EIGHTH ANNUAL STATEMENT OF THE

BOARD OF PUBLIC WORKS

Municipal Power and Light System

GRAND HAVEN, MICHIGAN

PLANT ESTABLISHED 1896

For the Fiscal Year Ended September 30th,

1937

Board of Public Works

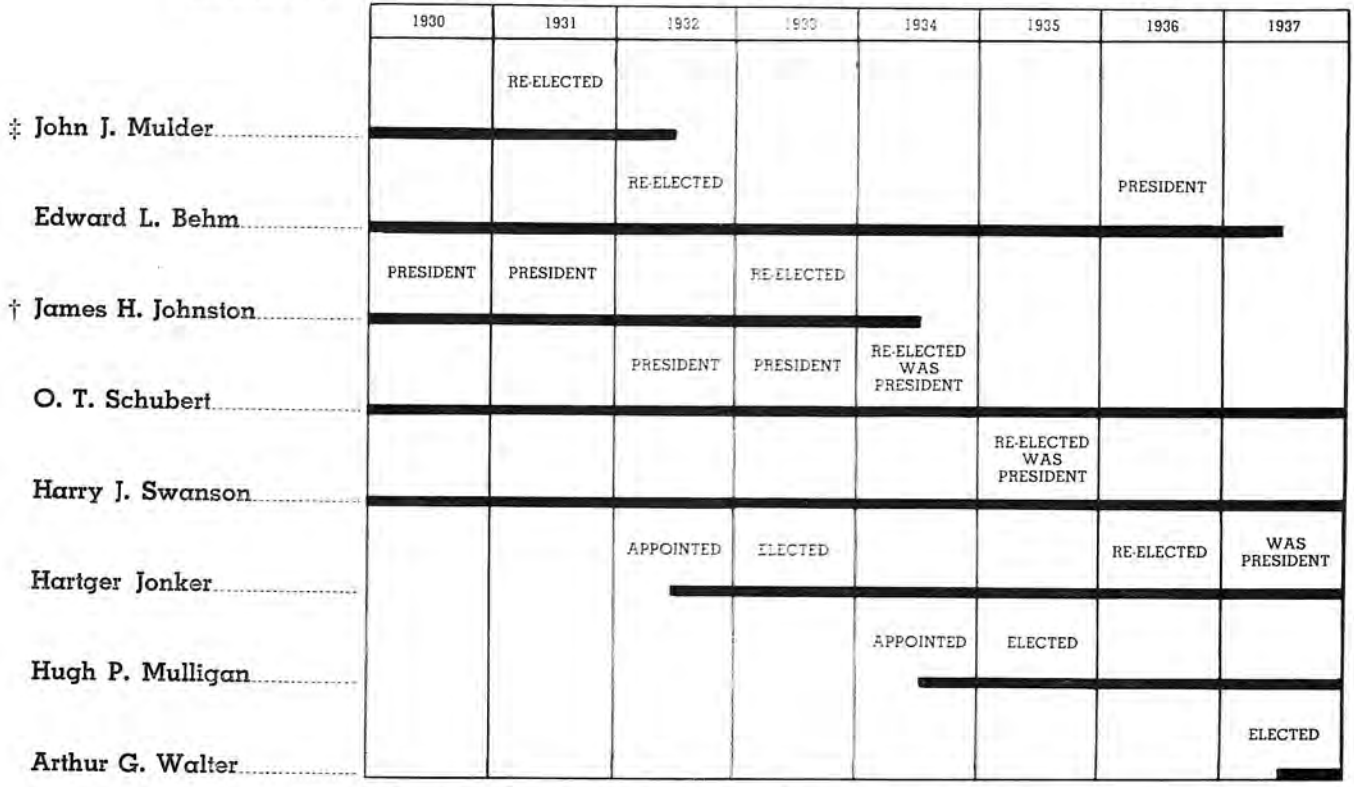
HARTGER JONKER
President

O. T. SCHUBERT

HARRY J. SWANSON HUGH P. MULLIGAN

ARTHUR G. WALTER

MEMBERS OF THE BOARD OF PUBLIC WORKS AND LENGTH OF TIME SERVED



Original members of Board elected are the first five listed and their terms in years in the same sequence.

‡ John J. Mulder resigned June, 1932, and Hartger Jonker was appointed.

† James H. Johnston resigned July, 1934, and Hugh P. Mulligan was appointed.

In Memoriam

HARRY J. BADCON
1885—1937

The Board of Public Works dedicates this page to the memory of Mr. Harry J. Badcon who served the City of Grand Haven faithfully for eighteen years.

Mr. Badcon passed away on March 25, 1937. He had served from 1919 to 1930 as Chief Engineer of the Municipal Power Plant and from 1930 to date of death as Superintendent of the Board of Public Works.

Mr. Badcon was born in Gaylord, Michigan, on May 22, 1885 and was educated in the schools of that city. He served as Chief Engineer of the Municipal Power Plant at Gaylord and later filled a similar position at Ludington, Michigan.

Although of a retiring and modest nature, he was one of the best beloved citizens of Grand Haven.

ANNUAL REPORT

The Board of Public Works is pleased to submit its Eighth Annual Report of the Grand Haven Municipal Light Plant System to the citizens of our City.

In departing from the four page leaflet which characterized our reports in the past years, we are offering a smaller booklet which can be referred to more conveniently and which is more in accordance with the annual reports offered to the citizens in other municipalities.

In comparing the major changes which have occurred in the financial structure during the past fiscal year, the best information is obtained from reading the annual report prepared by the auditors. In this report, it is stated that the value of fixed properties increased $48,344.39 through additions to the plant, while $3,676.54 was written off as a deduction due to having discarded a large water tank and tower which formerly stood where the rear of the new addition to the building now stands.

Consequently, the net increase or addition to the fixed properties during the year amounted to $44,667.85.

Another item of interest is that $55,210.48 depreciation was charged against the operations of the Diesel plant, which, together with a charge off of $15,164.01 on the steam plant, amounted to a total depreciation of $70,-379.47.

At the closing of the fiscal year September 30, 1936, the net book value of the property was $581,280.57. With construction work in progress, valued at $189,747.69, the total valuation amounted to $771,028.26 or slightly in excess of three quarters of a million dollars.

During the year the Board paid city and school taxes in the sum of $5,653.24 and also absorbed $12,000.00 of the street lighting expense of the city, both items directly effecting a saving in city administration.

Refunds made to power and light customers as a result of Court decree on the Michigan State Sales Tax amounted to $3,521.67. Payments made to the Nordberg Mfg. Co. on the engine contract during the fiscal year amounted to $28,435.00. The balance due the Nordberg Mfg. Co. on the engine and generator as of September 30, 1937, was $100,640,80. While it is not required that this sum be paid in its entirety before December 24, 1941, it is planned to pay the obligation in full before that time.

The net profit for the year under review was $33,739.29 compared to $37,778.74 in the previous year. This difference in earnings was approximately equal to the cost encountered during the year in changing over the distribution system from 2 phase to 3 phase. This changeover will not increase the valuation of the property, but will effect distribution operating economies which will improve operating net revenues in the future.

Also effecting the net earnings for the year is the item of $3,676.54, covering dismantlement of fixed assets which was deducted. This amount covered the balance of value of this tank, after yearly depreciation, which was removed to make room for building extension and was an abnormal deduction from net.

Summarizing the above, it can be said that while the past year necessitated expansion earlier than was anticipated in the second five year program planned in 1935 by the Board, Grand Haven met the challenge for increased load growth and industrial activity and the Board anticipates a less acute expansion problem during the next few years.

Grand Haven promises to become more industrially minded as the years go along. While the city was well known as a lumber center a number of years ago, it is now becoming more important industrially.

FISCAL YEAR

The fiscal year recently completed was interesting in many respects. The electric load increased very rapidly necessitating further expansion of the plant. During the year, through the combined efforts of the Board of Commerce and Industry and the Chamber of Commerce, three new industries were brought to our city. One of these industries promised to be the city's largest consumer of electrical energy. The addition of the load of these three plants, and the very substantial increase in the use of electric power by existing plants and domestic customers, called for additional generating capacity; also new distribution extensions to serve the added power consumers.

Plans were prepared by the Consulting Engineers, Hamilton & Weeber, for a new extension to the Grand Haven Plant of sufficient capacity to house two large new Diesel units. One 2250 h. p. Nordberg Diesel and Elliott Company generator unit was installed with adequate auxiliaries for a second unit of this capacity or larger. During the year the United States Engineering Department supervising Government marine property on the Great Lakes, gave official notice of intention to improve their property line on the water front, which necessitated the rebuilding of the water intake for the Municipal Power Plant. This was an improvement which had been planned by the Board as a future project, but deferred until necessary. The intake is now of approximately twice the capacity needed and will be adequate for future growth, provision for duplicate equipment being made.

During this very active year in the history of the electrical property, Mr. Harry J. Badcon, Superintendent, who had been ill for several months, passed away after serving the city faithfully for eighteen years. Mr. Behm, formerly President of the Board, was called from Florida where he had gone in the interests of his health, to serve as Acting Superintendent. Mr. Behm served for several months very efficiently in this capacity until relieved by the new Superintendent, Mr. J. Bryan Sims.

The Board has completed a year full of historical significance which the members will long remember, and with it, the realization that a program originally planned for completion in 1940 will be finished much sooner than anticipated.

NEW EFFICIENT 2250 H. P. NORDBERG DIESEL UNIT

Municipal Power and Light Department

COMPARATIVE STATEMENT OF OPERATIONS
Years Ending September 30, 1936 and 1937

	Year Ending Sept. 30, 1937	Year Ending Sept. 30, 1936	Increase or Decrease (*)
OPERATING INCOME (Sale of Current)	$209,889.98	$184,524.55	$ 25,365.43
Miscellaneous Income	773.57	1,162.91	389.34*
Total Income	$210,663.55	$185,687.46	$ 24,976.09
OPERATING EXPENSE (Power Plant)			
Superintendence and Labor	$ 19,401.15	$ 16,654.95	$ 2,746.20
Fuel	42,119.42	30,321.39	11,798.03
Maintenance and Repair	6,543.91	3,958.99	2,584.92
Supplies and Expenses	4,753.06	3,328.77	1,424.29
Total Plant Expenses	$ 72,817.54	$ 54,264.10	$ 18,553.44
DISTRIBUTION EXPENSE (Power Lines, Etc.)			
Salaries and Labor	$ 8,567.46	$ 8,469.83	$ 97.63
Transportation (Truck Upkeep, Etc.)	541.41	631.80	90.39*
Supplies and Expenses	520.21	1,018.91	498.70*
Total Distribution Expenses	$ 9,629.08	$ 10,120.54	$ 491.46*
UTILIZATION EXPENSE	$ 3,502.83	$ 2,583.78	$ 919.05
COMMERCIAL EXPENSE	$ 1,304.97	$ 1,283.28	$ 21.69
GENERAL EXPENSE (Office Administration)			
Salaries	$ 9,513.14	$ 8,576.94	$ 936.20
Office Supplies	1,031.38	805.46	225.92
Rent	3,600.00	3,600.00	.....
Insurance (Fire and Breakdown)	4,775.05	4,679.65	95.40
Interest on Meter Deposits	426.76	414.11	12.65
Advertising	673.93	293.30	380.63
Bad Debts	321.22	371.91	50.69*
Transportation	336.81	414.72	77.91*
Miscellaneous	1,007.59	1,151.38	143.79*
Total General Expenses	$ 21,685.88	$ 20,307.47	$ 1,378.41
TOTAL OPERATING EXPENSES	$108,940.30	$ 88,559.17	$ 20,381.13
NET INCOME (Before Taxes and Depreciation)	$101,723.25	$ 97.128.29	$ 4,594.96
DEDUCT:			
Taxes (City and School)	$ 5,653.24	$ 5,961.47	$ 308.23*
Depreciation	55,210.46	53,388.08	1,822.38
Change-over from 2 to 3 Phase	3,992.94	.....	3,992.94
Dismantlement of Fixed Assets	3,127.32	.....	3,127.32
	$ 67,983.96	$ 59,349.55	$ 8,634.41
NET INCOME	$ 33,739.29	$ 37,778.74	$ 4,039.45*

*—Denotes Decrease

HISTORY

The Municipal Electric property of the City of Grand Haven has had a long and interesting existence. Forty-two years ago, in order to provide adequate electrical street lighting, the city employed H. H. Humphrey, Consulting Engineer to prepare specifications for a lighting plant.

The Board of Public Works included the following members: Edwin Stokes, Dr. A. VanderVeen, C. Nyland, D. O. Watson and T. W. Kirby. R. K. Stallings was Mayor and W. N. Angel, Clerk. The following were Aldermen: Albert Kiel, Dr. P. F. Vandenberg, F. D. Vos, W. R. Loutit, A. J. Nyland, Jr., J. Verhoeks, Peter Klaver and S. H. Boyce. Mr. Verhoeks is the only living member in Grand Haven.

The plant, as constructed, was very modern for its time, but in studying the original specifications, some comparisons with the present one are interesting to note.

The first plant consisted of "One 150 hp. steam engine belted to a 100 light, 1200 candle power constant arc dynamo and one 75 KW alternating current dynamo, pole lines and necessary appliances for operation." Specifications continued:

"There shall be furnished one driving pulley to drive alternating dynamo of proper weight and size to properly drive said dynamo at its rated speed. Belt for said dynamo shall be 12 inches wide." The dynamos were belted through throwout clutch to the engine.

Today the modern 2250 hp. high efficiency Diesel engine direct-connected to a 1600 KW generator, supplementing a plant of approximately 8000 KW capacity, represents a late development in the art of electrical generation from fuel, and is a fitting successor to those earlier engines which were efficient for their time.

The original plant and distribution construction included 75 constant current series arc lamps to "be free from hissing and to give a steady white light, brilliant, constant and to be automatic in feeding—free from noise or flickering. There shall be 84 clear glass globes. Lamps must be capable of 14 hours continuous service without recarboning or attention." Many remember the arc lamp and how interesting it is to compare them with the new highly efficient incandescent lamp that burns without any attention. Truly the art has improved and many more advances are being made today.

From the inception of the plant and the letting of the contract for construction in October 1896, the development and growth of the system has not been phenomenal, but certainly of a very substantial and yet conservative nature, entirely in keeping with the load growth of the community.

Probably the most outstanding fact in the history of the plant is that all improvements and expansions, as well as the cost of the original installation, have been paid for from its own net profits. In addition, it has paid a substantial return on the investment into the General Fund of the city.

In 1930, with a steam turbo capacity of approximately 4000 KW and additional capacity needed, after much study and investigation the Board of Public Works, acting upon recommendations of consulting engineers, built a new plant addition and installed two efficient 1150 hp. Diesel engine generator units. Later in 1934 a third engine of the same type and manufacture was installed in space provided in the 1930 addition. The older steam plant was retained as standby, it being found that the modern Diesel units were more economical for the base load.

EVENTS

OF HISTORICAL SIGNIFICANCE IN THE DEVELOPMENT OF GRAND HAVEN'S ELECTRIC POWER PLANT

1895

City employed H. H. Humphrey, Consulting Engineer, to estimate cost of the light plant.

Election carried in favor of bond issue to construct plant, in the amount of $10,000.00.

Contract given to Arbuckle Ryan Company for a Russell Corliss engine.

Electrical equipment purchased from the Fort Wayne Electric Corporation.

Building contract let to Van Dongen & Groenevelt. The complete cost of the project was $9,985.85.

1911

Appraisal of light plant made with net book value of $25,244.33.

1915

Steam engine replaced by a 500 KW turbine.

1917

An additional 1000 KW turbine and boiler installed.

1924-1925

A new boiler room built and a new 1500 KW turbine, boiler and other major extensions made totaling $110,356.00.

1927-1928

Additional equipment installed consisting of a 500 hp. boiler and stoker, a Zeolite water system, a complete coal conveying system and boiler feed pump at a cost of $54,589.00.

1929

Load increased to a point where it was necessary to install additional equipment. A committee was appointed consisting of the following members to make a study of the plant's future expansion: H. J. Dornbos, Paul A. Johnson, J. Edgar Lee, John J. Mulder, James W. Orr and Harry J. Swanson.

1930

Offer of $1,200,000.00 by a private power company rejected at election.

Board of Public Works created.

New Diesel extension started at a cost of $217,000.00.

1934

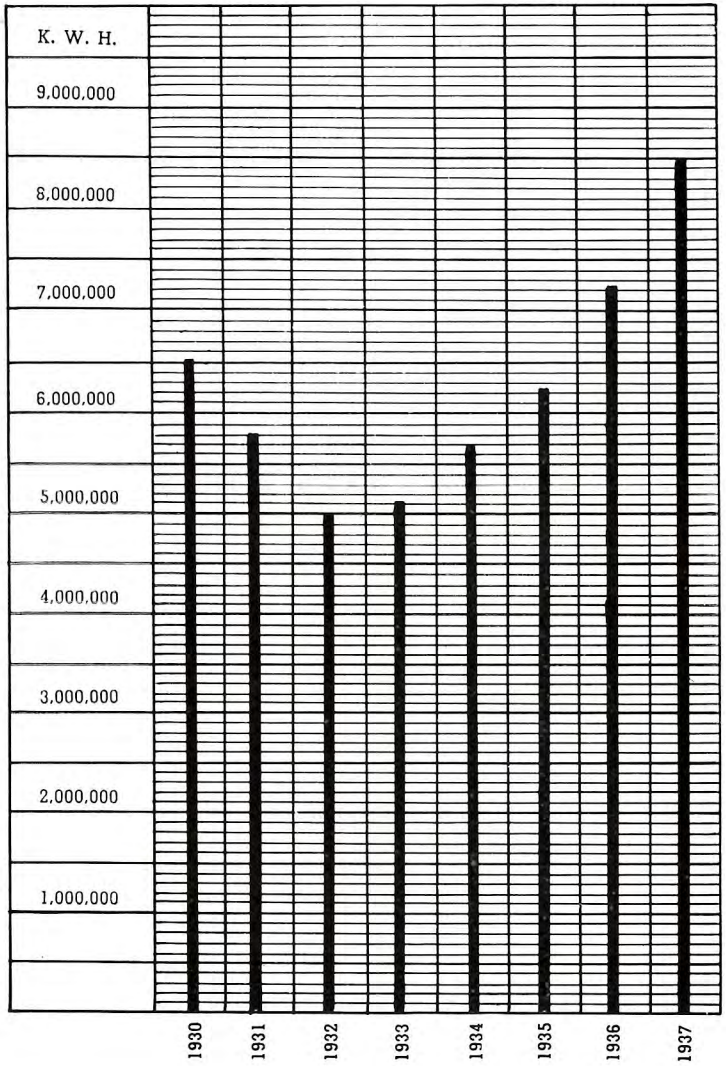
Third Diesel unit installed and alterations to building made at a cost of $82,000.00.

1937

Installation of 2250 hp. Diesel engine and addition to the plant completed at total cost of approximately $200,000.00.

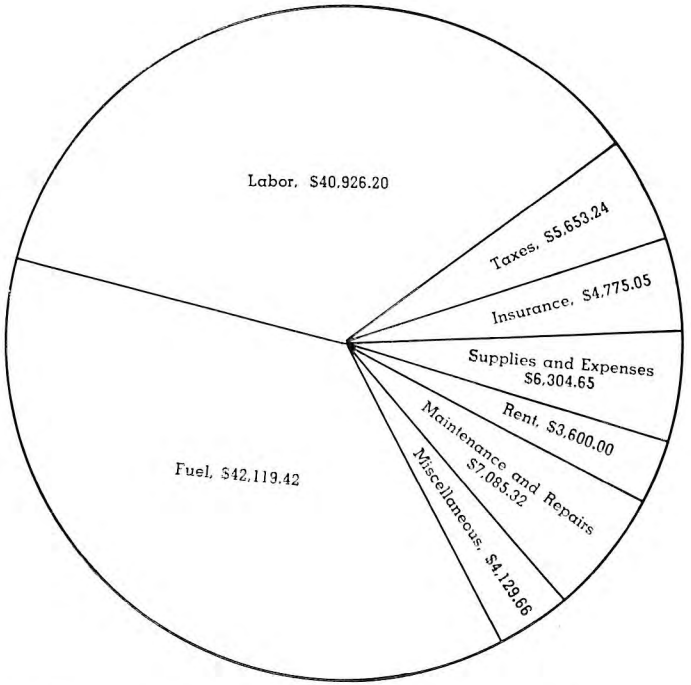
New water intake pump house completed at a cost of approximately $19,000.00.

KILOWATT LOAD GROWTH FOR THE YEARS 1930-1937, INCLUSIVE



COMPARATIVE CHART

SHOWING EXPENDITURES FOR THE PRODUCTION AND DISTRIBUTION OF ELECTRIC POWER DURING THE YEAR, 1937



¶ It will be noted that a greater portion of the expenditures were made in Grand Haven and the State of Michigan. All Diesel fuel was purchased from Michigan oil fields.

¶ Miscellaneous items are shown in operating statement on pages 8 and 9.