

STATEMENT
OF Bids and Estimate on Costs for
LAW SCHOOL BUILDING
THE UNIVERSITY OF CHICAGO

SHEPHERD, RUTAN & COOLIDGE, Architects.

January 16, 1903.

SCHEDULE OF BIDS RECEIVED.

GENERAL CONTRACT.		Main Bldg. Without Wings.	Main Bldg. With out stone Stairway.	East Wing.	Total Bldg.
G. Everett Clark Co.	\$200,412 8,300		\$208,712	\$61,300	\$269,712
Falkman Co'n Co.	\$201,318 7,480			61,498	262,816
H.P. Strumborg Bros.	208,784 8,304		208,748	62,108	272,870
Wells Bros. Co.	212,687 8,328		219,088	58,978	271,848
John Griffiths	220,380 8,800		221,188	62,000	282,350
A. Landquist	213,274 11,382		229,150	70,158	299,408
			234,611		

<u>HEATING & VENTILATING:</u>	<u>Main Bldg. Without Wing.</u>	<u>East Wing.</u>	<u>Total Bldg.</u>
George E. Dixon Co.	\$13,242	\$3,000	\$16,242
L. H. Prentice Co.	16,100	9,215	25,315
Maginn & Bradley Co.	16,650	9,750	26,400
Kehm Bros. & Merts	16,775	10,564	27,339
Davis Construction Co.	17,193	9,895	27,088
Thomas & Smith	17,370		
Kreeschell Brothers	18,937	9,400	28,337
Baker & Smith	19,692	9,150	28,842

ELECTRIC WIRING:

McFell Deenis Co.	2,570	675	3,245
Wadeford Electric Co.	3,630	1,200	4,830
Arthur Frantsen Co.	3,435	900	4,335
Kohler Brothers	3,955	975	4,930
Chicago Edison Co.	4,275	1,085	5,360
Henry Newgard			7,190

TELEPHONES, BELLS & SPEAKING TUBES:

Arthur Frantsen Co.	850
Kohler Brothers	1,068
Henry Newgard	880

<u>HEATING & VENTILATING:</u>			
George E. Dixon Co.	\$18,342	\$3,000	\$18,342
L. H. Premise Co.	16,100	9,212	25,312
Martin & Bradley Co.	16,650	9,750	26,400
Kohn Bros. & Mertz	16,772	10,664	27,436
Davis Construction Co.	17,193	9,895	27,088
Thomas & Smith	17,370		
Kreesehoff Brothers	18,987	9,400	28,387
Baker & Smith	19,692	9,150	28,842
<u>ELECTRIC WIRING:</u>			
McFell Dennis Co.	2,270	675	2,945
Wadford Electric Co.	2,630	1,200	4,830
Arthur Trueson Co.	2,425	900	4,325
Kohler Brothers	2,955	975	4,930
Chicago Edison Co.	4,275	1,085	5,360
Henry Newgard			7,190
<u>TELEPHONE, BELLS & SPEAKING TUBES:</u>			
Arthur Trueson Co.			850
Kohler Brothers			1,068
Henry Newgard			880
<u>Main Bldg. Without Wire.</u>			
<u>Heat Wire.</u>			
<u>Total Bldg.</u>			

<u>ELECTRIC BOOK LIFTS</u>	<u>Main Bldg.</u> <u>Without Wing.</u>	<u>East</u> <u>Wing.</u>	<u>Total</u> <u>Bldg.</u>
Burdett-Rowntree Co.			\$4,073

PLUMBING & DRAINAGE:

Hulbert & Dorsey	\$5,925	\$ 700	6,625
Thomas Conlin	6,076	910	6,986
P. M. Murphy	6,345	760	7,105
P. Nacey Co.	6,044	1,297	7,341
E. Baggot Co.	7,600	1,300	8,900
M. J. Corboy	8,730	1,123	9,853

DRAINAGE PUMPS:

Edward Yeomans			315
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ELECTRIC BOOK LIFTS

Burdett-Rowntree Co.

Main Bldg.
Without Winge.

East
Winge.

Total
Bids.

\$4,078

PLUMBING & DRAINAGE:

Hilbert & Dorsey

\$5,928

\$ 700

6,628

Thomas Conlin

6,076

810

6,886

P. M. Murphy

6,345

760

7,105

P. Hasey Co.

6,044

1,237

7,281

E. Baggot Co.

7,800

1,200

9,000

M. J. Corboy

8,730

1,128

9,858

DRAINAGE PUMPS:

Edward Yeomans

315

LOWEST BIDS RECEIVED.

<u>GENERAL CONTRACT</u>	<u>Main Bldg. Without Wing.</u>	<u>*East Wing.</u>	<u>Total Building.</u>
C. Everett Clark Co.	\$200,412	\$61,300	\$261,712
<u>HEATING & VENTILATING:</u>			
George E. Dixon Co.	13,242	3,000	16,242
<u>ELECTRIC WIRING:</u>			
McFell, Deenis Co.	2,570	675	3,245
<u>TELEPHONES, BELLS & SPEAKING TUBES:</u>			
Arthur Frantson Co.	850		850
<u>ELECTRIC BOOK LIFTS</u>			
Burdett-Rowntree Co.	4,073		4,073
<u>PLUMBING & DRAINAGE:</u>			
Halbert & Dorsey	5,925	700	6,625
<u>DRAINAGE PUMPS:</u>			
Edward Yeomans	315		315
	\$227,387.00	\$65,875.00	\$293,262.00
Architects' Com. 5%	11,369.35	3,283.75	14,653.10
	\$238,756.35	\$69,158.75	\$307,915.10
If cut stone is used			
on Staircase Bay, add	\$ 8,715.00		
	\$247,471.35		

LOWEST BIDS RECEIVED.

GENERAL CONTRACT			
Contractor	Main Bldg. Without Wing.	East Wing.	Total Building.
C. Everett Clark Co.	\$200,412	\$61,300	\$261,712
HEATING & VENTILATING:			
George E. Dixon Co.	12,242	3,000	15,242
ELECTRIC WIRING:			
McFell, Deems Co.	2,570	678	3,248
TELEPHONES, BELLS & SPEAKING TUBES:			
Arthur Franzen Co.	850		850
ELECTRIC BOOK LIFTS			
Burdett-Rowntree Co.	4,073		4,073
PLUMBING & DRAINAGE:			
Hilbert & Dorsey	2,922	700	3,622
DRAINAGE PUMPS:			
Edward Yeomans	312		312
Architects' Com. 22	\$232,756.22	\$68,958.78	\$301,715.10
	11,263.35	3,222.75	14,486.10
	\$227,387.00	\$65,736.00	\$293,123.00
If cut stone is used on staircase Bay, add			
	\$ 2,715.00		
	\$247,471.35		

ARCHITECTS' ESTIMATE ON FIXED FURNITURE.

	<u>Main Bldg.</u>	<u>Wing.</u>	<u>Total.</u>
METAL LOCKERS:	\$1,800	\$1,800	\$3,600
METAL BOOK STACKS	12,000	5,500	17,500
LECTURE ROOM DESKS & COURT RAILINGS:	510		510
READING ROOM TABLES and CHAIRS:	4,473	838	5,160
LIGHTING FIXTURES	6,537	967	7,504
WINDOW SHADES	375	193	468
CORK CARPET	2,000		2,000
	<u>\$27,594.00</u>	<u>\$9,148.00</u>	<u>\$36,742</u>
Architects' Com. 5%	<u>1,379.70</u>	<u>457.40</u>	<u>1,837.10</u>
	<u>\$28,973.70</u>	<u>\$9,605.40</u>	<u>\$38,579.10</u>

ARCHITECTS' ESTIMATE ON FIXED FURNITURE.

	<u>Main Bldg.</u>	<u>Wing.</u>	<u>Total.</u>
METAL LOCKERS:	\$1,800	\$1,800	\$3,600
METAL BOOK STACKS	12,000	2,800	14,800
LECTURE ROOM DESKS & COURT RAILINGS:	210		210
READING ROOM TABLES and CHAIRS:	4,473	888	5,361
LIGHTING FIXTURES	6,237	987	7,224
WINDOW SHADES	375	103	478
CORK CARPET	2,000		2,000
	<u>\$27,894.00</u>	<u>\$9,148.00</u>	<u>\$36,742</u>
Architects' Com. 2%	<u>1,379.70</u>	<u>457.40</u>	<u>1,837.10</u>
	<u>\$29,273.70</u>	<u>\$9,605.40</u>	<u>\$38,879.10</u>

ARCHITECTS' ESTIMATE ON MOVABLE FURNITURE.

	<u>Main Bldg.</u>	<u>East Wing.</u>	<u>Total.</u>
BASEMENT	\$97.00		\$97.00
FIRST FLOOR	510.00	\$496.00	1006.00
MEZZANINE FLOOR	1578.00	450.00	2028.00
SECOND FLOOR	<u>525.00</u>	<u>935.00</u>	<u>1460.00</u>
	\$2710.00	\$1881.00	\$4591.00

This estimate is based upon the amount of new furniture needed in addition to that now in use in the present Law School quarters.

ARCHITECTS' ESTIMATE ON MOVABLE FURNITURE.

	<u>Main Bldg.</u>	<u>West Wing.</u>	<u>Total.</u>
BASMENT	\$27.00		\$27.00
FIRST FLOOR	510.00	\$498.00	1008.00
MEZZAINE FLOOR	1578.00	450.00	2028.00
SECOND FLOOR	<u>525.00</u>	<u>935.00</u>	<u>1460.00</u>
	\$2710.00	\$1881.00	\$4591.00

These
are needed in addition to that now in use in the present Law School.
This estimate is based upon the amount of new furni-

January 19th, 1903.

H-

My dear Mr. Rust:-

I am reporting to you on behalf of Mr. Judson, that of the \$7,000. remaining to be used for furniture, equipment, etc., \$2500. should be reserved for equipment, leaving \$4500. for the furniture of the building. I hope you will pardon the delay we have had in reaching this conclusion, and that you may be able to go forward at once.

Yours very truly,

January 18th, 1903.

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My dear Mr. Rust:-

I am reporting to you on behalf of Mr. Jackson, that of the \$7,000. remaining to be used for furniture, equipment, etc., \$2500. should be reserved for equipment, leaving \$4500. for the furniture of the building. I hope you will pardon the delay we have had in reaching this conclusion, and that you may be able to go forward at once.

Yours very truly,

File

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No. 1266

RECAPITULATION
REPORT
TO

TREVOR ARNETT, VICE PRESIDENT & GEN. MGR.
THE UNIVERSITY OF CHICAGO.

SUBJECT-
POWER HOUSE FOR HEATING AND ELECTRICITY SUPPLY

-ooOoo-

March 27, 1925.

for 82

file

No. 1288

REGABITULATION
REPORT
TO

TREVOR ARNETT, VICE PRESIDENT & GEN. MGR.
THE UNIVERSITY OF CHICAGO.

SUBJECT-
POWER HOUSE FOR HEATING AND ELECTRICITY SUPPLY

-00000-

March 27, 1968.

NEILER, RICH & COMPANY

Engineers

Chicago

March 27, 1925

Trevor Arnett, Vice Pres. & Gen. Mgr.,
The University of Chicago.
Chicago, Illinois.

Dear Sir:

That all of the conclusions and deductions from our reports relating to Power Plant for the University may be brought together, the following has been prepared.

It is hoped the compilation will be found convenient for your discussion of the subject and assist in determining upon which method of procedure is most desirable, all things considered.

All computations are based on the 1930 program including development south of Midway.

The reports referred to are:-

Preliminary - #1259, October 6, 1924.
Final - #1261, November 14, 1924.
Addenda - #1265, March 10, 1925.

Where the letters P - F - A appear, reference is to the reports - Preliminary - Final - Addenda.

The number following letter indicates the page of the report where discussion of items referred to will be found.

Plant location:-

A - Campus site.
B - Illinois Central Railroad site.
C - Existing Plant.

Items eliminated from consideration:-

- (1) Transportation of coal from Illinois Central Railroad to either A or C location (A-3 & 5)
- (2) Consideration of Commonwealth Edison Service (F-23, A-23).
- (3) Isolated plant south of Midway (A-21 & 22).
- (4) Small individual plants (F-3 & 4).

WELLS, RICH & COMPANY

Engineers

Chicago

March 27, 1935

Trevor Abbott, Vice Pres. & Gen. Mgr.,
The University of Chicago,
Chicago, Illinois.

Dear Sir:

That all of the correlations and deductions
from our reports relating to Power Plant for the Uni-
versity may be brought together, the following has
been prepared.

It is hoped the compilation will be found
convenient for your discussion of the subject and
assist in determining upon which method of procedure
is most desirable, all things considered.

All computations are based on the
1930 program including development
south of Midway.

The reports referred to are:-
Preliminary - 4/23/35, October 6, 1934.
Final - 4/28/35, November 14, 1934.
Addenda - 4/28/35, March 10, 1935.

Where the letters P - F - A appear,
reference is to the reports - Prelim-
inary - Final - Addenda.

The number following letter indicates
the page of the report where discussion
of items referred to will be found.

Plant locations:-
A - Campus site.
B - Illinois Central Railroad site.
C - Existing Plant.

Items eliminated from consideration:-
(1) Transportation of coal from
Illinois Central Railroad to
either A or B location (A-3 & 4
(2) Generation of steam
within service (7-35, A-35).
(3) Isolated plant south of Midway
(A-31 & 32).
(4) Small individual plants (7-3 & 4).

The following tabulation represents for the three locations, A, B and C, the items of Investment, Fixed Charges, Fuel Account, and Labor, these figures being taken from the attached itemized sheets.

The Investment items include tunnels, piping distribution and electrical transmission to care for all Campus buildings and development south of Midway; complete power house buildings with boiler plant and electrical generating equipment.

Fixed Charges, as used in our reports - 5% interest and 3% for depreciation and maintenance. The existing plant estimated value of buildings and that portion of the equipment which will be used in connection with Item C - \$300,000.00

Amount of coal required as estimated in the reports:-

Buildings North of Midway	38,000 tons
Buildings South of Midway	4,219 "

The saving in fuel consumption by either Plants A. or B. over Plant C will be 10% brought about by increased economy, due to larger and more efficient units. In addition to this there will be 7% gain by Economizers which are provided in the cost items for A and B. This brings about a total saving of 17%.

	A Campus	B Illinois Central	C Existing
Investment	\$2,493,072	\$2,651,572	\$1,662,450
Fixed Charge	\$199,445	\$212,125	\$156,996
Fuel 42,219 tons*	185,753	42,219** 152,832	49,396*** 217,342
Labor	72,457	72,457	75,069
Total Yearly Charge	\$457,655	\$437,414	\$449,407
		Cost C Plant \$449,407	
		" B " 437,414	
		Saved by B " \$11,993	

* \$4.40 per ton
 ** \$3.62 " "
 *** \$4.40 " "

The following tabulation represents for the three locations, A, B and C, the items of Investment, Fixed Charges, Fuel Account, and Labor, these figures being taken from the attached itemized sheets.

The Investment items include tunnels, piping distribution and electrical transmission to cars for all Camps buildings and development south of Midway; complete power house buildings with boiler plant and electrical generating equipment.

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Buildings North of Midway 38,000 tons
Buildings South of Midway 4,219 "

The saving in fuel consumption by either Plants A, or B, over Plant C will be 10% brought about by increased economy, due to larger and more efficient units. In addition to this there will be 7% gain by Economizers which are provided in the cost items for A and B. This brings about a total saving of 17%.

A		B		C	
Investment	\$2,492,072	Investment	\$2,492,072	Investment	\$1,982,480
Fixed Charge	\$109,443	Fixed Charge	\$109,443	Fixed Charge	\$109,443
Fuel 42,219 tons	188,783	Fuel 42,219 tons	188,783	Fuel 42,219 tons	188,783
Labor	78,427	Labor	78,427	Labor	78,427
Total hourly charge	\$366,653	Total hourly charge	\$366,653	Total hourly charge	\$366,653
Cost of Plant	\$450,407	Cost of Plant	\$450,407	Cost of Plant	\$450,407
" "	"	" "	"	" "	"
Cost of Fuel	\$11,905	Cost of Fuel	\$11,905	Cost of Fuel	\$11,905
Saved by B		Saved by B		Saved by B	
"	\$4.40 per ton	"	\$4.40 per ton	"	\$4.40 per ton
"	\$5.32	"	\$5.32	"	\$5.32
"	\$4.40	"	\$4.40	"	\$4.40

From the preceding tabulations it will be seen that the saving in Fixed Charges and in Fuel & Labor Account will be greater for Location B by \$11,993.00 per year than for Location C.

GENERAL CONSIDERATIONS

Advantage is taken of this opportunity to direct your attention to the condition of the existing trenches and tunnels through which steam pipes and electric cables are carried.

The tunnels are inaccessible for inspection and repairs and in consequence the insulation on steam piping has to a great degree disappeared. The trenches are damp and where covering is still intact this absorbs the moisture and acts as a condenser, thus materially increasing the losses in transmission.

The tunnels are disintegrating and the roof construction in many cases we believe is insecure and as the reinforcing eye beams are rusting out, all of this in our judgment calls for early construction of a new system of tunnels throughout the entire premises. This work can be carried on regardless of what location of Power Plant be selected.

New buildings are now in progress of erection and some means must be made very soon to provide for heating and electric service. In the absence of a permanent tunnel development, more or less temporary provision will

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New buildings are now in progress of erection and some means must be made very soon to provide for heating and electric service. In the absence of a permanent tunnel development, more or less temporary provision will

have to be made to serve such buildings. The cost of any temporary arrangement can be saved providing a definite tunnel scheme is shortly determined upon.

Respectfully submitted:-

(Signed) Neiler, Rich & Co.

Samuel G. Neiler.

have to be made to serve such buildings. The cost of
any temporary arrangement can be saved providing a
definite tunnel scheme is shortly determined upon.

Respectfully submitted:-

(Signed) Heller, Rich & Co.

Samuel G. Heller.

ITEMS OF INVESTMENT AND OPERATION

ITEMS OF INVESTMENT AND OPERATION

TOTAL INVESTMENT ITEMS

<u>Cost</u>	<u>Location A Campus</u>	<u>Location B Illinois Central</u>
Building (P-11)	\$500,000.00	\$500,000.00
Tunnel (P-12)	342,000.00	402,000.00
Tunnel Piping (P-12)	427,500.00	502,500.00
Miscel. Extensions (P-12)	76,950.00	90,450.00
	<u>\$1,346,450.00</u>	<u>\$1,494,950.00</u>
Elec. Transmissions (P-12)	\$ 90,000.00	\$ 90,000.00
Rewiring & Replacing motors 1200 H.P. (P-12)	70,000.00	70,000.00
Changing Elevators (P-12)	60,000.00	60,000.00
Building Connections (P-12)	25,000.00	25,000.00
	<u>\$235,000.00</u>	<u>\$245,000.00</u>
Boiler Plant Equipment (P-14)	\$433,912.00	\$433,912.00
Generating Equipment (P-14)	\$192,150.00	\$192,150.00
2-1500 KW - 1-500 KW @ (110,000 plus 5%)		
Yard coal storage equipment	75,000.00	75,000.00
Recapitulation of Costs:		
	\$1,346,450.00	\$1,494,950.00
	235,000.00	245,000.00
	433,912.00	433,912.00
	192,150.00	192,150.00
	<u>75,000.00</u>	<u>75,000.00</u>
(P-15)	\$2,282,512.00 (P-15)	\$2,441,012.00
Add for extra Generator to care for So. Midway, (P-20) \$50,000)		
Tunnel Extensions & Piping (A-16) 96,000)	156,000.00	156,000.00
Wiring to So. Midway (A-26) 10,000)		
Boiler Capacity So. Midway.	<u>54,560.00</u>	<u>54,560.00</u>
	\$2,493,072.00	\$2,651,572.00

TOTAL INVESTMENT ITEMS

<u>Cost</u>	<u>Location A</u> <u>Garveys</u>	<u>Location B</u> <u>Illinois General</u>
Building (P-11)	\$800,000.00	\$800,000.00
Tunnel (P-12)	542,000.00	402,000.00
Tunnel Piping (P-12)	427,500.00	302,500.00
Miscel. Extensions (P-12)	78,920.00	50,420.00
	<u>\$1,547,420.00</u>	<u>\$1,454,920.00</u>
Also, Transmissions (P-12)	\$ 80,000.00	\$ 80,000.00
Refrigerating & Reheating	70,000.00	70,000.00
motors 1200 H.P. (P-12)	60,000.00	60,000.00
Changing Motors (P-12)	25,000.00	25,000.00
Building Connections (P-12)	<u>\$25,000.00</u>	<u>\$25,000.00</u>
Boiler Plant Equipment (P-14)	\$422,512.00	\$422,512.00
Generating Equipment (P-14)	\$122,120.00	\$122,120.00
2-1500 KW - 1-300 KW		
@ (110,000 plus 25)		
Yard coal storage equipment	75,000.00	75,000.00
Requisition of Costs:		
	<u>\$1,546,420.00</u>	<u>\$1,454,920.00</u>
	235,000.00	245,000.00
	422,512.00	422,512.00
	122,120.00	122,120.00
	<u>75,000.00</u>	<u>75,000.00</u>
(P-12)	\$2,282,512.00 (P-12)	\$2,441,012.00
Add for extra Generator		
to serve for 25. Midway		
(P-20)	\$50,000	
Tunnel Extensions &		
Piping (A-12) 25,000	125,000.00	125,000.00
Wiring to 25. Midway		
(A-26)	10,000	
Boiler capacity		
25. Midway.	<u>\$4,580.00</u>	<u>\$4,580.00</u>
	\$2,432,092.00	\$2,431,572.00

TOTAL INVESTMENT ITEMS

No building required - present boilers retained.
Present generator equipment replaced with A.C. Units A.C.
Transmission throughout. New transmission lines for
heating, hot water service, tunnels etc. same as for
plant location A & B.

(c) Investment of added equipment (A-10)		\$400,000.00
Tunnel (P12) (3-1500 KW)		342,000.00
(1- 500 "		
Tunnel Piping (P 12)		427,500.00
Misc. Extensions (P-12)		76,950.00
		<u>1,146,450.00</u>
Elec. Transmission (P 12)	\$80,000.00	
Rewiring & replacing		
Motors (1200 H.P.) (P12)	70,000.00	
Changing Elevators (P12)	60,000.00	
Building Connections (P12)	25,000.00	
	<u>\$235,000.00</u>	235,000.00
Yard Coal Storage		75,000.00
		<u>1,556,450.00</u>
Tunnel with piping for		
So. Midway - (A-16)	96,000.00	
Wiring to So. Midway (A-26)	10,000.00	106,000.00
TOTAL INVESTMENT		<u>\$1,662,450.00</u>

TOTAL INVESTMENT ITEMS

Plant location A & B.
 heating, hot water service, tunnels etc same as for
 Transmission throughout. New transmission lines for
 Present generator equipment replaced with A.C. Units A.C.
 No building required - present boilers retained.

(e)	Investment of added equipment (A-10)	\$400,000.00
	Tunnel (P-12) (2-1200 ft)	242,000.00
	" (1-800 "	
	Tunnel Piping (P-12)	437,500.00
	Misc. Extensions (P-12)	76,950.00
		<u>1,156,450.00</u>
	Elec. Transmission (P-12)	\$80,000.00
	Rebuilding & replacing	
	Motors (1200 H.P.) (P-12)	70,000.00
	Changing Motors (P-12)	80,000.00
	Building Connections (P-12)	25,000.00
		<u>\$255,000.00</u>
	Yard Coal Storage	225,000.00
		<u>75,000.00</u>
		<u>1,356,450.00</u>
	Tunnel with piping for	
	So. Midway - (A-12)	25,000.00
	Piping to So. Midway (A-25)	10,000.00
		<u>35,000.00</u>
	TOTAL INVESTMENT	<u>\$1,391,450.00</u>

LABOR ACCOUNT EXISTING PLANT

Electrical:

Chief Electrician	\$250.00	\$3,000.00	
3 Electricians	.90	6,177.60	
3 "	.85	<u>5,834.40</u>	\$15,012.00

Mechanical:

1 Trouble Man	160.00	1,920.00	
2 Trouble Men	140.00	3,360.00	
3 Steam Fitters	.95	6,520.80	
3 Helpers	.70	4,648.80	
1 Foreman	1.00	<u>2,288.00</u>	18,737.00

Boiler Room:

1 Foreman	175.00	2,100.00	
3 Firemen	130.00	4,680.00	
3 Ash Men	120.00	4,320.00	
1 Conveyor Man	120.00	1,440.00	
1 Handy Man	125.00	1,500.00	
1 Janitor	90.00	1,080.00	
2 boiler washers	120.00	2,880.00	
2 laborers	120.00	2,880.00	
1 Coal Man	110.00	<u>1,320.00</u>	22,200.00

Engine Room:

Chief Engineer		4,000.00	
Asst. Engineer	190.00	2,280.00	
1 Engineer	120.00	2,160.00	
1 Engineer	170.00	2,040.00	
3 Oilers	120.00	<u>4,320.00</u>	14,800.00

Present Yearly Labor Cost	\$70,749.00
Add for larger plant 3 Ash Men @ \$120.00	<u>4,320.00</u>

Total labor cost for present plant with boilers and generators added to serve 1930 requirements \$75,069.00

Labor account for Plants A & B See (P-25 and 26) \$72,457.00

LABOR ACCOUNT EXISTING PLANT

Electrical:

Chief Electrician	\$250.00	\$5,000.00
2 Electricians	.00	6,171.80
3	.88	6,834.40
		<u>\$18,012.00</u>

Mechanical:

1 Foreman	1.00	2,888.00
3 Helpers	.70	4,648.80
3 Steam Fitters	.98	6,880.80
2 Trouble Men	1.00	3,360.00
1 Trouble Man	1.00	1,920.00
		<u>\$18,737.00</u>

Boiler Room:

1 Coal Man	110.00	1,320.00
2 Laborers	120.00	2,880.00
2 Boiler Washers	120.00	2,880.00
1 Janitor	90.00	1,080.00
1 Handy Man	125.00	1,500.00
1 Conveyer Man	120.00	1,440.00
3 Ash Men	120.00	4,320.00
2 Firemen	130.00	4,680.00
1 Foreman	175.00	2,100.00
		<u>\$23,200.00</u>

Engine Room:

3 Oilers	120.00	4,320.00
1 Engineer	170.00	2,040.00
1 Fireman	120.00	1,440.00
Chief Engineer	190.00	2,280.00
		<u>\$4,600.00</u>

Add for larger plant 5 Ash Men \$110.00
 Present Total Labor Cost
 Total Labor cost for present plant with no
 and generators added to serve 1200 kw. motors
 \$25,000.00
 Labor account for Plant A & B for 17-25 and 26

F. H. G. A.

March 12, 1924.

Mr. G. O. Fairweather:

NEW POWER PLANT

I wish to suggest for your consideration that the New Power Plant be located along the west side of Ingleside Avenue immediately north of 58th Street, above ground with Engine Room at the south end, Boiler Room at the north, with coal yard surrounded by a 12 foot wall, reserving the north end of the block for future extension of the Power Plant, as shown on the rough sketch attached.

We have made most of our assumptions of power plant needs on rather vague notions of a large power plant located at the Illinois Central R.R. with a large tunnel connecting our present distribution system.

That location and its long tunnel would be a most expensive solution, both in first cost and in operating cost; first, by carrying cost of the large investment for 2100 feet of large tunnel and secondly, cost of the stand-by losses of transmission of steam and electric current this long distance.

Page 2

March 12, 1924.

Mr. G. C. Fairweather:

NEW POWER PLANT

I wish to suggest for your consideration that the New Power Plant be located along the west side of Lakeside Avenue immediately north of 28th Street, above ground with engine room at the south end, boiler room at the north, with coal yard surrounded by a 12 foot wall, reserving the north end of the block for future extension of the power plant, as shown on the rough sketch attached.

We have made most of our assumptions of power plant needs on rather vague notions of a large power plant located at the Illinois Central R.R. with a large tunnel connecting our present distribution system.

That location and its long tunnel would be a most expensive solution, both in first cost and in operating cost; first, by carrying cost of the large investment for 2100 feet of large tunnel and secondly, cost of the steam-by-iron of transmission of steam and electric current this long distance.

Figuring on our present operation, 20,000 tons of coal at \$.78 is \$15,600. Figuring at 25,000 at \$.80 would be about \$20,000 or 5% carrying cost of 400,000. The carrying cost of the tunnel alone would be almost equal to this amount.

The New Power Plant must be provided for in the make-up of an extended building program, since our present capacity will be only large enough with two additional boilers to take care of the Hospital now contemplated.

Our present engine room has about the same capacity although the engines and switchboard are some 20 years old. We are producing over 2,000,000 Kw-hr. of current. It would doubtless pay to purchase current if we could make some such arrangement with the Commonwealth Edison Co. to purchase our power as was made at Wisconsin, but it would, but it would require large expense to strengthen the Edison transmission lines and to provide transformers for our needs. We have a large summer use of steam for cooking, laboratory use and hot water, something between 800 and 1000 H.P. This would largely offset possible savings by purchasing outside current. This, however, is a matter that can be computed without difficulty. The

figuring on our present operation, 20,000
tons of coal at \$.75 is \$15,000. Figuring at 25,000
at \$.60 would be about \$15,000 or 25 carrying cost of
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1000 H.P. This would largely offset possible savings
by purchasing outside current. This, however, is a
matter that can be computed without difficulty. The

essential thing is that we have a program for the Power Plant at an early date. We must decide whether the Hospital is to be direct or alternating current. It is therefore necessary to know whether the New Power Plant is to be an alternating or a direct current plant.

Some of the questions to be decided along this line will have direct bearing on the hospital. Probably we should design the new Hospital for alternating current through out, providing a small motor generator set or rotary converter to furnish direct current from our Power Plant. Unless it proves less expensive to purchase power from the Edison Company.

As I see the new Power Plant, in its larger aspect, it will contain eight 500 H.P. water-tube boilers with overhead bunkers, coal being weighed to individual boilers, 250 lbs. pressure feeding steam turbines with alternating current generators, possibly bleeding the turbines for 75 lbs. steam for cooking, laboratory and heating use, iperating at a small back pressure for heating, this back pressure being carried as low as possible by means of vacuum pump. Heating the hot water should be done at a few centralized points.

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Power Plant at an early date. We must decide whether
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It is therefore necessary to know whether the new
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bleeding the turbines for 75 lbs. steam for cooking,
laboratory and heating use, operating at a small back
pressure for heating, this back pressure being carried
as low as possible by means of vacuum pump. Heating
the hot water should be done at a low controlled
points.

The location at 58th and Ingleside would be as close to the center of load as we could get. Boilers of this size or possible 750 H.P. each will require great head-room, probably 45 or 50 ft. To put this Boiler Room underground would involve very heavy expense. I donot feel that our land is now as valuable as in New York under sky scrappers, to justify this expense. Possibly such land values are 40 or 50 years away.

In case the price of oil justifies an oil burning plant, the site on Harper at the Illinois Central can be used for a large oil storage tank, with a pipe line to 58th Street and Ingleside. This again would require that boilers be set very high.

The stack of such a Power Plant would be on the alley side of the boiler room possibly 225 ft. north of 58th St. It should be not less than 200 feet high and probably about 12 ft. inside diameter. This would be far enough away and high enough not to affect the hospital, I think.

I wish to urge that this block be designated for the New Power Plant and that we be authorized to prepare preliminary studies of this site, with a view to determining the cost of such development.

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I wish to urge that this block be designated for the New Power Plant and that we be authorized to prepare preliminary studies of this site, with a view to determining the cost of such development.

The cost of such studies, principally a
draftsman making sketches should not be more than
\$300.

Yours very truly

L. B. Flook
Superintendent.

Enc.

The cost of such studies, principally a
draftsmen making sketches should not be more than

\$200.

Yours very truly

J. R. Flock
Superintendent.

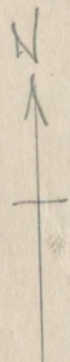
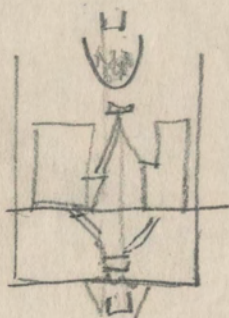
Enc.

Fuga

The University of Chicago
Department of Buildings and Grounds

OFFICE OF THE SUPERINTENDENT

E. 57th St.



Future
Service
Building

Future
Coal Yard

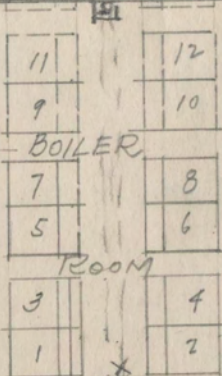
Coal
Yard.

INGLESIDE
Ave.

PROPOSED LOCATION
FOR A
NEW POWER PLANT.
L.R.F.

Mar. 12, 1924

Stack

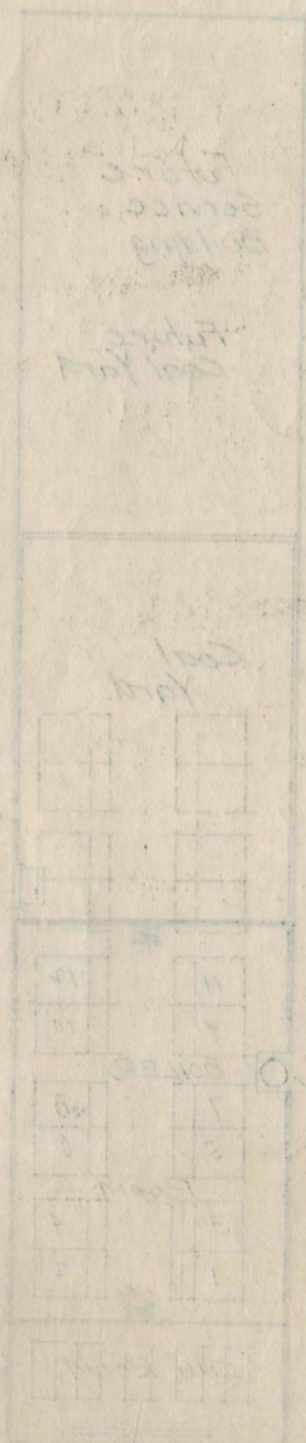


Scale 1"=80'

E. 58th St.

E. 21st St.

WATERLOO



PROPOSED LOCATION
FOR A
NEW POWER PLANT
L.R.F.
Mar. 12, 1924

Scale 1"=50'

B. 28th St.