BUILDING "B"

```
1973
Oct. 12 - Placing footing forms and hand excavation
    " runweys
    14 -
    18 - Pouring footings
    26 - Trenching for soil lines
             11
                     11
    29 -
                        soil and steam and return lines
              18
                     11
                        11
                               11 II
                                        11
                                           11
                                                    11
    31 -
                     11
                          18
                               11
                                   11
                                        11
                                             11
              11
                                                    **
Nov. 1 -
              11
                     11
                          IŤ.
                               11
                                   11
                                        11
                                             11
                                                    ...
     2 -
              11
                     11
                          11
                                11
                                  H
                                        11
                                             11
                                                    It
     3 -
                          11
                                   11
                                             11
                                                    ....
                     11
                               11
                                        18
              H
     4 -
     7 - Placing wall forms
            " " " - soil lines
     8 -
     9 - Poured 1/2 outside wells - soil lines
    10 - Poured walls - wrecked wall forms - soil lines
    15 - Stripping forms
    16 – " "
                         - caulking soil lines
    17 - Steam and return lines and covering same
    21 - <sup>11</sup> <sup>11</sup> <sup>11</sup> <sup>11</sup>
    22 - Checking steam and return lines - covering same - backfilling
    23 - Poured basement slat
Dec. 8 - Setting stair forms
             18
                   11
     9 -
    14 - Poured outside steps - glazed tile (basement)
    16 - Setting stone sills
    20 - " window frames - alazed tile and face brick (basement)
    21 - Laying face brick (lasement)
    55 - <sub>11</sub> 11 11 11
1929
Jan. 10 - Framing first floor
                  " - setting joists
           11
    11 -
                          11
             11
                    11
    12 -
             11
                    11
                          11
    13 -
                          11
             11
                    11
    14 -
    17 - Conduit first floor - stacks - nipe sleeves - setting re-steal
         framing for first floor
    18 - Poured first floor slab - setting re-steel first floor
    19 - " " "
                              18
    20 - Stripping first floor forms
                          " " - making up column reinforcements
            11
                      11
     23 -
         for first floor
```

24 - Stripping first floor forms 25 - """""

Feb. 1 - Setting belt course stone 2 - """""

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```
3 - Setting belt course stone - Duct Work
Fet.
     6 - " store entrnaces - making up re-steel for columns
         supporting second floor - setting door bucks - outlet boxes
     7 - Outlet boxes
                 11
           11
                      and recessed light toxes
     9 -
                 н
           11
    10 -
    15 - Soil and water
    17 - Soil and water
               11 11
    20 - "
     21 - Duct Work
     22 - Soil and water - sheet metal
                11 11
          11
     23 -
     27 - Cleaning snow off first floor
Mar. 3 - Face brick and tile first floor
     8 - Duct work - face brick first floor
     9 - Face brick and tile
     10 - Setting panels - face trick and tile first floor
     20 - Face brick and tile - column forms for second floor slab
           " " first floor
     21 -
            н
                 11
                      22 -
                            " - erecting column and beam forms
     24 - Erecting column and beam forms for second floor slab -setting
          cut stone entrance
     27 - Erecting column and beam forms for second floor slab - distri-
          buting window frams -steam and return - hauling lumber for
          second floor
     28 - Framing second floor - setting joists - hauling form lumber
          and cleaning forms - steam and return
     29 - Steam and return - setting joists and framing for second floor
     30 - Framing second floor slab - setting re-steel - soil and water
          steam and return - conduit second floor
    *31 - Pouring second floor slab - steam and return
     3 - Steam and return - cutting stone soffit at entrance
Apr.
      4 - " "
                    " - stocking brick and tile materials on second
          floor
      5 - Stripping second floor forms
      6 - Cleaning basement - stripping second floor forms - laying
          second floor brick and tile walls - setting sash and coulding
          soil and water
      7 - Framing for attic slab
     10 - Laying face brick and tile wells second story - stripping
          second floor forms - setting such and caulking first floor
     11 - Soil and water
     12 - Stripping second floor forms - hauling tile - soil and water
                     11
                            11
                                  " - hauling luuber for attic slab
     13 -
          framing for attic slab - face brick and tile second floor -
          soil and water
     14 - Laying face brick and tile second floor - framing for attic
          sleb - setting joists - soil and water
     15 - Setting joists
```

```
Apr. 17 - Framing attic slab - soil and water second floor - duct work
    18 - "
                 " " and re-steel - conduit (attic) soil and
         water
    19 - Framing attic sleb and setting screeds - stocking tile for
         first floor partitions - soil and water
    *20 - Pouring att'c slab - soil and water - duct work
    21 - Soil and water - ducts (basement)
    24 - Stocking tile second floor - brick cornice - setting sash
          second floor - water lines - duct work
    25 - Erecting stran steel - soil and water - duct work
    26 - Stocking tile first floor - brick cornice - setting stairs -
         setting sash first and second floors - stran steel roof - soil
         and water - duct work
    27 - Stocking tile first floor - shorthing mitters - setting stairs
         setting sash second floor - stran steel roof - soil and water
          duct work
    28 - Sheathing roof - stocking tile first floor - setting and
         caulking sash - setting stairs - stran steel roof - soil and
         water
Mav
     1 - Sheething roof - caulking such - soil and water
     2 - Stringing attic forms - door bucks first floor - stairs - soil
         and water
     3 - Stripping attic fores - stocking pertition meterial first floor
     4 - Removing debris - stocking parition material first floor -
          setting stairs - door bucks first floor - attic vents
     5 - Stocking first and second floors with pertition meterials -
         setting stairs - door backs second floor - soil and water -
         duct work
     8 - Stocking second floor with partition materials - setting stairs
         door bucks second floor - outlets first and second floors -
          duct work
     9 - Stocking second floor with partit on materials - door bucks -
          outlets first and second floors - attic vents
     10 - Stocking second floor partition material - outlets - vents
                         **
                   11
                                 11
               11
                                           " - enclosing basement
     11 -
          stairs - vents - outlets first and second floors
     12 - Stocking second floor partition material - glazing second
         floor sash - duct work
     15 - Glazing first floor sash
     16 - Stocking second floor - glazing first floor sash
     17 - Door bucks (basement) - glazing first and second floor sech
    18 - Setting door frames basement - glazing sash - copper sutters
            " " backs besement - copper matter
    19 -
             11
    22 -
               rear porch railing - duct work - compar gutters - door
         h icks
     27 - Duct work - conner gutters - rear proch reils - hucks besement
     24 -
          " - stairs - duct work - comper gutter - clasing first
          floor sash
     25 - Duct covering - duct work - plazing second floor sash
```

- May 26 Glazing first and second floor sash
  - 71 " hasement cash
- June 1 Glazing
  - 2 Duct work
  - 5 Panels and outlets covering ducts
  - 6 Flumbers working in equipment noom Rediators steam and return outlets
  - 7 Plumbers working in equiptent room radiators steam and return outlets and panel bases
  - 8 Radiators and piping outlets and panels

#### PROGRESS

# BUILDING "C"

```
1978
```

```
Oct. 14 - Laying out for excavation
    17 - Excavation
            11
    18 -
    19 - Hand Excavation
    20 - Hand Excavation and placing fonting forms
    21 - Poured footings
    24 - Placing drain tile around footings
    26 - Trenching for soil lines
    27 - Placing wall forms and soil lines
    27 - Flacing weil 12
28 - """", soil steam and return lines
31 - """, soil steam and return lines
Nov. 1 - Pouring walls and placing wall forms
     2 - "
     3 - Wrecking wall forms - soil lines
     4 - Soil lines and pipe trenching
              11
           n
     7 -
               ", steam and return lines
            Ħ
    . 9 -
    10 -
           11
                    11 11
    14 - Steam and Return lines
    15 - Packfilling - steam and return lines
    16 - " - caulking soil lines
    17 - Pouring basement floor
    21 - Setting forms
    28 - " step forms
    30 - Pouring stairs
Dec. 1 - Glazed tile
     9 - " " - setting window sills
    12 - " (basement) - face brick (basement)
    13 - Face brick (basement)
    14 - " "
    29 - Framing first floor
    30 - "
                11
1939
```

```
Jan.
    3 - Framing first floor
     4 - Soil stacks - setting joists
     5 - Framine first floor
     6 - "
                - 11
     9 - Conduit - pipe sleeves - re-steel
    10 - Outlets - soilstacks and pipe sleeves
    11 - Poured first floor slab
    13 - Stripping forms
                    11
    17 - "
                        - setting stone belt course
    18 - Setting stone belt course
    19 - 11 11 11 11
    20 - First floor recepticals - setting stone belt course
```

```
1939
Jan. 24 - Face brick
    27 - "
             11
Feb. 1 - Metal Door bucks - Duct more
     2 - Duct work
     3 - Sub frames - duct work
     6 - Face brick - tile
     7 - "
              11
                     " - soil and water lines
     8 - Outlet boxes (besement) - soil and water lines
     9 - "
                  " and recessed toxes - soil and water lines
    10 - Recessed boxes
     13 - Face and glazed brick first floor
                  , H
               18
     14 - "
                         tile
    15 - "
              11
                     ....
                               - setting store at entrance
    17 - Setting stone at entrance - soil and water
    22 - Sheet Metal
Mar. 9 - Panels - Sach and Caulking - Building column forms
    10 - Setting such and caulking - setting penels - froming colve.
         forms
    20 - Erecting column and beam forms
     21 - Duct work - framing second floor slab
    22 - Steam and return - framing second floor slab - setting joists
         re-steel attic slab
    24 - Caulking first floor window frames - framing second floor slab
    25 - Set joists second floor
    27 - Cleaning forms - erecting heist - distributing window frames
          steam and return - framing second floor
    28 - Conduit second floor - soil and water - framing for second
         floor slab - erecting hoist
    *29 - Poured second floor slab
     70 - Laying face brick and tile walls second floor
     31 - Setting sub frames second floor - soil and water - laying
          brick and tile walls second floor
Apr. 3 - Backfilling and leveling off - setting sub-frames - face
         brick and tile second flcor walls
      4 - Glazing basement sash
      5- Soil and water second floor - laying brick walls second floor
          caulking sash
      6 - Framing for attic slab - glazing first floor sash - soil and
         water
     7 - Framing for attic slab - setting sash and caulking second
         floor - soil and water
     8 - Setting joists
     10 - Freming for attic slab - satting sash and caulking second
          floor - soil and water
    11 - Framing for attic slat - soil and mater
                 " " - setting re-steel - conduit - soil and
            Ħ
     12 -
         water
    13 - Freming for attic slab - setting re-steel - conduit - soil and
         water
```

```
Apr.*14 - Stocking tile first floor - poured attic slab - soil and water
    18 - Laying brick cornice - stripping attic slab forms - duct work
    19 - Stripping attic forme - duct work
    20 - Setting stairs - topping out - testing soil and water - duct
         work
    21 - Stripping attic forms - setting door bucks first floor - fram-
         ing gutter - setting stairs - duct work first floor
    24 - Stocking tile second floor - stripping strip forms - coulding
         second floor sach - setting stains - setting door bucks first
         floor - stran steel roof - outlets first floor - duct work
    25 - Sherthing outler - setting stairs - stran steel roof - duct
         work
    26 - Stocking tile second floor - setting stairs - outlets first
         floor - soil and water - duct work
    27 - Stocking tile second floor - she thing roof - setting stairs
         duct work - outlets first floor
    28 - Stocking tile second floor - setting bucks second floor
     1 - Outlets first floor
May
     3 - Stocking partition meterial second floor - door bucks first
         floor - soil stacks
     4 - Stocking partition material second floor - butlets
     5 - Duct work - outlets first and second floors
     8 - Laying out pertition work
     9 - Glazing second floor sash - attic vents - dust work
                   - 11
                          11
           " - steen and return
    10 -
    11 - Enclosing basement steirs - glazing second floor sash - copper
         gutter - steam and return
    12 - Copper gutter - steam and return
    15 - Copper sutter - covering ducts, steam and mater lines
    16 - Steam and return - radiators
    17 - Copper gutter - covering ducts - redictors - steam and return
           11
                  " - steam and return - radiators - duct work
    18 -
                       _ " " _ _
    19 -
           18
                  11
                                               11
    22 - Setting rear porch railings - radiators - duct work
    23 - Radiators - duct work - rear proch rails - tile partitions
          first floor
    24 - Radiators - duct work - tile partitions first floor
    25 - Covering water lines - redictors - staris - checking at
          relining bucks - tile partitions first floor
    26 - Tile partitions first floor
    31 - Fixtures (nlumbing) - covering steem and return and duct - tile
         partitions first floor and basement - laving out second floor
         pertitions
June 1 - Fixtures - duct work - tile partitions basement and first floor
     2 - Tile partitions first floor
      5 - " "
                         all floors
      6 - Covering steam and return piping - partition work second floor
      7 - Copper roof - partition work second floor
      8 - Building partitions on first and second floors
      9 - Covering piping
```

#### PROGRESS

# PUILDING "D"

```
1938
```

```
Aug. 27 - Establishedcenterline
Cct. 20 - Excavation
              11
     21 -
     24 - Completed ercavation
     25 - Hend ercavation and placing footing forms
     26 - Placing footing forms
     27 - Pouring footings
     28 - Placed plates for well forms
Nov. 1 - Pipe trenching
      2 - Placing wall forms - soil lines
            11
                   - 11
                         11
                                  11
                                      - 11
      3 -
      4 - Poured walls - setting wall forms - soil lines
      7 - " "
                          soil lines
      8 - Wrecking wall forms
      9 -
             11
                   11
                          11
                    H
                          11
     10 -
             11
     14 - Steam and return lines
             11 11 11
                            - 11
     15 -
     16 - Covering steam and return lines
     17 - Framing stairs - grading and setting screeds
     13 - Backfilling
     21 - Pouring basement floor - ceulking soil lines
     25 - Glazed tile (basement) - conduit
     23 -
            11
                   11
                          - 11
                  11
            11
                         11
     29 -
Dec. 1 - Pouring steirs - glazed tile (basement)
      8 - Face brick (basement) setting window frames
           - 11
                11
                         11
      9 -
     22 - Forming first floor
                    18
             11
                          - 11
     23 -
                    11
     29 -
             Ħ
                           " and setting joists - conduit
     31 - Conduit
1979
      3 - Pipe sleeving - conduit
Jan.
      4 - Conduit - sleeving - framing first floor
      5 - Pouring first floor slab - conduit first floor
      9 - Framing first floor - stripping
     10 - Strigging first floor forms
                     11
     11 -
            11
     16 - Setting stone belt course
```

17 - Face brick - stripping forms - setting stone belt course

- 18 Conduit (basement) face brick
- 19 Basement Lights

```
20 - Face brick and tile - setting bucks first floor
```

Jan. 24 - Setting window sub frames - framing second floor 26 - Soil and water lines - setting stone at entrances 31 - Face brick and tile - setting metal door bucks - duct work 1 - Face brick - setting metal door bucks - duct work Feb. 2 🗕 " " - setting frames 6 - Soil and water lines 8 - Flush light boxes (basement) - soil and water lines 10 - Setting cut stone at entrance - soil and water lines 11 11 11 11 11 11 11 H 13 -14 -  $F_{0}$  ce brick and tile at entrance - soil and water lines 15 - Soil and water 16 - " 11 11 17 - " 11 11 Ħ 11 Ħ 20 -22 - Setting frames - glaning basement sash - sheet metal 3 - Erecting column forms for second floor Mar. 6 - Framing for second floor - setting joists - steam and return duct work 7 - Steam and return - duct work 8 - Panels - setting joists second floor - framing second floor al ch 9 - Panels - framing second floor slab 10 - Setting sesh and caulking - framing second floor - eracting hoist 14 - Conduit second floor - steam and return first and second floors - framing second floor slab 15 - Steam and return - duct work 16 - Steam and return duct work - concuit second floor - re-steel second floor \*17 - Steam and return - duct work - setting re-steel - poured slab second floor 22 - Caulking first floor - brick second floor 23 - Steam and return - duct work - setting sash and caulking first floor - outlet boxes second floor - face brick and tile second floor 24 - Steam and r-turn - duct work - soil and water - caulking first floor window frames - face brick and tile second floor stripping second floor slab forms 27 - Glazing basement and first floor sash - soil and water - face brick and tile exterior walls see rd floor 28 - Glazing basement and first floor sash - soil and water - face brick and tile second floor 29 - Soil and water - steam and return - duct work - face brick at rear entrance porch - stripping second floor forms 30 - Soil and water - steam and return - duct work - erecting column and beam forms for attic slab 31 - Sash and caulking second floor - soil end water - steam and return - duct work - framing and setting joists for attic slab Apr. 3 - Steam and return - freming for attic slab - cleaning basement

```
4 - Glazing sash first and second floors - steem and return
Apr.
     *5 - Pouring attic slab - caulking sash
      6 - Stacking tile for cartition work - setting stairs - backfilling
          and groding - steam and return
      7 - Stripping attic slab forms - stocking tile for partition work -
          setting stairs - sterm and return
      8 - Stripping attic slab forms
                      11
                             11
                                  11
     10 -
                                     - setting stairs - soil and water
             11
                       11
                             t†
                                  11
     11 -
                                      - loying out and set ing door bucks
          first floor
     12 - Ducts
     13 - Ducts - topping out brick work - setting stairs - stran steel
     14 - Brick soldiers and cornice work - stran steel roof - setting
          stairs - duct work second floor - outlats first floor
     17 - Brick cornice - stocking second floor partition tile -erecting
stran steel - setting stairs (Fesemert) - outlets first floor
     19 - Stocking tile for second floor partitions - hading tile -
          erecting stran steel - act ing treads basement stairs -placing
          ladders - duct work
     19 - Setting treads basement stairs - duct work
     20 - Outlets second floor - setting door bucks - erecting stairs
                    11
     5] - "
     24 - Soil lines - radiators
     25 - Sheathing roof
     28 - Felt paper on roof
May 2 - Framing ventilators - steam and return
      3 - Stair supports - steam and return
      4 - Removed tree and graded near building - steam and return
      5 - Radiators
      8 - Laying out partition work - radiators and piping
      9 - Setting partitions first floor - glazing second floor sash -
          covering ducts
     10 - Installing copper gutter - covering ducts - radiators
     11 - Copper gutter - radiators
             11
                    11
     12 -
     13 - Setting partitions first floor - anchoring stairs - covaring
          steam lines
     16 - Setting partitions first and second floors - cover gatter -
          covering ducts, steam and water lines
     17 - Setting partitions first and second floors - copper gatter
     18 - Setting partitions - removing debris from first floor - duct
          work
     19 - Stocking tile in basement - checking frames basement - duct
          work
     22 - Covering steem, return and water piping - plumbing fixtures -
          tile partitions first and second floors - laying out in
          basement - removing debris
     23 - Covering steam, return and water siging - fixture and mater
          piping - tile partitions second floor - brick and rear porches
     24 - Covering steam meins - plumbing fixtures - water line - tile
          partitions (beservet) -glass block second floor -removing
          rubbish second floor
```

# <u>1979</u>

- May 25 Covering steam lend pon in shower tile portitions by ement - place blocks first floor
  - 26 Lead pan in showers duct work copper roof terradzo base and sub-floor - tile partitions basement - laying out second floor partitions
  - 31 Copper roofs covering steam, return and ducts lothing terrazzo sub-floors
- June 1 Copper roofs duct work covering steam and piping lathing ternazzo base and sub-floors second floor - romoving rubbish basement
  - 2 Duct work copper roof covering steam return and water lathing - terrazzo sub-floor - first and second floors
  - 5- Fixtures lathing first floor and basement pouring and finishing terrazed second floor copper roof
  - 6 Copper roof terrazzo base erecting partitions in slepping rooms - lathing in bouement - cleaning up rublish - petching partitions
  - 7 Copper roof lathing basement and first floor browning pouring sub floor - placing blaster grounds
  - 8 Lathing basement and first floor trown coat comper roof
  - 9 Copper roof

#### PROOFE35

BUILDING "E"

```
Aug. 27 - Established conterline
Sept. 8 - General excovation
    28 - Exception
     29 - Excavation
     30 - Excavation
Oct. 5 - Hand excavation
           11
                 11
     6 -
                        and setting footing forms
     7 - Pouring footings
     10 - Hand excavation and setting footing forms
     11 - Placing wall forms
     14 - Caulking and placing soil pipe
     19 - Placing well forms, trenching for steem and soil lines
                 11
     20 -
             11
                       11
     21 - Pouring walls and placing wall forms
     24 - Placing vall forms
     25 - Pouring wells
     27 - Soil lines
     29 - Wrecking vall forms
     31 - Soil, steam and return lines
Nov. 1 - " " "
                          11
                                 11
     4 - Soil lines
     8 - Steam and return lines - pipe covering
     9 - " " "
                                  - 11 - 11
                            18
     10 - Covering pipe
     16 - Poured basement slab - 42.6 c.y. - conduit
     17 - Salt glazed tile
     18 - Conduit
     21 - Glazed tile - window frames - conduit
     22 _ "
                 11
     22 - Conduit in Fasement
     28 - Face Brick (basement)
Dec. 14 - Framing first floor
           11
                   11
                        11
     15 -
                   11
                          **
     16 -
            11
     19 - Soil Stack
     20 - Framing first floor
     22 – "
                 " " - pipe sleeves - conduit
     23 - Conduit
     28 - Cleaned snow from first floor forms
     29 - Poured first floor slab - conduit
1939
Jan.
     3 - Setting re-steel first floor
     5 - Wrecking forms
            11
                    - 11
     6 -
     10 - Outlets - setting belt course stone
```

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Jan. 11 - Receptacles - setting belt course stone
     12 - Setting stone
     13 - Switches (basement) - face brick
     16 - Switches and outlets (basement) - face brick
    17 - Face brick - steam and return lines
    18 - Face brick
    19 - Duct work - face brick
    20 - " " - soil, water, steam and return lines
    23 - Stack - glazed and face brick
    24 - Soil - steam and return - framing seconf floor
    25 - Soil stacks
    26 - Metal bucks - switches and lights - soil and mater lines -
          face brick and tile
     27 - Face brick and tile - setting metal door bucks (basement) -
          water, soil lines, duct work
     31 - Face brick and tile - soil and water lines - duct work
Feb.
     1 - Setting stone entrances - soil and water lines
            11
                   - 11
                           11
      2 -
      3 - Framing for second floor - setting joists - soil and water
          lines
      6 - Setting joists - flush type boxes (basement) - soil and water
          lines
                                                               11
                                                                    11
      7 - Laying out partitions - framing second floar - "
          duct work
      8 - Framing second floor - soil and water lines - duct work
     9 - "
                   11
                          11
                                **
                                      11
                                             11
                                                 - 11
                           11
                                  11
                                       11
                    11
                                             11
                                                  n
           Ħ
     10 -
                                                      - steam and
          return
     13 - Soil and water lines - steem and return lines
     14 - Framing second Cloor slab - soil and water - conduit second
          floor
     15 - Framing second floor slab - soil and water - steam and return
          duct work
    *16 - Poured 88 c.y. second floor slab - lay out tile work (basement)
    17 - Glazed tile (basement) - steam and return - sheet metal work
    21 - Setting sash and wood frames - glazing sash (basement) -brick
          second floor - duct work
    22 - Stripping second floor forms
    24 - Framing attic slab - glazed tile (basement)
     27 - Framing second floor column forms - stripping second floor
          forms - cleaning snow off second floor
     28 - Stripping second floor slab forms
     1 - She t metal work - brick - stringing second floor forms
Mar.
      2 - Brick and tile second floor - setting - sash second floor -
          duct work
      3 - Brick and tile second floor
      6 - Glazing basement sash - steem and return - duct work
      7 - Setting sash - panels - """
                                                    " "-clasing
```

Mar.	8	-	Setting panels - sech - steam and return - duct work - face
	2		Drick and alesed tile second iloor Soil and motor stoom and rations duct manis clooping finat
	9	-	floor
	10	-	Sceam and return - tile pertitions second floor
	13	-	19 11 11
	14		" " - soil and vater - duct work
	15	-	" " " " - duct work
	16	-	Soil and Water - duct work - forming for attic slab
	17	-	" " - steen and return - duct work - coulding and
			rlacing sash herdware second floor
	20	-	Soil and water - steam and return - such and caulking - door
			bucks first floor - setting joints on attic floor
	21	-	Scil and water - steam and return - framing attic slab - outlets
			first floor - door bucks first floor
	22	-	Soil and water - steam and return - duct work - glazing second
	0.5		floor sash - outlets first floor - framing attic slab
	23	-	Soil and water - duct work - conduit attic slab - glazing first
			floor sash - forming attic slab - re-stoel attic slab
	•24	-	Soil and water - steam and return - outle's first floor -poured
	~~		attic slab
	27	-	Soil and water - stocking brick on attic slab
	28	-	" " - brick cornice work
	29	-	Glazing second floor - soil and water - face brick at rear
			entrance porch - cornice brickwork - stripping attic slab
	-		
	30	-	Soll and water - tile partition first floor - stocking tile
	<b>6</b> 7		lirst 1100r - stripping attic slab iorms
	٤L	-	Glazing second iloor sach - stocking tile on virst and second
A			iloors
where	ు	-	Glazing Second 11007 Easn - 8001 and mater - 500 fong 14008 -
	Λ		Setting steel steine soil and motor lowing fore brick and
	4	-	tile walls second floor stocking tile for second floor por
			+itiona
	5		Setting stool stoirs
	6	_	Classing score floor - exacting steel roof - backfilling and
	0	-	eredina
	7		Stocking tile for contition work - erecting steel roof
	'n	-	Freming moof - freming sutter
	11	_	" " - ducts second floor
	12	_	Ducts
	13	_	Ducts - stran steal
	14	_	Framing rutter - setting door bucks
	17	_	Sheathing roof - door bucks second floor - soil and water
			(attic)
	18	-	Sheathing roof - door bucks second floor - setting treads
			basement stairs - outlets second floor

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Apr. 19 - Setting treads on basement stairs - covering ducts and piping
         outlets second floor
    20 - Archoring stairs - covering ducts - shoothing roof - vents
    24 - Tile partitions first floor - applying felt paper on roof
    25 - Stocking tile first floor - applying felt paper on roof
    28 - Settine radiators
    1 - Radiators
May
     2 - Framing ventilators - radiators
     3 - Setting stairway partitions - steir supports - radiators
     4 - Radiators
     5 - Setting partitions first and second floors - laying out par-
         titions second floor - radiators
     8 - Setting partitions first and second floors - fixtures
     9 - Setting partitions second floor - installing sutter - covering
          ducts
    10 - Setting glass block first floor - partitions second floor -
         pouring locker base - removing debris - installing copper
         gutter - duct work
    11 - Setting glass block first floor - pertitions second floor -
         pouring locker base - removing debris first floor - enclosing
          second floor stairs - covering steem lines
    12 - Removing debris from first floor - powing locker bases second
         floor - setting glas: block second floor - covering steam lines
    15 - Removing debris from second floor - setting hand rails -
          copper gutter - covering steam lines
    16 - Duct work
    17 - Removing debris - setting reilings rear porchas - duct work
    18 - Setting meet porch railings - pouring depent tase first and
          second floors - scratch cost
    19 - Setting tile partitions - setting rear proch rails - pouring
          terrazzo floors first floor - lathing first floor - lead rans
          in showers - duct work
     22 - Lathing first and second floors - brick rear porches
     23 - Copper roof - lathing second floor
     24 - " " - waterproofing showers - terrazzo floors
     25 - Setting toilet inserts - corper roof - terrazzo floors rough
          and stairs first floor - finish terrazzo second floor -lathing
     26 - Copper roof - lathing
     31 - Duct work - copper roof - lathing - brown coat
June 1 - Copper roof - brown and white cost
      2 - Fixtures - provels - brown first floor and basement
      6 - Patching partitions
      7 - Putty coating - partitions in basement
      8 - Putty coating - copper roof - duct work - equipment room and
          registers - plumbers setting slab vents
      9 - Setting slop sinks - registers, grilles and ducts
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#### PROGRESS

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<u>1938</u>
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```
Aug. 27 - Established centerline
Sept. 2 - Excrvation
              11
      3 -
              11
      6 -
              11
     27 -
     29 - Hand excevation and placing footing forms
Oct. 3 - Building runways for footing pour
      4 - Setting footing forms
                   11
            11
      5 -
      6 - Poured all footings
     11 - Placing wall forms
                    11
             11
                          #
     12 -
             11
                     11
                          H
     13 -
                    11
                          H
             11
     14 -
     17 - Poured walls and setting wall forms
     18 - Setting wall forms
     20 - Poured walls
     24 - Steam, return and soil lines
     25 - Trenching for pipe
     26 - Soil lines, steam and return lines
     27 - Trenching, steam and return lines
                       11
                             11
                                  Ħ
             11
     28 -
     31 - Poured I and W Recreational room basement floor
Nov. 1 - Poured Basement slab and stairs
      4 - Conduit
      7 - Stone sills and glazed tile - conduit
            11 11
      8 -
                      - steam and return lines - pipe covering - conduit
     14 - Poured remainder of basement slab
     15 - Caulking soil line
     17 - Salt glazed tile
                 11
                      13
     13 - "
     21 - Face brick (basement)
     22 - "
                 11
     23 - Glezed tile
Dec. 7 - Column forms in basement
     9 - Setting joists
     12 - Framin- first floor - conduit first floor
            11
                   11
                           н
     13 -
            11
                   Ħ
                           #
    14 -
                   11
                           11
            11
    15 -
            11
                   11
                           Ħ
     16 -
            11
                   11
                          11
     19 -
                              - conduit first floor - setting re-steel
         first floor - soil stack
     20 - Setting re-steel first floor
     21 - Poured first floor sleb and columns - conduit
     23 - Laying belt course of stone - stripping forms
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1973 Dec. 30 - Stripping forms - setting stone belt course 1939 Jan. 3 - Setting belt course stone - stripping first floor slab forms 4 - " door bucks 11 11 ... 5 -7 - Conduit 11 - Face brick 12 - " H 13 - Switches (tasement) - face trick 16 - Setting sub frames and first floor window sills 17 - Stacks 18 - " - steam and return lines - face brick and glazed tile 19 - Duct work - stack and weter - face brick 20 - " n d " " - steam and return lines - face brick and tile 23 - Stack - glazed and face brick 24 - Erecting steel stairs in basement - soil s'eam and return framing second floor - stone entrances - setting joists 25 - Erecting first floor column forms - lights and switches (basement) - stacks 26 basement stairs - soil and water, steam and return and duct work - face brick and tile - setting cut stone at main entrance. 27 - Erecting first floor column forms - framin second floor soil, water, steam, return - duct work 21 - Framing for second floor - soil, water, steam and return lines, duct work Fet. 1 - Framing for second floor - soil and water lines 11 11 11 11 11 11 2 -3 - Setting door jambs (basement) - soil and water lines recessed light fixtures 6 - Frecting hoist - framing for second floor - steam as return lines 7 - Laying out partitions - setting re-steel second floor conduit second floor - soil and water lines - sleeving and layout - duct work 8 - Framing second floor - soil and water, steam and return - duct work \*9 - Poured second floor slab - soil and water, steam and return duct work 10 - Soil and water, steam and return - duct work 13 - Framing second floor slab - duct work 14 - Laying face and glazed brick 15 - Setting sub-frames second floor - setting door bucks - soil and water - steam and return 16 - Layout tile work (besement) - stripping second floor forms setting steel sash

Feb.	17	-	Laying glazed tile (besement) - stripping second floor forms
			setting steel sash - glazing besement sash - steam and return sheat metal
	20	-	Stocking glazed and backup tile
	21	-	Laving brick second floor
	22	-	Door bucks
	24	-	" " - face brick second floor - slazed tile
	27	-	Column and beam forms for attic - soil and water - steem and return
	22	-	Cleaning first floor for partition layout - soil and water
Mar.	1	-	Column and beam forms for attic slab

- 3 Setting joists framing for attic slab glazing first floor sash - steam and return - duct work
- 6 Framing attic slab outlet boxes soil and water steam and return
- 7 Panels soil and water setting door bucks elazing
- 8 Outlets first floor sach soil and water steam and return second floor
- 9 Outlets first floor sash and caulking soil and water setting metal bucks first floor re-steel attic floor
- 10 Conduit attic floor soil and water steam and return duct work - setting metal bucks first floor
- 13 Outlets first floor soil and water steam and return duct work
- 14 Outlets first floor steam and return setting door bucks
- 15 Outlets first floor steam and return soil and water
- 16 Setting sas: second floor soil and water
- 17 Soil and water caulking sash and placing sash hardware second floor - framing for attic slab - outlats first floor
- 20 Soil and water steam and return sash and caulking second floor outlets first floor
- \*21 Soil and water steem and return poured 95 c.y. attic slab tile partitions first floor - glazing basement sesh
- 22 Soil and water steam and return satting metal bucks first floor tile partitions
- 23 Soil and water steem and return tile partitions -stripping attic slab forms
- 24 Soil and water glazing basement and first floor seah tile partitions
- 25 Stripping attic slab forms
- 27 Soil and water steem and return tile partition first floor cleaning first floor
- 28 Soil and water tile partition first floor stocking face and glazed tile on second floor - face brick on attic slab cornice
- 29 Steel stairs tile partition first floor face brick at rear entrance porch - cornice brickwork

<pre>Mar. 30 = Steel Steirs = soil and water = tile partition first floor 31 = Steel steirs = removing debris from building Arr. 3 = Completion steirs = noullets first and second floor = tile par- titions first floor 4 = Removing multish from basement = eractive strem steel roof plate = outlets first and second floors = freming for attic slet = resteel 5 = Removing multish = eractive steel roof 6 = Setting door bucks second floor = ettel foor 7 = " " " " " " " " = ducts second floor = cutlets contait floor 10 = Sheathing roof = setting door bucks second floor = cutlets for a ducts = cutlets floor 11 = Tracting roof vent = convering pipes and ducts = rediators = ducts secong floor 12 = Covering ducts 13 = " " = sheathing roof = radiators 14 = Sheathing roof = applying felt on roof = covering ducts = readiators 14 = Sheathing roof = applying felt on roof = covering ducts = readiators 15 = Covering ducts = rediators 16 = Setting prefitions first floor = covering ducts and piptur = radiators 19 = Setting prefitions second floor = covering ducts and piptur = radiators 20 = Tile partitions second floor = covering ducts and piping = rediators 21 = " " = connecting rediators 22 = Rediators 23 = Tile partitions first floor = covering ducts and piping = rediators 23 = Tile partitions first floor = covering ducts and piping = rediators 24 = Rediators 25 = Setting tile first and second floors = rediators 26 = Laying out tile partitions second floor = cotting tile par- titions first floor = connecting rediators 26 = Laying out tile partitions second floor = cotting tile par- titions = connecting rediators 27 = Tile partitions first floor = laying out second floor per- titions = connecting rediators 29 = Class block second floor = removing debris from second floor = rediators 20 = Tile partitions second floor = removing debris = stain supports = copper gutter = covering steen inees 4 = Setting partitions second floor = removing debris = stain second floor = removing debris = copper gutter = clumbing fixtures covering steen l</pre>	<u>1939</u>		
<pre>31 = Steel steirs = renoving debris from building Arr. 2 = Completing retirs = outlets first and record floor = tilt part titins first floor 4 = Renoving mublish = erecting steel roof 5 = Renoving mublish = erecting steel roof 6 = Setting door bucks second floor = ots = from floor 7 = " " " " " " = ducts second floor = ots = floor 7 = " " " " " = ducts second floor 9 = Sheathing roof = setting door bucks second floor = outlets 9 = cond floor 10 = Sheathing roof = setting door bucks second floor = outlets 9 = cond floor 11 = Erecting roof vect = covering pipes and ducts = rediators = 12 = Covering ducts 13 = " " = sheathing roof = radiators 14 = Sheathing roof = explying felt on roof = covering ducts = 17 = Setting tile second floor = nd stairmay partitions = auchoring 19 = Layout of tile partitions first floor = covering ducts and 19 pipt = radiators 19 = Setting partitions second floor = covering ducts and 19 pipt = radiators 19 = Setting partitions second floor = covering ducts and 19 pipt = radiators 20 = Tile partitions second floor = covering ducts and piping = 19 = acting partitions floor = covering ducts and piping = 10 = Tile partitions 21 = " " = connecting rediators 22 = Rediators 23 = Setting tile first and second floor = cotting tile par- titions first floor = connecting rediators 24 = Rediators 25 = Setting tile first and second floor = cotting tile par- titions first floor = connecting rediators 26 = Laying out first floor = laying out second floor per- titions of the floor = rediators 23 = Tile partitions first floor = laying out second floor per- titions of the floor = connecting rediators 24 = Rediators first floor = covering debris = stair 10 = retire = second floor = covering steen floos 3 = Class block second floor = covering steen floor 3 = Class block second floor = covering steen floor 3 = Setting partitions second floor = removing debris = cover 3 = Removing debris = setting hand rails = cutter, cover 3 = Removing debris = setting the revering steen floos 4 = Setting partitions seco</pre>	Mar.	30 -	Steel Steirs - soil and water - tile partition first floor
Arr. 3 - Constating stairs = outlets first and second floor = tile partitions first floor 4 = Remoting sublish from basement = erecting strem steal roof plate = outlets first and second floors = framing for attic sist = resteal 5 = Remoting sublish = erecting steal roof 6 = Setting door bucks second floor = stel roof 7 = " " " " " = ducts second floor = cullets second floor 10 = Sheathing roof = setting door bucks second floor = cullets second floor 11 = Erecting roof vent = covering pipes and ducts = rediators = ducts secong floor 12 = Covering ducts 13 = " " = sheathing roof = radiators 14 = Sheathing roof = explying fell on roof = covering ducts = radiators 14 = Sheathing roof = explying fell on roof = covering ducts and piping = radiators 15 = Layout of tile partitions first floor= covering ducts and piping = radiators 14 = Rediators 15 = Layout of tile partitions first floor= covering ducts and piping = radiators 20 = Tile partitions second floor = radiators 21 = " " = connecting rediators 22 = Tile partitions second floor = radiators 23 = Tile partitions first floor = certing tile par- titions first floor = laying cut second floor per- titions first floor = connecting rediators 23 = Tile partitions floor = laying cut second floor per- titions for partitions second floor = removing detris from second floor = radiators 24 = Sating cut for partitions second floor = removing detris from second floor = rediators 25 = Class block second floor = covering steam lines 4 = Sating partitions second floor = removing detris = stair supports = couper gutter = covering steam lines 5 = Removing detris = setting hand rails = cuture, copper gutter = luming fixtures covering steam lines 5 = Removing detris = lathing 10 =		31 -	Steel stairs - removing debris from building
<pre>titions first floor 4 = Renowing multish from basement - erecting strem steel roof plate - outlets first and second floors - framing for attic slabt - rusteel 5 = Renoving multish - erecting steel roof 6 = Setting door bucks second floor - otsel roof 7 = """""""""""""""""""""""""""""""""""</pre>	Anr.	3 -	Completing stairs - outlets first and second floor - tile mar-
4 - Recordse ruthish from basement - exective strue stail roof plate - outlets first and second floors - framing for attic slate - restail - excite steel roof 5 - Records rubbish - excites steel roof 7 - " " " " " - dusts second floor - eutlets - excited floor 10 - Sheathing roof - setting door bucks second floor - cutlets - excited floor 11 - Erecting mone vent - covering pipes and ducts - rediators - ducts second floor - radiators 13 - Sheathing roof - explaing folt on roof - covering ducts - radiators 14 - Sheathing roof - explaing folt on roof - covering ducts - radiators 15 - Satties tile second floor - covering ducts - radiators 16 - Statting tile second floor and stain-up partitions - anchoring stairs - covering ducts - radiators 17 - Satties tile second floor - covering ducts and piping - radiators 19 - Setting partitions second floors - covering ducts and piping - radiators 21 - " " " - connecting rediators 22 - Tile partitions first floors - outlet piping - radiators 23 - Setting tile first and second floors - rediators 24 - Radiators 25 - Setting tile first and second floors - noting tile partitions first floor - laying out second floor partitions first floor - laying out second floor partitions - connecting rediators 26 - Tile partitions first floor - laying out second floor partitions first floor - laying out second floor partitions - connecting rediators 27 - Tile partitions first floor - laying out second floor partitions - connecting rediators 28 - Setting uptitions second floor - removing debris from second floor - connecting rediators 29 - Setting ventitions second floor - removing debris from second floor - connecting rediators 20 - Tile partitions second floor - removing debris - stair supports - copper gutter - covering steen floor - setting tile partitions second floor - removing debris - stair supports - copper gutter - covering steen lines	-		titions first floor
<pre>plate = outlets first and second floors = freming for attic slsb = restand 5 = Removing rubbish = erection steel roof 6 = Setting door bucks second floor = ettel roof 7 = " " " " " " = ducts second floor = cutlets cound floor 10 = Sheathing roof = setting door bucks second floor = setting teddors = cutlets second floor 11 = Erecting roof vent = covering pipes and ducts = rediators = ducts secong floor 12 = Covering ducts 13 = " " = sheathing roof = radiators 14 = Sheathing roof = applying felt on roof = covering ducts = radiators 14 = Sheathing roof = applying felt on roof = covering ducts = radiators 15 = Leyout of tile partitions first floor- covering ducts and piping = radiators 19 = Leyout of tile partitions first floor- covering ducts and piping = radiators 20 = Tile partitions second floor = covering ducts and piping = radiators 21 = " " " = connecting rediators 22 = Radiators 23 = Setting tile first and second floor = rediators 24 = Radiators 25 = Setting tile first and second floors = rediators 26 = Satting tile first and second floors = rediators 27 = Tile partitions first floor = laying out second floor par- titions first floor = connecting rediators 28 = Tile partitions floor = laying out second floor par- titions first floor = connecting rediators 29 = Tile partitions floor = laying out second floor par- titions first floor = laying out second floor par- titions floor = rediators 20 = Tile partitions floor = laying out second floor 3 = Tile partitions floor = copper gutter 3 = Satting unt for partitions second floor = removing debris from second floor = rediators 2 = Class block second floor = copper gutter 3 = Satting partitions second floor = removing debris = stair supports = copper gutter = covering steam lines 4 = Satting partitions second floor = removing debris = copper gutter = plumbing fixtures covering steam lines 5 = Removing debris = setting hand rails = gutter = covering steam lines 9 = Removing debris = setting hand rails = gutter = covering steam lines 9 = Removing debris = setti</pre>		4 -	Removing rubbish from basement - erecting stran steal roof
<pre>sleb = reletions 5 = Renoving mubbles = eractions steel roof 6 = Setting door bucks second floor = stell roof 7 = " " " " " " " = ducts second floor = cutlets corond floor 10 = Sheathing roof = setting door bucks second floor = cutlets beddars = cutlets second floor 11 = Tracting roof vent = covering pipes and ducts = rediators = ducts second floor 12 = Covering ducts 13 = " " = sheathing roof = radiators 14 = Sheathing roof = explying felt on roof = covering ducts = radiators 17 = Setting tile second floor and stairway partitions = anchoring stairs = covering ducts = redictors 19 = Layout of tile partitions first floor= covering ducts and piping = radiators 20 = Tile partitions second floor = covering ducts and piping = radiators 21 = " " = connecting redictors 22 = Rediaters 23 = Rediaters 24 = Rediaters 25 = Setting tile first and second floor = cetting tile par- titions first floor = connecting redictors 25 = Laying out tile partitions second floor = rediators 26 = Tile partitions first floor = laying out second floor per- titions first floor = connecting redictors 23 = Tile partitions first and second floor = netwing tile par- titions first floor = connecting redictors 24 = Rediaters 25 = Setting tile first and second floor = removing debris from second floor = radiators 25 = Tile partitions first end second floor = removing debris from second floor = radiators 2 = Class block second floor = copper gutter 3 = Setting partitions second floor = removing debris from second floor = radiators 4 = Setting partitions second floor = removing debris = copper gutter = copper gutter = covering steen lines 4 = Setting partitions second floor = removing debris = copper gutter = plumbing firtures covering steen lines 5 = Removing debris = setting hand rails = gutter = covering steen lines 9 = Removing debris second floor = copper gutter = covering steen lines 9 = Removing debris = setting hand rails = gutter = covering steen lines 9 = Removing debris = lathing 10 = Lething 11 = " 12 = " second floor and stairways =</pre>			plate - outlets first and second floors - framing for attic
5 - Removing rublish - erecting steel roof 6 - Setting door bucks second floor - stell roof 7 - " " " " " - ducts second floor - cetting beddens - outlets second floor - cetting beddens - outlets second floor 10 - Sheathing roof - setting door bucks second floor - cetting beddens - outlets second floor 11 - Precting roof vest - covering pipes and ducts - rediators - ducts second floor 12 - Covering ducts 13 - " " - sheathing roof - radiators 14 - Sheathing roof - equivalent ducts - rediators 15 - Setting tile second floor and stairway partitions - anchoring stairs - covering ducts = rediators 19 - Setting tile second floor - covering ducts and piping - radiators 19 - Setting tile first and second floors - rediators 20 - Tile partitions second floor - covering ducts and piping - radiators 21 - " " - connecting rediators 22 - Setting tile first and second floors - rediators 23 - Setting out floor - connecting rediators 24 - Radiators 25 - Setting tile first and second floors - base cabinet second floor 27 - Tile partitions first floor - laying out second floor pertitions = connecting rediators 28 - Tile partitions first floor - laying out second floor pertitions first floor - coper guter 30 - Tile partitions first end second floors - hose cabinet second floor 31 - Daying out for partitions second floor - removing debris from second floor - radiators 2 - Class block second floor - covering steam lines 4 - Setting partitions second floor - removing debris - coper guter - covering steam lines 5 - Removing debris - setting hand rails - gutter , coper 8 - Removing debris - setting hand rails - gutter , covering steam lines 9 - Removing debris - setting hand rails - gutter , covering steam lines 9 - Removing debris - setting hand rails - gutter , covering steam lines 9 - Removing debris - setting hand rails - gutter , covering ste			slab - re-stoal
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<pre>7 = " " " " " " - dusts second floor - outlets</pre>		6 -	Setting door bucks second floor - stell roof
<ul> <li>Sheathing roof - satting door bucks second floor - satting leaders - outlets second floor</li> <li>Sheathing roof vent - covering pipes and ducts - rediators - ducts second floor</li> <li>Covering ducts</li> <li>""" - sheathing roof - radiators</li> <li>Sheathing roof - emplying felt on roof - covering ducts - radiators</li> <li>Sheathing roof - emplying felt on roof - covering ducts - radiators</li> <li>Sheathing roof - ducts - radiators</li> <li>Layout of tile partitions first floor- covering ducts and piping - radiators</li> <li>Setting partitions second floor - covering ducts and piping - radiators</li> <li>Setting partitions second floor - covering ducts and piping - radiators</li> <li>Setting partitions second floor - covering ducts and piping - radiators</li> <li>Tile partitions</li> <li>Setting tile first and second floor - outling tile partitions first floor - conting reliators</li> <li>Setting tile first and second floor - acting tile partitions first floor - conting reliators</li> <li>Layout of tile partitions second floors - radiators</li> <li>Setting tile first and second floors - noting tile partitions first floor - connecting reliators</li> <li>Laying out tile partitions second floors - hose cabinet second floor</li> <li>Tile partitions first end second floor - renoving debris from second floor - radiators</li> <li>Class block second floor - copper gutter</li> <li>Setting partitions second floor - renoving debris - copper gutter - plunding fixtures covering steam lines</li> <li>Setting partitions second floor - renoving debris - copper gutter - plunding fixtures covering steam lines</li> <li>Removing debris - setting hand rails - gutter, copper gutter - plunding fixtures covering steam lines</li> <li>Removing debris - setting hand rails - gutter, copper gutter - "" second floor - copper gutter - covering steam lines</li> <li>Removing debris - lathing</li> <li>Lething "" second floor and stairways - pouring scratch coet covering floor</li> </ul>		7 -	""" " " - ducts secord floor - outlets
<ul> <li>10 - Sheathing moot - setting door block second floor - setting leddors - outlets second floor</li> <li>11 - Tracting moot vent - covering pipes and ducts - rediators - ducts second floor</li> <li>12 - " " " - sheathing roof - radiators</li> <li>13 - " " " - sheathing roof - radiators</li> <li>14 - Sheathing roof - applying felt on roof - covering ducts - radiators</li> <li>17 - Satting tile second floor end stairmup partitions - anchoring stairs - covering ducts - radiators</li> <li>19 - Layout of tile partitions first floor - covering ducts and piping - radiators</li> <li>19 - Setting partitions second floor - covering ducts and piping - radiators</li> <li>20 - Tile partitions second floor - covering ducts and piping - radiators</li> <li>21 - " " - connecting rediators</li> <li>22 - Satting tile first and second floor - opting tile partitions first floor - contecting reliators</li> <li>23 - Tile partitions first floor - laying out second floor partitions first floor - laying out second floor partitions first floor - laying out second floor partitions floor and second floor - removing debris from second floor - radiators</li> <li>21 - Tile partitions first and second floors - hose cabinet second floor</li> <li>23 - Tile partitions second floor - removing debris from second floor - radiators</li> <li>24 - Class block second floor - copper guter</li> <li>35 - Satting partitions second floor - removing debris - stair supports - copper guter - covering stean lines</li> <li>45 - Satting partitions second floor - removing debris - copper guter - plumbing fixtures covering stean lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper</li> <li>8 - Removing debris - setting hand rails - gutter, copper</li> <li>8 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> </ul>		• •	sclond floor
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<pre>11 - Definitions from the provided for the formation of the formation of the second floor and stairway partitions - anchoring stairs - covering ducts - radiators 13 - Layout of the partitions first floor- covering ducts and piping - radiators 19 - Setting partitions second floor - covering ducts and piping - radiators 20 - Tile partitions second floor - covering ducts and piping - radiators 21 - " " - connecting rediators 22 - Radiators 23 - Setting tile first and second floors - radiators 26 - Laying out tile partitions second floor - cetting tile partitions first floor - connecting reliatore 27 - Tile partitions first floor - laying out second floor partitions first floor - laying out second floor partitions - connecting reliators 23 - Tile partitions first and second floor - nenoving debris from second floor - radiators 24 - Radiators 25 - Setting out for partitions second floor - renoving debris from second floor - radiators 23 - Tile partitions second floor - renoving debris - stair supports - copper gutter - covering steam lines 4 - Setting partitions second floor - renoving debris - copper gutter - plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris - setting hand rails - gutter - covering steam lines 9 - Removing debris - lathing 10 - Lething 11 - " second floor and stairways - pouring scratch coat cover floor - " second floor - " second floor - " second floor - copper gutter - " " second floor - " second floor - copper gutter - " " " - " " second floor - and stairways - pouring scratch coat cover floor - " " - " " - " " - " " - " " - " " - "</pre>		10 - 14 - 14	Sheathing roof - anniving felt on roof - covering ducts -
<pre>17 - Setting tile second floor and stairway partitions - anchoring stairs - covering ducts - radiators 19 - Layout of tile partitions first floor- covering ducts and piping - radiators 19 - Setting partitions second floor - covering ducts and piping - radiators 20 - Tile partitions 21 - " " - connecting radiators 22 - Radiators 25 - Setting tile first and second floors - radiators 26 - Laying out tile partitions second floor - cetting tile par- titions first floor - connecting reliators 27 - Tile partitions first floor - laying out second floor par- titions - connecting radiators 23 - Tile partitions first floor - laying out second floor par- titions - connecting radiators 23 - Tile partitions first and second floor - removing debris from second floor - radiators 2 - Class block second floor - removing debris from second floor - radiators 2 - Class block second floor - removing debris - stair supports - copper gutter - covering steam lines 4 - Setting partitions second floor - removing debris - copper setter -plurbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris - setting hand rails - gutter - covering steam 11nes 9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch cost accord floor</pre>			radiators
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19 - Layout of tile partitions first floor- covering ducts and piping - radiators 19 - Setting partitions second floor - covering ducts and piping - radiators 20 - Tile partitions 21 - " " - connecting radiators 24 - Radiators 25 - Setting tile first and second floors - radiators 26 - Laying out tile partitions second floor - cetting tile partitions first floor - connecting radiators 27 - Tile partitions first floor - laying out second floor pertitions - connecting radiators 23 - Tile partitions first floor - laying out second floor pertitions - connecting radiators 23 - Tile partitions first floor - laying out second floor pertitions - connecting radiators 23 - Tile partitions first and second floors - hose cabinet second floor 24 - Laying out for partitions second floor - removing debris from second floor - radiators 2 - Class block second floor - copper gutter 3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines 4 - Setting partitions second floor - removing debris - copper gutter - plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris - setting hand rails - gutter - covering steam lines 9 - Removing debris - lathing 10 - Lething 11 - " 12 - " second floor and stairways - pouring scratch cost cover floor			stairs - covering ducts - radiators
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<pre>19 - Setting pertitions second floor - covering ducts and piping - radiators 20 - Tile paritions 21 - " " " - connecting rediators 24 - Radiators 25 - Setting tile first and second floors - radiators 26 - Laying out tile partitions second floor - cotting tile par- titions first floor - connecting reliators 27 - Tile pertitions first floor - laying out second floor per- titions - connecting rediators 23 - Tile pertitions first and second floors - hose cabinet second floor Xey 1 - Laying out for partitions second floor - removing debris from second floor - radiators 2 - Class block second floor - covering steam lines 4 - Setting partitions second floor - removing debris - copper sutter -plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - secting covering steam lines 9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch cost action floor </pre>			piping - radiators
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<pre>25 = Setting tile first and second floors - radiators 26 = Laying out tile partitions second floor - osting tile par- titions first floor - connecting reliators 27 = Tile partitions first floor - laying out second floor par- titions - connecting rediators 23 = Tile partitions first and second floors - hose cabinet second floor May 1 = Laying out for partitions second floor - removing debris from second floor - radiators 2 = Class block second floor - copper gutter 3 = Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines 4 = Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines 5 = Removing debris - setting hand rails - gutter, copper 8 = Removing debris - setting hand rails - gutter - covering steam lines 9 = Removing debris - lathing 10 = Lathing 11 = " 12 = " second floor and stairways - pouring scratch cost course floor</pre>		24 -	Rediators
<ul> <li>Let - Laying out this part to his second floor - Contragative partitions first floor - connecting reliators</li> <li>27 - Tile partitions first floor - laying out second floor partitions - connecting reliators</li> <li>23 - Tile partitions first and second floors - hose cabinet second floor</li> <li>May 1 - Laying out for partitions second floor - removing debris from second floor - radiators</li> <li>2 - Class block second floor - copper gutter</li> <li>3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines</li> <li>4 - Setting partitions second floor - removing debris - copper gutter - plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch cost account floor</li> </ul>		20 - 26	Setting tile itrst and second floors - rectators
<ul> <li>27 - Tile partitions first floor - laying out second floor partitions - connecting radiators</li> <li>23 - Tile partitions first and second floors - hose cabinet second floor</li> <li>May 1 - Laying out for partitions second floor - removing debris from second floor - radiators</li> <li>2 - Class block second floor - copper gutter</li> <li>3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines</li> <li>4 - Setting partitions second floor - removing debris - copper gutter - plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lething</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch coet</li> </ul>		20 <b>-</b>	titions first floor gonnosting polistons
<pre>b) = file profile file file file file of second file file profile titions = connecting radiators 23 = Tile partitions first and second floors = hose cabinet second floor May 1 = Laying out for partitions second floor = removing debris from second floor = radiators 2 = Class block second floor = copper gutter 3 = Setting partitions second floor = removing debris = stair supports = copper gutter = covering steam lines 4 = Setting partitions second floor = removing debris = copper gutter = plumbing fixtures covering steam lines 5 = Removing debris = setting hand rails = gutter, copper 8 = Removing debris = setting hand rails = gutter = covering steam lines 9 = Removing debris = lathing 10 = Lathing 11 = " 12 = " second floor and stairways = pouring scratch cost coverd floor</pre>		27 _	Tile partitions first floor _ laving out second floor par-
<ul> <li>23 - Tile partitions first and second floors - hose cabinet second floor</li> <li>May 1 - Laying out for partitions second floor - removing debris from second floor - radiators</li> <li>2 - Class block second floor - copper gutter</li> <li>3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines</li> <li>4 - Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch cost</li> </ul>		21 -	titions - connecting redistors
May 1 - Laying out for partitions second floor - removing debris from second floor - radiatons 2 - Class block second floor - copper gutter 3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines 4 - Setting partitions second floor - removing debris - copper gutter - plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam lines 9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch cost 20 - Setting floor		23 -	Tile partitions first and second floors - hose cabinet second
<ul> <li>May 1 - Laying out for partitions second floor - removing debris from second floor - radiators</li> <li>2 - Class block second floor - copper gutter</li> <li>3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines</li> <li>4 - Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper</li> <li>8 - Removing debris second floor - copper gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch cost</li> </ul>		~ ,	floor
<pre>second floor - radiators 2 - Class block second floor - copper gutter 3 - Setting vertitions second floor - removing debris - stair supports - copper gutter - covering steam lines 4 - Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam 1 lines 9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch coat 2 - Setting floor</pre>	May	1 -	Laying out for partitions second floor - removing debris from
<pre>2 = Class block second floor - copper gutter 3 = Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines 4 = Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines 5 = Removing debris - setting hand rails - gutter, copper 8 = Removing debris second floor - copper gutter - covering steam lines 9 = Removing debris - lathing 10 = Lathing 11 = " 12 = " second floor and stairways - pouring scratch cost cover floor</pre>	•		second floor - radiators
<ul> <li>3 - Setting partitions second floor - removing debris - stair supports - copper gutter - covering steam lines</li> <li>4 - Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper</li> <li>8 - Removing debris second floor - copper gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch cost</li> </ul>		2 -	Class block second floor - copper gutter
<pre>supports = copper gutter = covering steam lines 4 = Setting partitions second floor = removing debris = copper gutter = plumbing fixtures covering steam lines 5 = Removing debris = setting hand rails = gutter, copper 8 = Removing debris second floor = copper gutter = covering steam lines 9 = Removing debris = lathing 10 = Lathing 11 = " 12 = " second floor and stairways = pouring scratch coat copper floor</pre>		3 -	Setting partitions second floor - removing debris - stair
<ul> <li>4 - Setting partitions second floor - removing debris - copper gutter -plumbing fixtures covering steam lines</li> <li>5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch cost</li> </ul>			supports - copper gutter - covering steam lines
<pre>gutter -plumbing fixtures covering steam lines 5 - Removing debris - setting hand rails - gutter, copper 8 - Removing debris second floor - copper gutter - covering steam lines 9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch coat copper floor</pre>		4 -	Setting partitions second floor - removing debris - copper
<ul> <li>5 - Removing debris - setting hand rails - mitter, copper</li> <li>8 - Removing debris second floor - copper mitter - covering steam lines</li> <li>9 - Removing debris - lathing</li> <li>10 - Lathing</li> <li>11 - "</li> <li>12 - " second floor and stairways - pouring scratch coat</li> </ul>		-	gutter -plumbing fixtures covering steam lines
<pre>8 = Removing debris second licor = copper mitter = covering steam lines 9 = Removing debris = lathing 10 = Lathing 11 = " 12 = " second floor and stairways = pouring scratch coat append floor</pre>		5 -	Removing debris - setting hand rails - gutter, copper
9 - Removing debris - lathing 10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch coat		8 -	Removing debris second licor - copper mitter - covering steam
10 - Lathing 11 - " 12 - " second floor and stairways - pouring scratch coat 200000 floor		9	Ines Removing debrig lothing
<pre>11 - " 12 - " second floor and stairways - pouring scratch coat 2000000 floor</pre>		10 -	Tathing
12 - " second floor and stairways - pouring scratch cost		11 -	
appond floor		12 -	" second floor and stairways - pouring scratch cost
Recond Troor			second floor

- May 15 Pouring cement base second floor
  - 16 Setting rear porch rails and front scrapes copper roof pouring terrazzo floors
  - 17 Setting rear porch rails copper roof -pouring base and border terrazzo
  - 18 Setting rear perch rails checking door backs (besement) copper roof
  - 19 Laying face brick and installing exhaust louvers at rear entrance - setting rear porch rails - copper roof
  - 22 Copper roof terrazeo base and horder first floor scretch coat second floor - lathing second floor - brick rear porches
  - 23- Copper roof terrazzo base and border second floor scratch coat second floor lothing second floor
  - 24 Copper roof waterproofing showers panels
  - 25 Duct work lathing scratch cost brown cost second floor
  - 26 Lathing scratch cost first floor brown cost second floor
  - 31 Brown coat white coat
- June 1 Setting seconf floor sash
  - 2 Panels
  - 5 Putty coat first floor
  - 6 Browning and finishing first and second floors plumbing and straightening bucks - patching partitions
  - 8 Duct work equipment room and registers plusiers setting slab vents - covering ducts, steam and return lines
  - 9 Setting slop sinks registers, grilles and ducts covering piping lathing basement

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Aug. 27 - Stripping top scil
     30 - Grading site and removing trees
     31 - Excavating
              11
Sept. 1 -
     10 - Laying out building
                  11
     17 -
           - 11
                         11
     21 - Hand excavation
                    11
                           - placing footing forms
     22 - "
           11
                     11
                                 11
                                      ..
     23 -
     27 - Placing focting forms
     28 - Poured footings - finished
     29 - Placing drain tile
     30 - Removing forms and placing drain tile
Oct. 3 - Setting well plates and placing drain tile
      4 - Building wall forms and placing drain tile
             15
                     11
                          Ħ
      5 -
                               and placing pipe sleeves
             11
                     11
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      6 -
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      7 -
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     11 -
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     12 -
                                   runways - placing pipe sleeves
     13 - Poured walls
     17 - Trenching for soil lines and steam piping
     18 - Stripping wall forms, trenching for soil lines and steam
          piping
     20 - Trenching and placing steam and soil lines
     21 - Waterproofing walls, steam and soil lines
     24 - Steam, return and soil lines
     25 - Filling for basement slab and placing screeds (rec. rooms) -
          soil lines
     26 - Poured basement sub floor slab (in recreation rooms) - soil
          lines, steam and return lines
     27 - Steam and return lines, trenching
            H
                - 11
                      11
                              11
                                     - 11
     28 -
                      11
                              11
            11
                 ...
                                     11
     31 -
      1 - Glazed tile on outside walls, 1/2" electrical conduit
Nov.
                          " " - steam and return lines - 1/2"
      2 -
              11 II
            11
          conduit
      3 - Poured outside stairs - clazed tile - steam and return lines -
          1/2" conduit
      4 - Face brick and stone sills - steem and return lines
      7 - Steam and return lines - covering same
      8 - Stone sills
      9 - Poured remainder basement floor - conduit
     10 - Conduit
     15 - Glazed tile
     16 - "
                   11
     18 - Face brick
```

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Nov. 21 - Framing for first floor
     22 - Glazed tile (basement) - face brick (basement) - framing for
          first floor
    23 - Framing first floor
           11
    25 -
    26 - Setting joists - general clean up around building
    18 - Framing first floor - setting joists
    29 - Setting joists
Dec. 6 - Framing first floor
     7 - Pipe sleeves first floor - column forms in basement - framing
          first floor
     8 - Pipe sleeves " - framing first floor - conduit
     9 - Framing first floor - conduit
    12 - Setting re-steel first floor - conduit
                 11 H
                            11
                                  - 11
                                          11
    13 -
                                                 - setting pipe sleeves
    14 - Poured first floor slab - conduit - setting pipe sleeves
    16 - Soil stacks
    20 - Setting belt course stone
    21 - "
                 first floor slab forms
    30 - Stripping forms
1939
Jan. 3 - Setting belt course stone - receptacles
      4 - Receptacles
     7 - Conduit
    10 - Face Brick
               - 11
    11 - "
     12 - Duct work - face brick - glazed tile
     13 - Steam and return - duct work - face brick and tile
     16 - Soil, steam and return - duct work - face brick and block
     17 - Soil, steam and return - duct work - erecting column forms -
          face brick and cement block
     18 - Soil, steam and return - erecting column forms - face brick
          and glazed tile
     19 - Soil, steam and return - water lines - face brick - setting
          joists
     20 - Soil, steam and return - water lines - duct work - setting cut
          stone doorways - framing second floor
     23 - Soil, steam and return - ventilating unit
     24 - Conduit - soil, steam and return - ventilating unit - framing
          for second floor slab
     25 - Erecting material tower - stack, steam, return lines and
          ventilating unit
     26 - Erecting basement stairs - soil, water, steam and return lines
          duct work - framing for second floor slab
     27 - Framing second floor - soil, water, steam and return lines -
          duct work
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Jan.	31	-	Framing second floor - soil, water, steam and return lines - re-steel
Feb.	1		Framing second floor - soil and water lines
	<b>*</b> 2	_	Pouring second floor slab - soil and water lines - re-steel -
	~		electrical work (besement)
	7	_	Stripping second floor forms - duct work
	ģ		Satting stone at entrance - staal sub-frames second floor and
	0	-	face brick - steam and return - duct work
	9	-	Erecting steel stairs first and second floor - layout par-
			titions (basement) - steel sub-frames second floor - steam and
			return - soil and water
	10	-	Laying face and glazed brick second floor - layout partitions
			(basement) - steam and roturn - soil and water
	13	_	Laving face brick second floor - tile (basement) - setting
			window frames and sash - steam and return - soil and water
	٦4	_	Laving face and glazed brick - tile (basement) - setting
	•••		window frames and each - dust work - stepm and return - coil
			and woton
	16		and water
	10	-	Leying lace of the and plazed (if = elde (of = second withow)
			iranes and minimizing even in casement - steam and return - soil
			and water
	16	-	Framing for attic slat - glazed tile and cement blocks second
			floor - door bucks - clazing basement sash - steam and return -
			pipe covering
	17	-	Glazed tile (basement) - setting joist attic floor - glazing
			basement sash - door bucks - steam and return - pipe covering -
			soil and water
	20	-	Forming attic slab - stocking glazed and backup tile - outlet
			boxes first floor - steam and return - pipe covering
	21	_	Door bucks first floer - tile (basement)
	22		" " " - glazing first floor sash - framing
			attic slob - outlet boxes first floor - steem and return
	23	_	Door tucks first floor - layout - vents - nice covering
	2.1		Setting window frames and such first floor - framing attic
		-	clob = mlaged tile (becament) = stoom and return - sheet matel
			and mater
	22		Soll and water
	21	-	Setting re-steel attic liber - conduit - attic slab - obtiets
			lirst lloor - soll and water - snest metal - steam and return
	~~		Asbestos insulation
	28	-	Glazing first floor sash - setting door bucks - soil and water
			steam and return - duct work - asbestos insulation
Mar.	].	-	Glazing first floor sash - setting door bucks, - soil and mater
			steam and return - duct work - outlets first floor - framing
			ettic slab
	2	-	Installing panels - duct work - soil and water - steam and
			return
	3		Soil and water - steem and return
	6	-	Installing panels and outlet boxes - soil and water
	7	_	Setting sash - cleaning basement - stocking tile second floor
	c	-	Soil and water - cleaning basement

Mar.	•9 -	Sash and caulking - steam and return - asheetos covering -
		poured 96 c.v. attic slab
	10 -	Soil and water - steam and return - duct work
	13 -	Pipe covoring - soil and water - steam and return - duct work
	14 -	Soil and water - duct work - pipe covering - setting sash and
		caulking - removing ice and water from attic and basement
	15 -	Soil and water - pipe covering - setting sash
	16 -	" " - steam and return - glazing second floor sash
		tile pertitions first floor
	17 -	Soil and water - steam and return - caulking and placing sash
		hardware second floor - tile partitions first floor - first
		floor outlets
	20 -	Soil and water - duct work - glazing second floor sash - tile
		nartition first floor - topring out second story
	21 -	Badistors second floor - tile partitions first floor
	22	Soil and water - radis tars - tile nortitions
	22 -	" Will and watch - inde source ville partitions torwing
	<i>L</i> IQ <b>—</b>	a electric starts - tite partitions - top ing
	24	Soil and matum completed has among at aims tills montitions
	64 -	brick dontilo
	27	Stacking atmon stach moding stains find and ascend floor
	61 -	Stocking stran steel rooming - starts $1140 \times 10$ second (100r -
	20	The partitions first floor - cleaning first floor
	×0 -	Since from from brief on this of the file
	20	Hirst Hoor - 1960 orley on Study Size
	29 -	Metal door bucks - strad steal robling - butlets second libbr
	70	United about the second building till a set the second first
	- 00	auling decris from around cullding - tile pertitions first
	71	1100r Setting Jean busics substing past glutas duat manip sublate
	•)1 <b>-</b>	setting dor bucks - erecting root plates - dact work - butters
A	-7	Second 1100r - the partitions second 1100r
Mpr.	ა -	Soll and water - covering ducts - erecting roll plates - duct
		Fork - steam, not and cold covering - outlets first and second
		1100rs - tile partitions on first 1100r - sneatning roof
	4 -	First floor partition work - sheatning root - soil and water -
	-	duct work - outlets lirst and second iloors
	5 -	Ducts second floor - setting stairway tile
	6 -	Sheathing roof - setting stairway tile and first and second
	_	floor tile - ducts
	7 -	Sheathing roof - setting stairway tile - ducts second floor
	10 -	Framing roof vent - setting ladders
	12 -	Setting tile partitions first and second floors - vents in
		attic - radiators
	13 -	Laying felt on roof - radiators - vents in attic
	14 -	Soil and water attic - radiators
	17 -	Welding supports for stairways - raditors
	18 -	Radiators
	19 -	- Setting partitions first and second floors - rediators
	20 -	Installing copper gutter - tile partitions - radiators

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Apr.	21	Tile pertitions first and second floors - installing copper
		gutter - connecting radiators
	24 .	Tile partitions first and second floors
	25 -	Setting glass block first floor - installing commer gutter -
		covering steam and return lines
	26 -	Tile partitions first floor - class block first floor -
		installing gutter - connecting redictors

- 27 Tile partitions first and second floors glass block first floor - installing copper roof
- 28 Copper roof

May 1 - Patching tile work - setting dwarf walls in sleeping rooms scratch coat - copper roof - plumbing fixtures - ducts

- 2 Tile partitions second floor cleaning delris first floor copper roof - covering steam lines - fixtures - ceiling outlets
- 3 Removing detris hand rails copper roof covering steem lines - duct work - setting outlet boxes
- 4 Setting toilet partition inserts copper roof pouring cement base and scratch cost first floor - covering steam lines
- 5 Setting toilet partition inserts -copper roof terrazzo floors first and second floors -plumbing fixtures
- 8 Pouring terrazzo floors first and second floors
- 9 " " base and border first and second floors 10 - " " " " " " " " "

plumbing fixtures

- 11 Pouring terrazic base and border and floors plumbing fixtures
- 12 Pouring terrazzo floor rediators
- 15 Lathing first and second floors radiators
- 16 Setting rear porch rails and front scrapes scratch coat second floor - lathing first and second floors and stairway fixtures
- 17 Lathing second floor lead pans for showers plumbing fixtures
- 18 Checking door bucks (basement) lathing first floor lead pans for showers - fixtures
- 19 Jaying brick and installing exhaust louvers at rear entrances plastering
- 22 Plastering brown cost and white cost second floor
- 23 " " " " " " " "
- 24 Hand rails door bucks (basement) panels patching partitions
- 25 Finish coat plaster second floor patching partitions (basement)
- 26 Finish cost plaster first and second floors patching partitions (basement)
- 31 Grinding second floor patching partitions (basement)

June 1 - Panels - setting second floor sash - grinding

- June 2 Covering steam, return and water grinding second floor
  - 5 Grinding first floor
  - 6 Flumbers working in equipment room duct work grinding white cost plaster first floor - cleaning up rubbish
  - 7 Plumbers working in equipment room duct work putty coating grinling - pouring sub-floor basement
  - 8 Lathing basement plumbers setting slab vents grinding first floor finish floor in basement
  - 9 Setting slop sinks lathing basement

# PROGRESS

BUILDING "H"

```
Aug. 29 - Started excavation
     30 - Excevating
              11
     31 -
Sept.10 - Laying out building
           11
                 11
     16 -
     17 - Finished excavation
     19 - Laying out footings and digging for same - placing footing
          forms and building runways
     21 - Laying our footings and digging for same - placing footing
          forms and building runways
     22 - Poured footings
     23 - Finished pouring footings
     24 - Setting plates for wall forms - placing drain tile around
          foctings
     26 - Placing metal wall form - placing drain tile around footings
     27 -
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     28 -
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                         #
                                " - wrecking footing forms - setting
     29 -
          pipe sleeves
     30 - Pouring walls and placing pipe sleeves
Oct. 3 - Setting wall forms - building runways - placing pipe sleeves
      4 - Stripping and erecting wall forms - building runways -placing
          pipe sleeves
      5 - Pouring walls and placing pipe sleeves
      7 - Stripping forms - placing pipe sleeves
     10 - Stripping forms - waterproofing walls - placing underground
          pipe
     11 - Waterproofing walls - placing underground pipe
     12 - Placing soil pipe
                    11
     13 -
             11
     14 - Steam mains and returns
     17 - Caulking and placing soil lines -steam mains and return lines
             11
                    11
                          Ħ
                                 11
     18 -
     19 - Caulking soil lines - steam mains and return lines
     21 - Grading for basement floor
     24 - Poured sub-floor slab in recreational sect. basement - steam
          and return lines - soil lines
     25 - Steam and return lines
     26 - Poured outside stairways - scil lines
     29 - Brickwork started - steam and return lines
     31 - Glazed tile on outside walls - 1/2^{\mu} conduit in basement - pipe
          trenches
                                  " - setting stone sills - steam and
                        11
                             11
Nov. 1 - Glased tile
          return lines
      2 - Stone sills and brickwork - steem and return lines
      3 - Covering steam and return lines
      4.- Face brick and stone sills - covering steam and return lines
      8 - Poured remainder basement floor
      9 - Conduit
```
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Nov. 10 - Conduit
     11 - Glazed tile
     15 - Setting window frames - face brick and back-up tile
     16 – <sup>11</sup> <sup>11</sup> <sup>11</sup> <sup>11</sup> <sup>11</sup> <sup>11</sup> <sup>11</sup>
     17 - Framing forms first floor
     19 - Glazed tile
     21 - Framing for first floor
     22 - Laying out conduit lines first floor - framing for first floor
     23 - Framing first floor - setting joists
             11
     25 -
     26 - General clean up around building
     28 - Framing first floor - setting joists
     29 - Electrician roughing first floor slab
     70 - Framing first floor - setting re-steel first floor - conduit
          first floor- pipe sleeves first floor
Dec. 1 - Setting re-stel first floor - conduit first floor - sleeves
          and inserts first floor
      2 - Erecting Winter protection
      5 - Freming first floor - conduit first floor
      6 - "
                   11
                        " - re-steel first floor - completed first
          floor slab forms - conduit first floor (completed)
    • 8 - Poured 10 columns and 20'-0" of first floor slab - nipe sleeves
     12 - Laying brick first story
     14 - Setting belt course of stone
     15 - Stripping first floor slab forms - soil stacks
                                  11
                                             " " - placing
             H
                     11
                             11
                                       11
     16 -
          receptacles first floor
     19 - Stripping first floor slab forms
     20 - Erecting re-steel in columns first floor
     21 - Setting first floor slab forms
     23 - Laying brick first floor
     30 - Soil stacks - receptacles and lights
     31 - Running lights
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Jan.	3 -	Face brick - soil stacks - receptacles
	4 -	Running steam return lines - soil stacks - glazed tile and
		face brick - setting out stone at entrance
	5 -	Soil stacks - steam and return lines - recentecles in besement
		set window sash - glazed tile - switches
	6 -	Soil stacks - steam and return lines - receptedles in besement
		laying face brick and cement blocks - switches
	9 -	Soil stocks - steam and return lines - ventilating ducts -
		laying face brick and cement blocks
	10 -	Duct work - soil stacks - face brick - glazed tile
	11 -	Soil, water, steam and return lines -face brick
	12 -	Soil. stacks - face brick - glazed tile - framing second floor
	13 -	" " - setting stone entrances - framing second floor
	14 _	Setting joists second floor
		Souther Deriver Connection

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Jan.	16 17	-	Soil stacks - framing for second floor - heading in door bucks
	18	_	16 19 19 19 19 19
	19	_	" " - water, steam and return lines - basement lights.
			glazed brick (basement) - framing second floor
	20	_	Soil stacks - water, steam and return lines - duct work -
			glazed brick (basement) - framing second floor - started
			erection of steel stairs
	23	_	Conduit second floor - stacks, steam and return - column rein-
			forcements and forms - framing for second floor re-stell-tile
			(basement)
	24	-	Tile (basement) - soil, steam and return - framing for second
			floor
	25	-	Stacks, steam and return lines
•	<b>2</b> 6	-	Erecting besement stairs - soil and mater lines - poured
			section second floor slab
	27	-	Water and soil lines
	31	-	" " " - stripping second floor forms - setting
			stone above main entrance
Feb.	1	-	Setting re-steel second floor - brick arches first floor
			windows - glazed tile (basement) - received lights - soil and
			water
	2	-	Brick second story - tile (basement) - setting frames - soil
			and water lines
	3	-	Brick second story - setting subframes - tile (basement) -
	_		electrical outlets - soil and water lines
	6	-	Glazed tile ( basement) - soil and water lines
	7	-	Face trick and tile second floor - setting stone at entrance -
	-		tile (basement) - soil and water lines - duct work
	8	-	Erecting steel stairs first and second floor - steel sish first
			iloor - tile (tasement) face and glazed brick - duct work -
	~		soll and water lines
	9	-	Setting sash - erecting column and beam forms for attic slab -
			layout partitions first floor - metal bucks - soll and steam,
	10		return and duct
	10	-	forme for ettic also lowest portitions first floor soil
			lines - duct work
	דו		Framing attic glab - setting door frames - soil and mater -
	τς,	-	duct work
	14	_	Framing attic slat - setting joists - door bucks - window
		_	frames and sach - soil and water - duct work - outlet hores
	15	_	Framing attic slab - setting door bucks - window frames -
	10		elazine basement sash - steam and return - outlet boxes
	16		Framing attic slat - layout first floor partitions - glazing
			basement sash - outlet boxes first floor - soild and water -
			steam and return - pipe covering
	17	~	Framing attic slab - outlet boxes
	20	-	" " " - re-steel attic floor - stocking glazed
			and backup tile - outlet boxes first floor - soil and water -
			steam and return-pipe covering

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Feb.	21	-	Cleaning basement - framing attic slab - re-steel attic floor conduit - soil and water second floor - steam and return - duct
1	•22	-	Poured 96 c.y. attic slab - stacking tile for first floor -
	23	-	cutting tile - soil and water - steam and return - pipe covering Glazing first floor sash - soil and water - steam and return
	24		second floor - vents - pipe covering Glazing first floor sesh - soil and water - steam and return
	27	-	second floor - sheit metal Glazing first floor sash - soil and water - steam and return
	28	_	second floor - sheet metal - asbestos insulation Erecting stran-steel - soil and water - steam end return
Mar.	1	_	"" " - setting sash second floor - steam and
			return second floor - soil and water - face brick (attic floor)
	2	-	Erecting stran-steel - brick (attic) - steam and return second
			floor - soil and water
	3	-	Erecting stren-steel - setting sash second floor - steam and
			return second floor - soil and water - circuit cabinets
	6	_	Setting sash second floor - setting angle irons - panel
			installation
	7	-	Setting sash second floor - stocking tile second floor
	8		Soil and water - steam and return second floor - tile par-
			titions first floor
	9	-	Steam and return - duct work - glazing second floor sash -tile
	10	-	Soil and water - steam and return - pipe covering - glazing
	17		Second floor sash - the partitions first floor
	10	-	ripe covering - soil and water - steam and return - cleaning
	۸ ר		fee and water off attic floor
	14	-	partitions first floor
	15	-	Pipe covering - clazing second floor
	16		Steam and return - tile partitions first floor
	17	-	Tile partitions first floor
	20	-	Placing radiators second floor - duct work - tile partition first floor
	21	-	Placing radiators second floor " " - topping out brick work
	22	_	Placing radiators second floor "" - " "
			work
	23	-	Door bucks - gutter framing
	24	-	Duct work - door bucks - layout of second floor - completed
			basement stairs - outlets second floor
	27	-	Setting door bucks second floor - stran-steel roof - outlets
			second floor - tile partitions second floor
	28	-	Setting door frames - stairs first and second floor - duct
	_		work - tile partitions second floor
	29	-	Framing roof - stran-steel roof - duct work - outlets second
			floor - tile partition second floor - brick at rear entrance
			porch

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- Mar. 30 Hauling debris from around building duct work tile partition -sheathing roof - removing rubbish from basement
  - 31 Duct work stairway tile partition first floor and partitions second floor - sheathing roof
- Apr. 3 Roof vent framing soil and water duct work steems hot and cold covering - tile partitions second floor - stairwell partitions
  - 4 Second floor partition work roof vent framing soil and water - duct work
  - 5 Installing terrazzo base and floor first floor rediators setting stairway tile - tile partitions first and second floor
  - 6 Setting stairway tile and first and second floor tile sheathing roof vent - applying felt paper to roof - steam and return - ducts
  - 7 Setting stairway tile and first and second floor tile placing terrazzo slab - setting toilet partition brackets - steam and return - radiators
  - 10 Tile partitions first and second floors pouring terrazzo sleb first floor - setting ladders - covering pipes and ducts connecting rods - ducts
  - 11 Removing debris from second floor pouring terrazzo base first floor and filler concrete fist and second floors - connecting rods first and second floors - soil and water
  - 12 Tile partitions first and second floors radiators
  - 13 Radiators
  - 17 Tile partitions first and second floor welding supports for stairways
  - 18 Installing copper gutter installing cement base for terrazzo
  - 19 Installing cement undercoat for terrazzo base first floor pouring terrazzo slab radiators
  - 20 Terrazzo base first floor and work on second floor tile partitions - radiators
  - 24 Setting glass block first floor pouring terrazzo floor first and second floors
  - 25 Setting terrazzo partitions and pouring terrazzo floor, second floor - covering steam and return lines - fixtures
  - 26 Terrazzo back up base and floors covering steam lines
  - 27 " floors, second floor
  - 22 Glass block second floor terrazzo floors, second floor covering steam lines
- May 1 Patching \*: 's work terrazzo base and border second floor copper gutter - lathing - hand rails - plumbing fixtures ducts
  - 2 Tile partitions second floor couper mutter terrazzo base and border second floor - lathing - fixtures - ceiling outlets
  - 3 Toilet partition inserts lething first floor fixtures setting outlet boxes
  - 4 Lathing
  - 5 "

#### May 8- Hind rails at rear worches - copper roof - lathing and plastering 9 - Copper roof - plasterina 10 - " 11 - plumbing fixtures -11 11 11 -12 - Setting rear porch rails - copper roof - plasterers browning second floor and finish first floor - water lines - duct work 15 - Copper roof - plastering - duct work 16 - Removing debris from second floor - setting railing rear porch and front scremes - comper roof - mlastering finish coat installing lead pans in showers 17 - Copper roof - plestering finish cost 18 - Checking door bucks (besement) - plaster finish cost first floor 19 - Laying brick and installing louvers at rear entrenance -plastering lathing (besement) 23 - Removing rubbish 24 - Hand rails - panels 31 - Grinding second floor June 1 - Conductor bipes - penels - setting second floor sash - grinding patching tasement partitions 2 - Duct work - covering steam - return and water - grinding second floor - petching besement partitions 5 - Piping (plumbing) - duct connections in conjugant room - grind-

- 5 Piping (plumbing) duct connections in equipment room grinding first floor - patching basement partitions
- 6 Duct work cleaning down outside grinding plumbing and straightening bucks - repairing bacement partitions.
- 7 Duct work downsports cleaning finished patching partitions
- 8 Cleaning cleaning up rubbish around building downshouts plumbers setting slab vents - bulling wire - grinding first floor
- 9 Setting slop sinks conductor piping pulling wire

<b>^</b> .	04	
Cet.	24	- Started evesyetion
	20	- MXCAVETION OPPOSITE Building "H"
	26	
	27 .	- "
	28	- " 
	31 -	_ "
Nov.	٦.	- Placing floor slab for twonel and convetion
	$\frac{1}{2}$	- Placing slab forms and exception
	3	- Poured around sleb and setting ground sleb forms
	4	- Poured ground slab and excavation
	7	- Poured 501-0" ground slab - satting drain tile - excavation
	8.	
	9	
	ıč	- Poured 248'-0" ground slab - excavation - setting wall forms
	12	- Placing drein tile
	14	- Placing well and roof slab forms - excevation - conduit
	15	- Excavation - conduit
	16	- Poured 79.7 c.v. wall and top slab - excevation
	17	- Poured 140 L.F. wall and top slab - framing wall and slab -
	-	excavation - conduit
	18	- Placing roof slab forms - excavation
	21	- Poured 100 L.F. Wall and top slab - 50 L.F. ground slab -
		excavation
	22	- Poured 248 L.Fground sleb - cetting wall and roof slab -
		stripping forms - exception
	23	- Setting forms - excevation - conduit
	25	- Poured 100 L.F. wall and slab - setting forms - excevation -
		conduit
	26	- Excavation
	28	- Setting well, roof slab and ground slab forms - exception-
		conduit
	29	- Setting wall roof slab and ground slab forms - poured 100 L.F.
		walls and roof slab - excavation
	30	- Setting well, roofslab forms - poured 200 L.F. ground slab
		and 100 L.F. wall and roofslab - encavation
Doc.	1	- Poured 247 L.F. ground slab - setting re-steel in walls and
		roof slab - excavation
	2	- Drain tile along ground slab
	3	- Pumped water out of excevation
	5	- Removing mud from ground slab pumping water
	6	- Framing walls - steam fitters working on pipe work
	7	- " and top slab - steam fitters working on pipe
		installation
	8	- Framing wal's and top slab - cleaning floor after banks had
		caved in - re-step1 - conduit
	9	- Setting re-steel for walls and top slab - wrecking shoring-
		work on hangers

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Dec.10 - Poured 110 L.F. Wall and top slab

- 12 Setting forms cleaning mud from floor tackfilling -work on hangers
- 13 Finished pouring ground slab setting wall and top slab forms backfilling - work on hungars
- 14 Setting re-steel in wells and top slab backfilling
- 15 Poured 100 L.F. wall and top slab setting forms backfilling conduit work on bangers
- 16 Poured 100 L.F. wall and top slob setting forms hackfilling conduit work on hangers
- 17 Pumping water from excavation between Buildings "E" and "F"
- 19 Setting forms poured 100 L.F. well and top slab stripped forms - work on hensers
- 20 Setting forms and re-steel
- 21 Setting forms and erecting and placing piping
- 22 Poured 100 L.F. wall and top slab -setting forms and re-steal
- 23 Setting forms work on piping
- 28 Setting forms work on piping conduit cleaning snow from bottom
- 29 Setting forms work on piping re-steel
- 30 Poured 120 L.F. wall and top slab setting forms work on piping

## <u>1979</u>

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Jan. 3 - Stripping forms
     4 - Waterproofing - framing poured 146 L.F. wall and top slab
     5 -
     6 - Transformer yeult at Building "D" - wrecking forms -water-
        proofing
     7 - Waterproofing lateral to Building "D" and main tunnel
     9 - Cleaning debris from floor - waterproofing
    10 - Packfilling tetween Buildings "D" and "E"
    11 - "
                     near Building "E"
    12 - Hangers - backfilling
    13 - Backfilling
    14 - Cleaning mud from floor
    16 - Backfilling
           11
                    at "3" and "m"
    18 -
    20 - Framing wall - cleaning and from floor
    24 - Framing wall and top slab - setting re-steel
              " " " - conduit
    25 -
          11
                11
                     11 11 11
    26 -
                                     11
                                            - setting re-steel
Feb. 1 - Pouring wall and slab opposite Building "B" - riping in
        laterals "A", "B" & "C"
     2 - Cleaning show and ice off
     3 - Installed piping
    6 - Cleaning snow and ice from floor - stripping forms
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Feb. 7 - Piping
     8 - Framing wall and top slab - lateral at "C"
    9 - Waterproofing - framing - lateral at "C"
             11
                      - latoral at "C"
    10 -
    13 - Cleaning mud and water from floor - welding on piping
   14 - Piping in laterals "H", "O" and "S" - asbestos worker on
         miscellaneous viring - wolding - cleaning mud and water
         from floor - framing well and top alab - setting re-steel
    15 - Poured 56 c.y. wall and top sleb - appeatos work - welding
    16 - Welding
            11
    17 -
    20 - Pumping water from tunnel - welding
    22 - Welding
    23 - Stripping tunnel forms
                     11
                           " et "C"
          11
    24 -
                           " - water_roofing - welding
                      11
            11
    27 -
    28 - Welding
Mar. 7 - Cleaning forms
    9 - Waterpro fine between "B" and "C"
    10 - Cleaning out inside
    13 - " ice and mud and pumping mater from tunnel between
         "I' and "E"
    14 - Cleaning ice and mud from unpoured 50 ft. section
    15 - Cleaning and from unpoured 50 ft. section
   16 - Forming 50' section between "F" and "C"
17 - """ " " " " " " - poured walls and top
   *17 -
         slab - conduit
    20- Stripping forms
    22 - Moving water and mud from floor
    23 - Steem and roturn piging - backfilling at "A" - removing mud
         and water from floor
    24 - Steam and return
    25 - Cleaning ice and mud from floors
    27 - Packfilling at "E", "C", "D" and "E" - steem and return -
         pulling load cable
    28 - Fackfilling at "R", "C", "D" and "D"
                                                 11
                                                      19
                                                           - 11
         pulling lead cable
    29 - Backfilling at "C" - steam and return - gulling lead cable
    30 - Steam and return
Apr. 3 - " "
                  11
     4 - Backfilling and grading at "D" and "E" - steam and return
     5 - Steam and return - pulling lead cable - backfilling at """
         and "F"
     6 - Steam and return - pulling lead coble
     7 - "
                     11
                11
                     11
    10 -
    11 - Wolding - installing measurger for primary
    12 - Sterm and return - welding
    13 - Measenger for cable conclete - wolding
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Apr.14 - Steam and returns
   19 - " " " - malding
20 - " " " " - "
    21 - Conduit in Isteral "E" - welding
   24 - " " "
25 - " " "
                            117711
    26 - Switches and fixtures
    27 - "
                   11 11
    28 - Welding
May ] - Installing conduit in Laterol "H"
     2 - "
3 - "
                     " " - Beckfilling at F & G
                        n
                           " tunnels completed - welding in lateral
       HHH
    4 - Backfilling at E and G - Wolding.
5 - " " E and F - ".
    12 - Primary Cable
    15 - " "
16 - " " finiched.
    17 = Eunning secondary
18 = " = installing primery "pothoade".
    19 - Electriciens moving equipment from tunnols.
    22 - Making splides in o ble.
27 - """"
    32 - "
    24 - Finished splices.
    25 - Conduit in lateral to "D".
    26 - " " " " "C" and "D".
31 - " " " " "12" and "C".
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BIGHT GIRIS! DUPKITOFI S

## 1978

Aug. 26 - Spent day coing ove grounds and checking levels. 27 - Extablished centerline of tunnel and removed large tree from centerline of same. 29 - Leying out buildings and removing trees. 30 - Started to remove old garages and to build field offices. 21 - Wrecking old serace, tern and sheds and building field office; grading and removing trees. Sept. 1 - Wrecking old building; building field office - filling at SW corner building prea. 2 - Clansing solvered lumber: building field office - erected project sign. 3 - Started cut for main building area - Grading and filling. 6 - Constructing field office - erecting electric service -Greding and filling. 7 - Constructing field office. 9 \_ 11 11 11 11 11 11 9 -- general excavating and filling SW corner building area. 10 - General excavation and filling. 11 . 11 \*\* 12 -- Finishing interior of field office. 13 - Excavation to grade and filling SW building area - Finishing interior of field office - erecting tool sheds. 14 - Finishing interior of field office - erecting tool sheds. 15 - Excavation to grade and filling SV building area - erecting tool sheds. 11 11 11 11 11 16 - Excavation to 11 11 11 11 11 \*\* 11 \*\* 19 -11 11 11 11 11 11 11 11 20 -11 11 11 н IJ 11 11 11 21 -- Drilled test holes (hand outfit) 11 22 - Excavation to grade and filling " 11 11 test holes. 23 - Excevation to grade and filling SW building area. 26 - Exception to grade and filling SW building area. 11 11 11 11 - 11 11 11 28 -11 11 11 11 11 H. H 11 11 Oct. 3 -11 11 - 11 11 - 11 11 11 4 -7 - General Exception and filling at W building area. " Sy tuilding area. 11 11 11 11 11 -Ħ 11 11 11 12 -11 11 11 11 13 -11 - 11 11 11 14 -19 - Building romp for material bin. Nov. 2 - Placing temporary water lines and setting up tatching bin general grading. 7 - Running terporary mater lines to all buildings. 23 - Plumbers caulking floor drains.

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Nov. 25 - Plumbers running sill cock lines.
Dec. 5 - Digging therehad to drain ever from buildings.
     6 - No work by bricklayers on acrount of rain and water conditions.
7 - " " " " " " " " " "
     15 - Bricklayers did not work - too cold.
     17 - Repairing meter line for Vinton Construction Company.
     27 - No work on account of bad meather.
1979
Jan. 9 - Uncrating and distributing door blocks - Received one car brick
     10 - Placing door bucks.
     11 - Setting and distributing door bucks.
     12 - Heading in door bucks.
     13 - "
                  11 11 11
     14 - Stripping slab forms - constructing motor tatching plant -
          distributing out stone.
     30 - No work on this date because of blizzard and snow.
     31 - Cleaning out roads of snow.
Feb. 4 - Moving soil stack
     21 - Unloading joints at \Sigma - Howing mixer from Custodials to "H" -
          Asbestos workers cutting insulation for Rec. Pad. - Welder
          suspended work owing to condition of tunnel.
     24 - Ashestos workers placing insulation on radiators.
     27 - Distributing door bucks.
     28 - Terrazzo workers unloading marble chips.
                     11
                               11
      1 - "
                                        11
                                               11
                                                    - astestos insulation
Mar.
      2 - Asbestos vorkers placing insulation on radiators.
             H
                      - 11
                               ....
                                        15
                                                11
      3 -
      6 - Cleaning metal forms - Asbestos workers placing insulation on
          radiators.
      7 - Asbestos workers placing insulation on radiators - Hauling
          woodwork - Moving send to mortar mixer.
      8 - Asbestos workers placing insulation on radiators.
     21 - Installing stairs - Setting sash and caulking.
                        . .
     22 -
              11
     25 - Hauling lumber from "F" to "C".
     29 - Cleaning debris from site.
     30 - Setting door bucks.
Apr. 7 - Removing debris from around buildings.
     13 - Setting door bucks.
     14 - Removing debris from around buildings.
     15 - Hauling brick from car to job site.
     18 - Removing debris.
     19 - Outting out exterior well and serving Room for glazed tile -
          removing debris, from around buildings.
     24 - Covering water lines.
     26 - Removing debris from around buildings.
                    11
                            11
              11
     27 -
                           ....
                    11
              ŧŧ.
                                н
                                          11
     28 -
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May	1	•••	Removing (	בית <sup>ואן</sup> א	fr <u>o</u> m	around l	tuildings "	•	
	23	_	11	11	0	11	11	•	
	4	_	**	11	11		11	•	
June	1	_	Temporary	nower	line	to Custo	odials.	-	
	5	-	Making do	לייטרי פרי <b>ד</b>	s for	all lui	ildings -	Cleaners	arrived.
	6	-	Making up	dormsp	ອງປະຊ	for all	_bui]dir.p	S.	
	9		Setting ra	adiator	∋, st	eam and	return 1	ines.	

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#### SPECIAL HOUSES

## EIGHT GIELS! DOPNITOPT 45

### <u>1938</u>

- Sept.70 Remark on deily report "General Contractor shall have more wall forms on jot."
- Oct. 6 Remark in daily report "Wall forms have not arrived yet. Which were supposed to be shipped from Lansing Oct. 7, 1978. We do not have enough well forms to pour the outside wells for one building."
- Nov. 18 Plumbers and Steamfitters no work on this date--caught up to General Contractor.
- Nov. 30 Hirth Cut Stone were notified that 2 car loads of stone on track. Did not start to unload as of this date and were going to unload 12/1/38. They were told by phone they would have to arrange to take care of shipments on arrival.
- Dec. 1 Delayed on brickwork because stone did not arrive on job until 10:00 A.M.
- Dec. 19 Water condition created by break in water main very unsatisfactory. General Contractor to date has made no effort to correct. Progress - slow.

- Feb. 21 Welder suspended work owing to condition of tunnel.
- Mar. 1 Tunnel work suspended due to conditions of tunnel.
- Mar. 13 Buildings covered with ice caused by sleet storm. Digging ditches for drainage.
- Mer. 15 Rain and wind, could not work.
- May 24 Patching damaged partitions in Building "G", cause for some neglect by Contractor.
- June 3 The main tunnel from Building "A" to Power House should be cleaned and pointed.
- June 5 General Contractor should clean up around buildings so we can start grading - could use more bricklayers - Should get all materials on job for completion - Lockers and shelves should be on job - Electrician should start pulling wire - Terrazzo workers should put on 3 shifts for grinding and more terrazzo machines - Need more cleaners. Painters should start June 12-Better toilet accomodations should be taken care of.

- June 6 Need more men cleaning buildings.
- June 7 Have plasterers paint up around door jonbs and plass blocks and make general check of plastering - We should have more cleaners on the job, only two today - The plazers should be on the job to clean up the glazing that is left so painters may start.
- June 8 Have General Contractor pour pupp pits in equipment rooms of all eight (8) rooms. Change clazed tile in equipment rooms in several Dorms. They have square tile at door jamts and should have bull nose. Raising partitions damaged by norlect of General Contractor not having heat in buildings where he should have during freezing weather. They should have more cleaners.
- June 9 The job is badly in need of œulkers as painters have started The clearers are holding up painters and the cleaners of windows are holding up painting end completion of sash. Where concrete projects at mein entrances we will not allow the cutting of stone to fit the concrete as you started to do it at "H" Building. Also these show a discoloration, at main entrance stone at Building "H". The terrazzo grinders shall take more care where grinding as they are staining the finished plastered walls. Need more lathers.

# Ma Tunas

# EIGHE GIPLS! DOPMITCHIRS

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			<b>A</b> -		
Aug.	26	-	Clear	Cct.10 - Clear	
	27	-	••	11 - "	
	28	-	11	12 - "	•
	29	-		13 - Cloudy,	Clear
	30	-	01oudy	14 - Clear	
	31	-	Clear	15 – "	
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Nov. 25 - Clear Jan.11 - Cloudy 26 - Clear12 - Cloudy & 27 - Clear28 - Clear 17 - Cloudy & 29 - Clear30 - Clear14 - Clear15 - Cloudy 16 - " 8 Dec. 1 - Clear 2 - Rain 3 - Rain 17 - Cloudy & . 4 - Rain 5 - Rain18 - Snow 6 - Cloudy, Rainy 19 - Cloudy11 11 7 -20 - Cloudy, Snow 8 - Clear, Cloudy 21 - Fair 22 - Snow 9 - Cloudy, Clear 10 - Rainy, Cloudy 23 - Cloudy 11 - Clear 24 - Cloudy, Snow 12 - Cloudy 25 -- 11 26 -13 - Clear 11 11 27 - Snowy, Clear 14 -11 29 - Clear 15 -11 16 -19 - Cloudy 11 17 -20 - Hesvy wind Ħ 18 -& enow 11 19 -71 - 01ear11 20 -11 21 -Feb. 1 - Cloudy 22 -11 2 - Unsettled 11 23 -3 - Cloudy 4 - " Ħ 24 -11 25 -5 - ClearĦ 6 - Cloudy, Snow 26 -7 - Cloudy 27 - Snow & Heavy Wind 18 8 -28 - Cloudy & Windy 29 - Snov & Windy 30 - """ 9 - Cloudy, Rain 10 - Windy 11 - Clear 31 - Clear 11 1979 12 -11 13 -Jan. 1 - Clear 11 14 -2 - Clear3 -- 11 15 -11 11 16 -11 4 -17 -11 5 - Rainy, Rain 11 18 -6 - Clear7 - " 19 - Pain \*\* 20 - Snow, Cloudy 3 -9 - Cloudy, Rain 21 - Cloudy Snow 10 - Cloudy 22 - Snow

Snow

Snow

Snow

Snow

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Feb.23 -	Cloudy, Cold	Arr.	<u>1</u> 0		Cloudy, Bain
24 -	Snow, Cloudy	-	11		Clear
25 -	Clear		33	_	Snow, Windy
26 -	Sno.4		13		Clear
27 -	Clear		14	_	W.Sro 10
28 -	Cloudy		15	-	Bain. Cloudy
			16	-	Cloudy, Fair
Mar. 1 -	Snow		17		Rein, Gloudy
2 -	Clerr		13	_	Cloudy. Rain
3 -	11		ļģ	-	Rain
4 -	11		SU	_	Clear
5 -	Pain	:	01	-	Rein
6 -	Sherry	:	22	-	Cloudy
7	Clear	:	23	_	Clear
8 -	tt	:	24	_	Clear
9 -	Wind, Cloudy	:	л Ч	-	Clear
10 -	Cloudy		ກ່ອ	-	CT OT BY
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17 -	Clear		Ba -	_	Clear
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15 -	Bain, Cloudy				
16 -	Cloudy	Mage	٦	_	C7 011 317
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19 -	Snow		7	_	19
19 -	Snow & Cloudy		4	_	11
20 -	Clear		5	-	11
21 -	N N L		6	_	Clear
22 -	u		7	_	Cloudy, Clear
23 -	11		8		11
24 -	п		9	-	Pain. Cloudy
25 -	Cloudy, Rain		10	-	Clear
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30 -	Cloudy. Sleet		15	_	Rain, Cloudy
31 -	H		16	-	Cler
			17	_	11
Apr. 1 -	Cloudv		<u>א</u> ן	-	18
2 -	Jack Jack Jack Jack Jack Jack Jack Jack		19	_	Cloudy
3 -	Clear		20	-	Clear
4 -	11		21	-	Cloudy, Pain
5 -	Cloudy			-	Clear
6 -	Cloudy, Snow			-	11
7 -	Clear		34		11
8 -	Cloudy, Snow		15	_	11
- 9 -	Cloudy, Rain		26	_	Cloudy. Clear
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May 27 - Cloudy, Rain	July 13 - Clear	
28 - Rain, Cloudy	14 - "	
29 - Clear	15 - "	
<b>70 – "</b>	16 - "	
22 - <sup>11</sup>	17 - Pain	
	18 - Cloudy, Cool	
June 1 -Clear	19 - Clear	
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7 11 11	21 _ 11	
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11 - 0105r, 01000y	29 <b>-</b> 1	
12 - 01000	20 - " Ra II	
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14 - 01ear		
15 - Cloudy, Clear	Aug. 1 - "	
16 - Clear	2 - "	
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21 - Cloudy, Clear	7 - Cloudy, Clear	
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Sept. 1 - Clear	Cot.	21 -	Rain, Clear
2 - "		22 -	Clear
3 - "		23 -	Pain, Cloudy
4 <sup>11</sup>		24 -	Clear
5 - "		25 -	Rain
6 - Rain, Cloudy		26 -	Rain, Clear
7 - Clear		27 -	Rain
8 - "		28 -	Clear
9 – "		29 -	Clear, Cloudy
10 - "		- 07	Cloudy
11 - "		<u>31</u> -	Clear, Cloudy
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13 - Clear	Nov.	1 -	Cloudy, Snow
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3 - Cloudy, Clear		22	11
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As was shown in the discussion of the Pre-Construction Work, a thorough investigation of the low bidder was required. This was done, and the "low" General Contractor was found to have the full requirements for handling a project of this type. The work started August 28, 1938 and was specified to be completed within 180 consecutive calendar days, or by February 21, 1939. A month later, on September 27, 1938, bids were opened on the construction of two custodial buildings at the Michigan Children's Village. This same contractor was the low bidder on the General Construction Work on this new project. Again he was awarded the contract. Hence, with two projects at the same institution it was thought that work would progress very rapidly.

As time passed with no apparent progress (as can be seen from the detailed summary on daily progress and the weather summary which can be found on pages 48 to 97 inclusive) the General Contractor was questioned as to the cause of the delay in construction. It was found that he did not have sufficient funds to meet his obligations, and therefore he was employing as few men as possible, in order to keep his payroll at a minimum.

In February, 1939 the situation was so acute that it became necessary to call a meeting in the office of the P.W.A., attended by the P.W.A. Engineer, the Contractor, the Budget Director, and the Architects and Engineers, to discuss this problem and attempt toreach some solution satisfactory to all parties. The Contractor expressed a willingness to complete the work if some type of assistance could be given him in meeting his bills and payrolls. The opinion of all present was in favor of this arrangement in order that he, instead of the bonding company, would finish the work. So, after careful study, he was given permission to submit estimates twice, instead of once a month and his Detailed Estimate, P.W.A. Form No. 96 was revised, allowing him to draw more money on the early phases of construction than he had previously been able to do, while the later phases were cut accordingly.

As an example of how this was worked, let us assume that the Grading and Excavating item and the Painting item were originally \$15,000 and \$9,000 respectively. On the revised form these items might be listed at \$22,000 and \$2,000 instead. Nearly all the items were changed in this way. Consequently when making out the Monthly Estimate, P.W.A. Form No. 1-23, the percentage of work done during the past month was from then on, based not on the actual contract figures but on the revised figures. To illustrate, if the grading work had progressed by 10% during the past month, instead of drawing 10% of the \$15,000, he could now draw 10% of \$22,000. This meant that, during the period when he was extremely pressed for financial assistance, he was able to draw more money than normally. But, as he passed the peak load, he would begin and continue to draw less than he normally would, so that, when he reached the time for painting, which was one of the last phases of work, instead of drawing 10% of the true contract price of \$9,000, he could only draw 10% of \$2,000.

This assistance proved satisfactory for only a short time. To the amazement of the Architects and Engineers they began to receive complaints from the Subcontractors and Material Suppliers stating that they were not receiving the full amount due them from the General Contractor. In order to check the veracity of these complaints, it was necessary to ascertain (1) the amount of each contract the General Contractor had

made with the Subcontractors and Material Suppliers, (2) the amount they had been paid, and (3) the amount they should have been paid but hadn't received. The General Contractor was requested to submit this information. He complied but it was found after a comparison of contract amounts with a few Subcontractors, that the figures he submitted and swore to did not correspond to their figures. The Architects and Engineers then sent each Subcontractor and Material Supplier a questionnaire requesting the information enumerated above. These questionnaires were returned with figures vastly different from those submitted by the General Contractor. The Architects and Engineers felt that the information on the questionnaires was probably the more reliable.

During this period the Office of the Budget Director changed personnel twice. Thus there were three different Budget Directors handling the project in the capacity of Owner, a situation which complicated matters considerably. Further, it was impossible for much action to be taken by the State since the State itself was passing through a period of financial difficulty. Hence the Contractor continued to work at a very slow rate, thus delaying not only the project, but the other trades as well.

Subcontractors who had their own men working for them had payrolls to meet and material to pay for. They depended upon payments from the General Contractor to meet their monthly bills, but he gave them only partial payments thus causing them financial difficulties also. Subcontractors do not as a rule operate with much capital, so, if regular payments are not received, they must borrow money to meet their bills. This was done with the expectation that it would be only for a short period. However, to date, they have not received their final payments and are consequently in dire straits.

As a direct result of this failure by the General Contractor to pay his Subcontractors, the project was further delayed by the practice followed by the latter of removing their workers to other projects on which they had contracts--and on which they received regular payments.

On October 30, 1939 the Architects and Engineers received a group of nine claims from the General Contractor which totaled \$34, 253.10. These claims covered losses incurred from such items as soil conditions; cost of added clay-coated tile not called for in the specifications; lack of electrical energy; an uncompleted section of the heating tunnel, left open for several weeks; additional labor required to patch radiator recesses; to cut glazed tile at the radiator grille openings; to re-level and re-point the basement tile partitions (due to heaving from frost); etc. Upon strudying the supporting data which was attached to the claim, the Architects and Engineers found that he had absolutely no claim whatsoever on any one of the nine items submitted.

The specifications clearly covered each item and were quoted in answering each one. Each claim was considered, and all paragraphs in the specifications which covered the claims were quoted word for word in the answering letter. As an illustration of how these claims were handled, let us examine the procedure followed on the claim on loss from soil conditions. This item is covered by a paragraph in the specifications which is in the chapter entitled "Instruction to Bidders" and reads as follows:

Bidders Responsibility for Conditions of Work at Site:

"Each bidder shall inform himself of the conditions under which the work is to be performed, the site of the work, the structure of the ground, the obstacles which may be encountered, and all other rel-

evant matters concerning the work to be performed, and also, the bidder if awarded the contract, shall not be allowed any extra compensation, by reason of any matter of thing concerning which such bidder might have fully informed himself, because of his failure to have so informed himself prior to the bidding.

The bidder shall examine and be responsible for all subsurface or underground conditions that may be encountered during the progress of the work, and his bid shall cover all expenses or disbursements in connection with such subsurface work."

It was considered that the soil conditions, although bad during a portion of the construction, should have been considered at the time bids were being prepared, as called for in the above paragraph. The specifications covered all claims in a like manner. Therefore, the Architects and Engineers rejected each claim.

About the same time that these claims were received one was received from the Plumbing, Heating, and Ventilating Contractor for the sum of \$7,373.69. This claim was for the payment of their plumbers and steam fitter and sheet metal foremen, from the date the job was specified to be completed (February 21, 1939) to the actual date of completion in November, 1939. This was naturally overhead that could not be anticipated at the time of preparing bids. Hence the Architects and Engineers, feeling that it was a just claim, referred it to the Budget Director for his consideration.

After the letters rejecting the General Contractor's claims had been sent him, nothing more was heard about them until the first part of January, 1940.when he secured a conference with the Chairman of the State Building Commission. During this conference the Contractor presented his claims and requested that the previous decision be reconsidered. The Chairman of the Building Committee called a meeting which was attended by members of the Building Committee, the Budget Director, and the Architects and Engineers. The Architects and Engineers were requested to present their side of the claims and tell why they had all been rejected. After a lengthy discussion it was decided by the Building Committee and the Budget Director that two of the nine claims totaling \$1,309.09 could be allowed by the State as the items were of such a nature that they could be construed to be additional work, not called for by the specifications. The Architects and Engineers were requested to prepare the proper change orders, covering these items, and submit them to the Budget Director for approval.

This small amount was not sufficient to satisfy the Contractor who knew that there still was money in the contingency fund and was determined to get more of it. He therefore retained two attorneys who, after being granted permission, promptly went through the Owner's files. Apparently they hoped to find evidence of some type that would help to substantiate their client's claims. Two or three days were required for this work. Then no further word was heard from the General Contractor until April 3, 1940, when he requested still another meeting of the Budget Director, the Architects and Engineers, the Contractor and his attorneys, and the State Building Commission, as he felt he had further evidence to substantiate his claims. This request was granted because the Budget Director was willing to do anything, within reason, in order to close the project.

The Contractor presented his claims, one by one. No definite action was taken during the meeting, but a great deal of discussion was indulged in by all present. After due consideration, the Owner, wanting to clean up the docket in the shortest time possible, felt that, from the standpoint of securing the required final papers and assuring full payment of labor and material bills, it would be necessary to pay a portion of these claims, even though they might not be justifiable. Hence a check was made of the docket funds to find out how much money remained that could be used in this manner. It was decided by the Budget Director that if the money, previously earmarked for roads and various equipment for this project, were used for claims instead, the State could allow upwards of \$5,000. So, the attorneys for the Contractor were notified to that effect and requested to notify the Budget Director within a few days whether the Contractor would accept an amount of approximately \$5,000 as final settlement, and, if not, what amount he would settle for.

Although not willing to settle for \$5,000 or less the Contractor was willing to lower the amount he was demanding. A meeting was held in Lansing on April 18, 1940 at which time the Budget Director agreed to allow \$9,185.29, (This figure was reached in the following manner: the retained percentage was \$9,185.29 less than the amount necessary to pay all labor and material bills) providing the P.W.A. would concur <sup>1</sup> on this action. The Owner then instructed the Architects and Engineers to prepare the proper change orders and submit them to the Budget Director's Office by April 24, 1940.

1. If the P.W.A. does not concur in approving these change orders the claims can not be allowed, because the State alone does not have sufficient money to pay them. If this should happen the General Contractor would undoubtedly take his claims to court, thus forcing the Owner to turn the remaining portion of the contract over to the bonding company.

The other claim, mentioned previously, which was submitted by the Plumbing, Heating, and Ventilating Contractor was reviewed on April 9, 1940 by the Budget Director, and after some discussion the sum of \$3500. was agreed upon. The Architects and Engineers were instructed to prepare the necessary change order for this claim also. As a project nears completion the Architects and Engineers' Representative makes daily inspections of the work and compiles check lists of items to be done or corrected. These are given to the contractors with copies for his file and the Architects and Engineers' office file. As soon as the Representative considers the project is substantially complete he notifies his office and a date is set for an inspection by the Architects and Engineers. The date for the inspection tour of this project was set for October 26, 1939. Each building and tunnel was carefully checked and all unsatisfactory or omitted items of work were listed. A copy of this list was then given to the Contractor, so that he could rectify the work.

The Architects and Engineers then notified the Owner that the work was completed and arranged for an inspection of the site with him. This inspection was not as thorough as those made above, but was sufficient to apprise the Owner that acceptance of the buildings might be given.

The Architects and Engineers were instructed to present a recommendation that the Owner accept the buildings as complete, subject to contract stipulations. This was done and the Owner at the next Administrative Board meeting made the necessary resolution of acceptance, copies of which were sent to the P.W.A., the Institution, and the Architects and Engineers.

Before the Owner makes final payment a number of papers will have to be obtained from the contractors. These are as follows:

1. The Contractor's final I-23, which must show that each item listed on the P.W.A. Form No. 96 is 100% complete.

2. The Contractor's Affidavit, a copy of which may be found on page 108. This is a sworn statement showing the status of payments for all labor and/or materials. If all accounts are paid, a sworn statement to that effect is sufficient. However, if any labor or material bills remain unpaid, the number, name, and a statement as to the amount of labor or material remaining to be paid must be shown in the proper place on this form.

3. A Waiver of Lien, a copy of which may be found on page 109. This form is the Architects and Engineers' own form. Each contractor must turn in 6 copies of each lien, and the contractors, in turn, require each material supplier and laborer to furnish him a waiver of lien covering his material or work.

4. The Contractor's Final Invoice. This is for his retained percentage and is made up on his own invoice form. This retained percentage is 10% of the contract amount withheld by the Owner when making payments to the contractors, in order to insure the proper completion of the contract.

5. The Bond or Guarantee covering roofs. In this instance a bond was required which covered the workmanship and material for a specified number of years.

6. Contractor's workmanship and material guarantee for one year. This must be sworn to and is necessary to care for any defects in workmanship or material which might appear within the period of one year.

7. The Architects and Engineers' Final Statement, a copy of which may be found on page 110. This is made up in the original with two copies. The original is sent to the Owner, one copy is sent to the

SWORN STATEMENT BY CONTRACTOR.	1273	6-352 ₩→	
STATE OF MICHIGAN	ss.	Elemazoo The	
that <sup>1</sup>		being duly sworn, deposes and says	-
the original contractorfor the <sup>2</sup>	situated of	on the following described property, viz	
			-
			-
that the following is a statement of the	number and names of every s	sub-contractor and laborer in the employ	7
of <sup>4</sup>		in connection with said	1

<sup>3</sup>\_\_\_\_\_\_and of every person furnishing materials therefor; that the amounts due or to become due to such sub-contractors, laborers and persons for work done and materials furnished at the date hereof, is correctly and fully set forth opposite their names, respectively, in said statement, to-wit:

NO.	NAME	LABOR OR MATERIALS	AMOUNT	
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deed.

Notary Fublic County, Michigan. My commission expires:

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contractor, and one copy remains in the office file. This statement gives the amount of the contract, the approved extras, the accepted deductions, the amount previously paid, the amount of this certificate, and the balance due. It is a final summary of the contract and certifies that the Contractor is entitled to his final payment.

The Architects and Engineers carefully check all the forms to see that they are correct and in the proper legal form, and, if satisfactory, they submit the required number of copies to the Owner. Upon receipt of this material the Owner thoroughly checks everything and, if found satisfactory, makes final payment. On this project, when final payment is made, it will have to be made in such a manner that the Owner will know that the subcontract and material bills are paid in full. To do this the payment will undoubtedly be made in Lansing as follows: the Owner will make out checks to cover the various bills and have the Contractor indorse them. The Owner will then give or send them to the proper parties. At the same time the required waivers of lien will be obtained.

To date, this project has not been finally settled. The Contractor has not submitted the required papers, since he feels that he will be able to collect a portion, if not all of his claims. Of course these claims probably would never have originated if the work had progressed as it should have, but as it is, the General Contractor has lost a large sum of money and, in requesting claims, he is doing the only thing possible to save the Subcontractors, the Material Suppliers, and himself. The outcome now rests in the hands of the P.W.A.

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