REPORT ON THE

ROCHESTER WATER WORKS

BY

BUSINESS DISTRICT ASSOCIATION, INC.

•

NOVEMBER 3, 1932

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ROCHESTER WATER WORKS

FOREWORD

In 1926 Mr. C. Arthur Poole, then City Engineer, employed Mr. Allen Hazen, of New York City, and Mr. Harrison P. Eddy, of Boston, to cooperate with Mr. Edwin A. Fisher, Consulting Engineer for the City of Rochester, in making a survey of an additional water supply. The report of these engineers was completed and submitted on March 7, 1927.

On February 23, 1932, there was received by our City Council, from John G. Ellendt, Commissioner of Public Works, a communication proposing a 33⅓% increase over our present water rates, for the purpose of financing the project for the additional water supply as recommended in the Hazen-Eddy-Fisher Report and, on March 15, 1932, a public hearing was held in the City Council Chamber. There was a large attendance at this hearing and, notwithstanding the statistics introduced to show the need of an additional supply, the hearing ended with the opponents in a large majority.

The plans for this project were shown, by Mr. John F. Skinner, Sanitary Engineer for the City of Rochester, at meetings held by various civic organizations. One of these meetings was held by the Business District Association, an organization the members of which represent a large portion of the property located in the downtown business district. At a subsequent meeting of the Executive Committee of this Association it was felt that the opposition voiced at the public hearing was mainly against increased rates, the necessity of an additional water supply being given very little consideration, to the end that proper consideration might be given the project, a resolution was passed calling upon the City Manager to appoint a non-partisan committee for the purpose of investigating the matter from a business standpoint.

Acknowledging the communication, Mr. C. Arthur Poole, City Manager, replied that he knew of no group better qualified to investigate the project than one from the Business District Association and he requested the president of that Association, Mr. H. H. Sullivan, to appoint such a committee, promising all assistance by the City Administration in the compilation of data for the report.

Complying with Mr. Poole's request, Mr. Sullivan, thereupon appointed the following:

Mr. Edmund M. Alling, *Pres. of Alling & Miles, Inc.*
Mr. Houston Barnard, *Pres. of Barnard Development Co., Inc.*
Mr. Mark G. Goddard, *Treas. of John P. Smith Co., Inc.*
Mr. Fred M. Strohm, *Treas. of R. J. Strasenburgh Co.*
Mr. Frederick J. Weider, *Pres. and Treas. of Barr & Creelman Co.*
Mr. Harry W. Bloss, Executive Secretary of the Business District Association, to be Secretary of the Committee.

CITY OF ROCHESTER
NEW YORK
OFFICE OF THE CITY MANAGER
8 CITY HALL

April 16, 1932

Mr. H. H. Sullivan, *President*
Business District Association, Inc.
77 South Avenue
Rochester, N. Y.

Dear Mr. Sullivan:

There has been so much misunderstanding, generally, and in some cases misinformation circulated about the proposed project for securing an additional water supply for our city, that it has occurred to me it would clear the situation materially and bring about a better understanding of the problem if a disinterested group of citizens would undertake to make an impartial investigation of the whole situation. With this thought in mind, I am writing you to ask if the Business District Association, of which you are President, would be willing to make such an investigation.

Your Association is composed of representative men associated with varied business interests, and a report coming from it would be accepted by the public as an unbiased and disinterested finding on the facts. Such a report, which should cover the whole question of the need and source of an additional water supply, will require considerable sacrifice of time on the part of members making the investigation, but they will be rendering a substantial service to their city. The City's Engineering Department will be glad to cooperate in any way and furnish any data or information that may be required.

If your Association will undertake this service, I can assure you it will be much appreciated by the Administration.

Very truly yours,
C. ARTHUR POOLE,
City Manager

November 3, 1932

Mr. C. Arthur Poole
City Manager
Rochester, N. Y.

Dear Sir:

On April 16, 1932, we were requested to serve on a committee to investigate, from a business standpoint, the proposed project for an

additional water supply for the City of Rochester, and herewith beg to submit our report.

The Committee assumed its task appreciating, we believe, its importance, and, during the six months which have elapsed since its appointment, has endeavored to study the problem from all angles. This has meant many days of hearings, conferences and inspection trips, the study of data already compiled and the acquiring of many additional facts and figures.

To those who have aided the Committee in its research we desire to express our deepest appreciation. Among these are:

Officials of the City of Buffalo and City of Syracuse for conferences, reports and data.

Officials of the City of Rochester for Departmental conferences, reports, surveys and hearings.

Bureau of Municipal Research, conferences, reports, studies and visitation to Buffalo and Syracuse.

Rochester & Lake Ontario Water Service Corporation conferences, reports and data.

Monroe County Regional Planning Board, reports and studies.

Also to many citizens of Rochester who showed their interest by conference or communication.

CONCLUSIONS

The six months' studies of the Committee are summed up in the conclusions which head this report. The body of the report with its various headings gives the facts, figures and conditions upon which these conclusions are based.

1. With the cooperation of the Rochester & Lake Ontario Water Service Corporation, there seems to be no danger of a water famine in Rochester for many years to come.

2. No project for additional supply of water should be undertaken until the City either acquires the Rochester & Lake Ontario Water Service Corporation or enters into a definite agreement with said Corporation to supply their Company with water from the upland sources to be developed by the City. We recommend that negotiations with this Corporation be begun immediately.

3. The Honeoye Watershed has been determined by competent authorities to be the best and most available source of additional water supply. With this we fully agree.

4. The major project at Honeoye, as recommended by the engineers, appears so unnecessary under present or near future conditions, that it should not be undertaken for many years.

5. At the conclusion of negotiations with the Rochester & Lake Ontario Water Service Corporation, should it be determined that the situation demands an additional upland supply, we recommend that a study be made of a modified project at Honeoye to provide a supply of water approximately equal in amount to the present Hemlock-Canadice daily capacity.

DO WE NEED MORE WATER?

This is the first item to consider, for if it should be found that there is no need of an additional supply all further deliberations would be futile.

Following is a table showing the average daily consumption of *Hemlock* water in the city during the last 10 years:

Year	*Gallons Per Day*
1922	26,020,000
1923	26,010,000
1924	26,460,000
1925	28,000,000
1926	28,415,000
1927	29,937,000
1928	30,997,000
1929	31,527,000
1930	30,496,000
1931	29,000,000
*1932	28,165,000

*Based on 7½ months of 1932.

The above table as stated shows average daily consumption. Actual daily consumption has been as low as 24,000,000 gallons, and as high as 36,000,000 gallons. The opinion of the engineers and other experts consulted, is that the Hemlock System cannot be depended upon to yield, under ordinary conditions, an average of more than 30,000,000 gallons per day. Successive years of severe drought would lower the figures, but excessive rainfall would not materially help because of the run-off from the storage capacity of the lakes.

But the Hemlock System does not supply the entire City of Rochester. There are districts, within the city limits, which get their supply from the Lake Ontario Water Service Corporation and the consumption of that water in those districts is about 4,000,000 gal-

lons per day. In order to get a true picture of the average daily consumption of water within the city limits of Rochester, we must add 4,000,000 to the figures shown in the above table. The result at once discloses that much more water is being used than the Hemlock System could possibly supply, even under the most favorable conditions.

The fact that we are not getting that supply from the Hemlock System alone today may be considered by some as an argument against any increase in the Hemlock Supply. But many residents of those wards which have the Ontario water have expressed a desire to be serviced with Hemlock water, the same as other taxpayers in the city, and to enjoy the same rates and privileges. These districts were taken into the City by annexation and had the Ontario Supply previous to that time. Some means of equalizing the rates should be devised for these users.

Is it good practice for a city to maintain its own water supply in part, and buy water from another source? It might be proper in an emergency, and is a necessary expedient under existing conditions, but it would be desirable for the entire city to be serviced by a unified system which should be under control of the city itself.

While the Ontario Corporation continues to supply a portion of the City, there need be no fear of a water famine—at least not for quite a few years ahead. But, if we treat all of our taxpayers alike by servicing them with one system, it will call for an expansion of our supply.

AN ANALYSIS OF GROWTH

In the table of average daily water consumption we have seen a substantial increase, almost steadily, until the year 1929, but since that year there has been a gradual decrease. This is the fact so far as the use of Hemlock water is concerned. We believe the added figures for Ontario water consumption might vary the table slightly, but the general picture reflects a decline in the rate of population growth for the City as a whole.

The Hazen-Eddy-Fisher report, in a table of estimates, gives the figures for future population consumption. These figures were based upon growth of the past. The first column estimates the number of gallons per day which will be needed to supply that part of the population which would naturally depend upon our present city plant. The second column shows the number of gallons per day needed to

supply the entire city population—that is, from all sources of water supply—Hemlock and Lake Ontario. We quote:

Year	*With Hemlock System*	*With Hemlock and Ontario Systems*
1926	28,000,000	35,000,000
1930	31,000,000	39,000,000
1940	42,000,000	53,000,000
1950	57,000,000	72,000,000
1960	76,000,000	95,000,000

Up to and including the year 1930 their prediction has been fairly fulfilled, but there has been a gradual falling off since that date. At the time the estimates were made, portions of various surrounding townships had, from time to time, been annexed to the city. There is very little likelihood of any further annexation taking place. A comparatively recent State Law provides for a referendum vote of the residents within the district to be annexed before such annexation can take place. It is extremely doubtful if an affirmative vote will be secured for such changes in the future. Therefore, we should not consider any population growth from a basis of annexation, the only other method being that of growth within the city proper.

POPULATION TABLE

Date		*City of Rochester*	*Remainder of County*	*Total County*
1890	June	133,896	55,690	189,586
1900	June	162,603	55,246	217,854
*1905	June	181,666	57,768	239,434
1910	April	218,149	65,063	283,212
*1915	June	248,465	70,485	319,310
1920	Jan'y	295,750	56,284	352,034
*1925	June	316,786	40,413	357,199
1930	April	328,132	95,749	423,881

*Denotes State Census; all others from Federal Census.

In the above table it will be seen that the City has shown a healthy growth. The remainder of the county also has shown a growth up to 1915, after which time certain annexations decreased it very sharply, and the City increased correspondingly. From 1925 to 1930 it will be seen that the county population (outside of the City) more than doubled, while the City showed a very moderate increase for that period.

There is no means of obtaining up-to-date figures for the city population. We have, however, studied the statistics of the City of Rochester covering births and deaths. The former annual net increase due to the difference between the two items has dropped from a "high" in 1915 of 3,280, down to a "low" in 1931 of 1,777. For the first half of 1932, January 1st to June 22nd, it dropped to 275.

Another cause of decline in the rate of population growth is the removal of a large number to the suburban district, also others who have gone to other points of the country in search of employment. Immigration is practically at a standstill, while Emigration has greatly increased.

Considering these tendencies, if economic conditions return to normal, or are even materially increased, we are of the opinion that our industries could get into high production without the necessity of attracting any considerable number of people from other localities —in fact, it will require just such a full resumption to properly employ those within our midst at the present time.

We do not look for any marked increase of population in the city proper. Any increase will be slight, and the process a slow one. We do, however, look to the suburban district for a steady increase, as has been the experience of the last few years, and it is to this section which, with the City, is known as the Metropolitan District, that we must direct our attention if we expect to utilize an additional water supply.

The residents of the suburban part of the Metropolitan District are, for a large part, former residents of this city who have moved out into the larger spaces; a tendency which will probably prevail in the future. Many of them are owners of property in the City, where their business is conducted. Others are employees of factories, stores, and offices in the City.

THE ROCHESTER & LAKE ONTARIO WATER SERVICE CORPORATION

This Corporation maintains a pumping and filtration plant which is located at Charlotte. It takes water from Lake Ontario, filters it, and sells it to a large proportion of our Metropolitan District. The average daily output is approximately 7,500,000 gallons, although the plant has pumped as much as 13,000,000 gallons per day. More than half of its average daily output, or about 4,000,000 gallons, is sold to residents within the city limits. This is supplied through some 40 miles of mains, laid and owned by the Ontario Corporation,

and about 30 miles of mains, laid and owned by the City. The City pays $20 rental per hydrant service where it owns the hydrants and mains, and $40 rental per hydrant service where the Corporation owns the hydrants and mains.

The Ontario Corporation's regular domestic rate is 25 cents per 1,000 gallons, compared to the Hemlock rate of 18 cents per 1,000 gallons. All users of Ontario water within the city limits do not pay the same rate. To those whose meters are connected with the Corporation's mains, a regular Ontario charge of 25 cents per 1,000 gallons is made. To another class, also whose meters are connected with city-owned mains, but supplied with Ontario water, the regular Ontario charge of 25 cents per 1,000 gallons is made, and the Corporation credits the City with 25% of such receipts; the credit being to compensate the City for use of its mains in that district. But in another district the City buys water at wholesale from the Ontario Corporation and resells it to the residents at the regular city rate of 18 cents per 1,000 gallons.

The water supplied by the Ontario Corporation to those in the suburban part of the Metropolitan District is sold in two ways: To some of the users, by direct sale; to some, in designated water districts, the district buys the water and retails it to the consumer.

The City has an agreement with the Ontario Corporation which has been operative since 1922, and which may be cancelled by either party upon 90 days' notice. This agreement regulates the use of mains laid by the Ontario Corporation in the wards within the city limits, the use of hydrants, further extensions, the reciprocal sale of water by the City or the Corporation, and other details.

On July 1, 1932, after a conference between engineers and officials of the City and the Corporation, a new proposal was submitted whereby the Corporation desires to maintain a "stand-by" agreement. In a few words, it may be called a plan for the Corporation to sell water to the City when the City needs it, and for the City to sell water to the Corporation when the Corporation needs it. The difference between the two accounts to be settled annually. The proposition is a very fair one but we do not recommend the acceptance of it, at least for the time being, or until such time as a further study of our own project has been properly made. Meanwhile, we believe the present agreement will care for the situation.

In answer to the critics of Ontario water we call attention to the fact that its purity is scrupulously guarded and it passes all the

requirements of the State Board of Health. There have been no epidemics attributable to it, and it can be considered safe from every angle.

BEST SOURCE OF SUPPLY

The Hazen-Eddy-Fisher Report recommended the Honeoye Valley as the best source of supply. We fully concur in this opinion and feel that they were thoroughly competent to so recommend. But, in deference to those who are inclined to look with disfavor upon the upland project while the City is in such close proximity to Lake Ontario, we deem it entirely proper to discuss Lake Ontario before we reject it altogether.

The City must choose between one of two types of systems; one which is pumped, or one which flows by gravity. An Ontario system must be pumped. The Hemlock system is of the gravity type.

A pumped system entails a lower cost of construction but, after having been built, it has a continuing expense of operation and depreciation which, in the final analysis, tends to make it the more costly. A gravity supply may entail a higher cost of construction, but its depreciation and operating expense are smaller and it eventually becomes the more economical.

The Honeoye Valley presents great possibilities as a reservoir and it has an adequate watershed. It affords an opportunity for development economically by various stages.

CUSTOMERS FOR AN ADDITIONAL SUPPLY

Assuming it right and proper that the City should care for all its taxpayers with a unified, city-owned system, it is faced with the problem of enlarging its present system. The great obstacle is the cost of another project and the relation of that cost to the potential revenue. The profit from the sale of 4,000,000 gallons of water per day, which is the approximate consumption of the wards now using Ontario water, would not be sufficient to take care of amortization and debt service for the project. We might count on a greatly increased demand, due to a resumption of industry, but we believe this should not be depended upon in the calculation. An analysis of our industrial consumption of water showed it to be fairly consistent as to quantity used. It then behooves us to look about for other customers and this leads us to communities and villages along the line of supply, between our upland sources and the City. There is also the Ontario

Corporation as a prospect—either as a potential wholesale purchaser of our water, or their system as a going concern for the City to acquire and operate. The acquisition of this corporation was recommended in the Hazen-Eddy-Fisher Report and it is worthy of very serious consideration in view of the fact that it is a suitable outlet which could easily be adapted.

We have been informed that many Ontario users in the City are desirous of a change to Hemlock, and we fully agree that it is but a fair request on their part, but unless the City can see its way clear to obtain the business of other users, thus making a sufficient volume of business to justify the necessary expenditure, the desired change should not be made.

BUFFALO'S WATER SUPPLY

It may be wondered why we should consider Buffalo's water supply, when it is a pumped system and we have gone on record as being in favor of a gravity system. The mere fact that a gravity system should be more economical than a pumped system, after a certain period of use, leads us to believe that our present system is not being administered to the best advantage, therefore, we should like to make the comparison.

The City of Buffalo is located right on the shore of Lake Erie. It is situated at a favorable altitude compared to that of the lake and *should* be able to efficiently utilize Lake Erie water. The cost of supplying water, figured on total maintenance, is less than 4 cents per 1,000 gallons, all of which is reflected in the rates which are charged for it. So far as water rates are concerned, Buffalo can make far more attractive propositions to industry than are apparently possible with our supply, and we believe it is the duty of our city officials to carefully check over our methods to see how we can cut cost of production and administration.

SYRACUSE'S WATER SUPPLY

We shall now consider a water supply that is comparable to ours. Syracuse obtains its supply from Skaneateles Lake which is located about 20 miles to the southwest of that city. There is actually delivered to the City of Syracuse more gallons per day than we deliver from our Hemlock reservoir to Rochester. The cost of supplying water is lower than ours, and the rates to users also are lower. The industrial rate is just one-half of our industrial rate. The water is of

excellent quality and is rated highly. It is chlorinated, but not filtered.

Our question is: How can Syracuse supply water from a source similar to ours at lower production costs and lower retail rates? If we can find an answer to that question we may be able to reduce our own costs and rates.

First of all, Syracuse does not attempt to BUY all lands surrounding Skaneateles Lake. Instead, conditions are controlled with the aid of sanitary rules adopted and enforced by the State Board of Health. In this one point alone a large expenditure for lands is saved, a large amount in taxes, and another large sum for care and embellishment. Syracuse's land ownership at Skaneateles Lake is but nominal, and the gate-house but a modest building.

Skaneateles Lake is surrounded by cottages, the occupants of which enjoy boating, bathing and fishing. For these occupants strict sanitary rules are enforced and the City of Syracuse cooperates with them in all respects. It is these cottage owners—not the City of Syracuse—who pay the tax bills to the various towns.

Notwithstanding the fact that Skaneateles is much larger than Hemlock Lake, it is found necessary to maintain but two patrols for the purpose of inspecting the territory to keep it free from contaminating influences.

In 1929, the comparative net value of the two systems:

Syracuse (approximately)	$7,981,000.00
Rochester (approximately)	9,906,000.00

In 1930, the comparative amount of bonds outstanding:

Syracuse (approximately)	$ 6,000,000.00
Rochester (approximately)	12,500,000.00

From the figures adduced it would seem that there is much to be learned from the City of Syracuse.

OUR FINANCIAL POSITION

Rochester's present financial position does not warrant the undertaking of any public work which is not absolutely necessary. While indebtedness may be incurred by a municipality for an approved water project and financed by a bond issue which is exempt from the common debt limit, it is none the less an obligation of the City, and if not self-supporting by income from water sales, payment of interest and principal must be met by taxation.

While every individual and every community should be future-

minded in order to make the greatest progress, there are periods when extreme caution and conservatism may be the greater virtue. While we all believe in the future growth and prosperity of Rochester, there are unmistakable signs that city development as to increased population, particularly in the older sections of the country, should not with certainty be based upon past experience.

COMMENTS ON THE PROPOSED HONEOYE PROJECT

It involves the expenditure of too large a sum of money before producing a given result. The original plan called for an expenditure of $23,000,000. Finally authorized by the State Water Power and Control Commission was the first installment of this, which called for an expenditure of $12,000,000. Recently, estimates have been made which seem to indicate that this first installment might be constructed for 60 or 65% of the estimate or, say, $7,500,000. Even if the job could be done for this amount of money, the sum is entirely too large to consider at present.

It presents a program that does not admit, at least to the best advantage, of various stages of construction in order to build to the best financial advantage. The proposal calls for the completion of the whole project, the only minor stage being one to temporarily dam Honeoye Creek in order to more quickly provide some extra water in case the city needs it before the completion of the whole project.

It is a project the size of which is predicated upon the need, in the near future, of a water supply far in excess of what the actual need is likely to be. Is it good business to spend money now for all we may or may not need at a time as far distant as 1960? We say it is not.

Too long a period would elapse before adequate returns could be secured. The capital investment would be all out of proportion to the income that could be derived for many years to come. In the meantime, the City would have its payments to meet, for amortization of bonds, also interest on all of the outstanding bonds, and the income would fall far short of meeting these obligations. Such a plan would not be self-liquidating until such time as the income from water sales at least balanced all the expenses.

While revised estimates may show that the work could be done at a cost much lower than the original estimates, the term of its construction might extend over into times that would compel paying much more than these current estimates.

It includes the purchase of large parcels of land that would seem

to be entirely unnecessary for the objective point. Why should the City buy all the lands surrounding the reservoir? It is proposed to buy this land for a considerable distance back from the shores and we are told that it is considered good practice to own surrounding land in order to properly protect the purity of the water. Yet filtration is ordered by the State Commission and it is extremely doubtful if the City will ever be permitted to abandon it—even if the water loses its turbidity. Filtration is also "good practice." Why spend so much money, both now and continually in the future, for land protection inasmuch as filtration is required?

It destroys the Village of Honeoye. This village is not a large or growing community, but it has rights to be considered. It would seem time enough to absorb it when the City's needs become so great as to require actual inundation of it.

It incurs the enmity of a large number of taxpayers in the district, thus making property acquisition difficult and more expensive. We have been advised that many of these taxpayers are very desirous of selling, and at low prices. This may be true in many cases, but there are a number of others who do not care to sell at all. Most of the cottage owners, for instance, are opposed to selling and are placing high prices on their properties. It also is well at this time to call attention to speculators, who invariably take advantage of just such projects as this in order to squeeze a profit as middle-man.

It places the City of Rochester in a position to pay heavy taxes to the various towns in order to make up for the revenue, both present and prospective, now derived from private property owners. On our present system the City pays nearly $85,000 annually in taxes to towns, and this sum will be small compared to the amount in prospect for taxes on land for the large project.

It abandons and wastes a section of State Highway No. 254 which must be replaced at some other point. It is proposed to build this at a point farther north, with an expensive causeway, also a costly bridge system. We feel this part of the project, which will prove costly to the City, is without justification.

It makes necessary the construction of about 16 miles of town highways. Some of these are intended to complete the continuity of present roads, others to gain access to certain parts of the territory. This work will be occasioned by the raising of the water level 30 feet, and while it may not be necessary at first, it eventually would have to be done.

The City's engineers have suggested an immediate appropriation of $1,000,000 with which to begin work on this project. Of this sum, $100,000 is intended for engineering. It seems to us that this appropriation should be deferred.

SUGGESTION FOR A MODIFIED SUPPLY

In the course of our investigation the suggestion was made to us that there could be a modified plan for utilizing Honeoye Lake, that would supply at least 25,000,000 gallons daily, at a cost materially less than that of the project outlined in the Hazen-Eddy-Fisher Report.

This project calls for the construction of a dyke at the foot of Honeoye Lake, or a little to the north of it, but south of State Highway No. 254, raising the level of the lake 15 feet. This dyke may be of earthwork, to extend 10 feet above the proposed level, and with comparatively slight alterations, divert Mill Creek into the proposed lake storage.

The additional reservoir capacity would be about 12½ billion gallons, as compared to our present Hemlock-Canadice storage capacity of 11½ billion gallons.

It would afford an additional output of 25,000,000 gallons per day, as compared to our present Hemlock-Canadice output of 30,000,000 gallons per day.

The additional catchment area (watershed) would be 52½ square miles, as compared to our present Hemlock-Canadice area of 66 square miles.

The 15-foot rise would interfere in no way with any existing highway.

Very little property, except along the lake shore, would need to be acquired, in addition to that for the dyke and the land to be covered by the headwater. Both of the latter are little used at present and have only nominal value.

Few buildings would require moving. The aid of the State Commission would be invoked in placing all surrounding land on a strictly sanitary basis.

The proposed treatment would afford comparatively clear water at the point of output. The only bottom land to cause turbidity would be that at the southern end of the lake. The water would clear itself materially in its 5-mile course.

The output of this reservoir could be run through the open creek

to the place of filtration. This would save a great expense, and would entail no more than the cost of some dredging.

It would provide a substantial supply of water at a minimum cost to the City.

It would entail a minimum expense for care and embellishment.

The filtration plant could be located within Monroe County, where we would realize on at least a part of tax benefits.

There would be a proper fall for efficient operation of the filtration plant, also to provide the necessary water for sanitation at Honeoye Falls, as required by the State Commission.

It would shorten any conduit line to the City and minimize its cost and upkeep.

It would interfere in no manner with our present conduits.

It would increase our present daily output by 80%, thus caring for demands for many years to come.

This modified plan in no way forecloses the carrying out of the major project, as outlined in the Hazen-Eddy-Fisher Report, if it is ever deemed necessary.

RECOMMENDATIONS

A careful study should be made of the modified Honeoye project that will assure the City of approximately double the daily supply it now has.

Estimates should be figured as carefully as possible, taking into consideration all items of acquisition and construction, this to include just the lands that are absolutely necessary to the project.

Estimates of the cost of operating the proposed project should also be made. Then, in order to obtain an accurate picture of the proposal, also to properly compare its phases with those of the potential market, the two estimates should be classified as:

(1) Capital Expenditure

(2) Operating Expense

Negotiations should be begun immediately, with the Rochester & Lake Ontario Water Service Corporation, to ascertain the figures on two plans, viz:

(A) If the City can supply the Ontario Corporation with upland water to good advantage, at what price, also in what quantities.

(B) At what price the City could acquire the business of the Ontario Corporation for the purpose of operating it as a part and

parcel of the City's municipal water works system. This information should include all facts as to output, consumption, rates, conditions, etc., in order to figure the possibilities from every angle.

Upon receipt of the necessary information involved in considering the two plans, (A) and (B), a further study should be made to learn which plan, if either, would be the more practicable to adopt.

It is further recommended that, in the event the City of Rochester favors the acceptance of plan (B) which would make the City a Metropolitan Distributor, a survey of conditions applicable to water distribution covering the County of Monroe as a future Metropolitan Water District, be made by the Monroe County Regional Planning Board which is in a position to make such a study. A survey of this kind should give facts and figures that would be of very material assistance to the City in determining whether or not it should enter into the construction of the major project in the future.

This Committee believes that no project should be undertaken which is necessarily predicated upon higher water rates.

CONSTRUCTIVE CRITICISM

The making of this survey, and the gathering of the necessary data for arriving at our conclusions in this report, brought us in close touch with the functions of the Bureau of Water.

It is our desire to point out places in the city's system where we believe the heavy overhead can be materially lowered.

We believe that nobody questions the quality of our water supply —at least it should not be questioned—for it is exceptionally good. This water is not filtered, but it is chlorinated. Years ago when water systems were constructed, filtration was not as commonly practiced as today. In those days it was considered very important, in order to avoid contamination, to control all surrounding lands and, for that matter, it is so considered today. But the only method of control at that time was to own the surrounding watershed land. Today there is State aid in rendering this service.

The shores of Hemlock and Canadice Lakes are quite steep and there would be very little opportunity for proper sanitation if cottages were permitted in the territory. At any rate we have bought and do own a good deal of this land. We have spent quite a large sum of money in reforestation, care and embellishment. Not a little of this has been somewhat unnecessary. It is true that we have a pleas-

ant park area to which the people may go for recreation, but we should be inclined to stress such advantages very little when they are not essential to the main result required.

One of the primary obligations of any municipality is to furnish potable water of good quality at a minimum cost to its citizens. We should shape the administration of the Bureau of Water to meet this requirement.

Beginning at the source, we suggest rigid economy in patrolling and maintaining the watershed. If we can reduce our complement of employees at that end, we should by all means do so without delay. All work that is not absolutely necessary to render good service should be immediately curtailed. It is not a question of furnishing employment to any man or men but purely a matter of serving the community economically.

It would seem to us that the personal service cost of maintaining our Water System is excessive. We will group the designated departments in order to show each in respect to salary and wage costs. The following is for the year ending December 31, 1931:

Personal Service at	Springwater	$10,739.85
	South Watershed	3,147.60
	North Watershed	4,610.40
	Hemlock Lake	18,320.50
	Rush Reservoir	17,670.05
	Highland Reservoir	1,549.84
	Cobbs Hill Reservoir	14,540.44
	Mill St. Pump Sta.	11,111.32
	Water St. Pump Sta.	5,471.52
	Total	$87,161.52

In the Water Works Offices, at the City Hall, an up-to-date system of accounting should be installed. Records and tabulations should be kept to show the exact condition at all times of each separate department, also its actual costs.

A new method or plan should be put into practice for meter reading. A comparative survey, made of the Bureau of Water and that of the Rochester Gas & Electric Corporation, shows the superiority of the Gas & Electric System. Whether or not we adopt that system, there is room for greater efficiency in our reading and we should discard the present system of a daily task that is altogether too light.

There should be eliminated any special rates for water other than those established by the City of Rochester as per table below:

TABLE OF CITY OF ROCHESTER WATER RATES

MINIMUM RATE

$6.00 per year, billed quarterly.

REGULAR RATE

$1.35 per 1,000 cu. ft., billed quarterly.

COMMERCIAL AND INDUSTRIAL

$1.35 per 1,000 cu. ft. for the first 20,000 cu. ft., billed monthly.
1.20 per 1,000 cu. ft. for the next 80,000 cu. ft., billed monthly.
1.05 per 1,000 cu. ft. for all over 100,000 cu. ft., billed monthly.

In connection with these rates we feel the large users are being discriminated against by compelling them to use a regular rate quantity twelve times per year. We think some consideration by way of adjusting the rate should be given to these commercial and industrial users.

The personal service cost of the Water Works Office and the Engineers Office as it pertains to Water Division:

Water Works Office	$ 66,897.02
Engineering Office	19,666.03
Total	$ 86,563.05
Personal Service Costs covering Repair Dept.	$144,312.02
Meter Department	39,800.39
Dewey Ave. Water Dept. Garage	27,267.03
Total for these Departments	$181,379.44

These Departments show up as major items in our salary and wage disbursements. They should be scrutinized closely for the purpose of obtaining greater efficiency and possible curtailment.

The Superintendent's Office, which supervises the whole system. $7,919.95

The personal service total for all the Department of the Bureau of Water for 1931 was $364,572.07, compared with Syracuse, with a very similar system, delivering a greater amount of water, for $263,134.12.

EDMUND M. ALLING, *Chairman*
HOUSTON BARNARD
MARK G. GODDARD
FRED M. STROHM
FREDERICK J. WEIDER