REPORT

OF

NEWARK AQUEDUCT BOARD

TO THE

COMMON COUNCIL

ON

NEW WATER SUPPLY.
REPORT

OF THE

AQUEDUCT BOARD

OF THE

CITY OF NEWARK

TO THE

COMMON COUNCIL,

OF ITS

PROCEEDINGS AND ACTION ON THE
SUBJECT OF NEW WATER SUPPLY.

JANUARY 15, 1889.

NEWARK, N. J.:
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1889.
REPORT.

To the President and Members of the Common Council of the City of Newark.

GENTLEMEN: The Aqueduct Board of the City of Newark present to your Honorable Body the following report of the proceedings and action of this board, in relation to the subject of a new water supply for this city, taken subsequent to the report of the Joint Committee, made to you by the members of that committee appointed by and representing your body. The final action of the Joint Committee, as will appear by reference to the report so made, was the adoption of the following resolutions:

"Resolved, That this Joint Committee now rise, and that the Special Committee appointed by Common Council report to that body the propositions received for a new water supply; and be it further

"Resolved, That the Water Board take up and consider the propositions for a new water supply, and report to the Common Council their conclusions."

In accordance with these resolutions and in compliance therewith, this board at its next meeting, held on the second day of January instant, unanimously adopted the following resolutions:

"Be it Resolved, That the president and secretary communicate in person or by letter with Mr. John R. Bartlett—the Lehigh Valley Railroad Company and a water company—and invite the parties to submit to this board supplementary propositions for a new water supply for the City of Newark. These propositions must give all
information in reference to this matter, and make full and detailed statements on all points, as final action will be taken on this question by this board upon the information thus received; and be it further

"Resolved, That all communications in answer to this request be addressed to the President of Newark Aqueduct Board, 'Proposal for a new water supply,' and that no proposals be received later than 5 o'clock, P.M. on Wednesday, January 9, 1889."

After the transaction of its regular business this board adjourned to meet on the 9th instant, to receive such further propositions as might be made in accordance with the resolutions so adopted. On the 9th, the board again met, and the following communications or supplementary propositions were then received and read:

"NEW YORK, January 9, 1889.

"William E. Greathead, Esq., Secretary Newark Aqueduct Board, New Jersey.

"DEAR SIR: Your favor of the 4th instant received, enclosing copy of a resolution adopted January 2d, 1889, by the Newark Aqueduct Board, inviting me to submit to the board a supplementary proposition for a new water supply to the City of Newark. As the resolution does not state the quantity of water required and the condition of its delivery, or sufficient date on which a new or supplementary proposition can be made, I must therefore respectfully refer you to the communications I have already made to your Honorable Board at the request of your committee under date of May 9th and 24th, 1888, which contains all I can say on the subject, until I have more definite information as to what is wanted by your board, viz., the quantity of water required for the present and future consumption of your city and the conditions under which you wish it delivered, as requested in the communications above referred to.

"Very respectfully, yours,

"J. R. BARTLETT."
To the Honorable the Newark Aqueduct Board:

The Pequannock Company, in pursuance of the resolution of your Honorable Board, passed January 2, 1889, submits this supplementary proposition in its behalf, to make and enter into a contract with the city of Newark for the obtaining and furnishing of a further or other supply of pure and wholesome water to the said city, for domestic uses and the extinguishment of fires.

The company is a corporation organized under the “Act for the construction, maintenance and operation of water works for the purpose of supplying cities, towns and villages of this State with water,” approved April 21, 1876, and the various supplements thereto. Its capitalization is $1,000,000. It owns four miles in length of the Pequannock river and on either side thereof between Charlotteburg and the lower point of Smith’s lower mills; also the outlet of lake Macopin, and twenty-three hundred feet of Macopin creek on the land on either side thereof, with the right (which has continuously existed in its grantors for more than a century) to draw down the water of that lake four feet. The upper point of the four-mile tract of the company’s properties upon the Pequannock river is 680 feet above tide water; the lower point about 400 feet. The descent between the two points gives a series of rapids, with no falls of any appreciable height.

It proposes and hereby offers to supply the city of Newark, for the purposes aforesaid, with water from the Pequannock water shed, to be delivered by gravity at the present reservoir of the city, at Belleville, or to be connected with the present mains of the city at such point as the city may designate therefor, at the city’s option, under a head at the point of delivery of not less than 75 feet above the level of the city’s present high service reservoir; and to furnish and supply to the city, for the purposes aforesaid, up to fifty million gallons thereof a day, for each and every day of the year.
It proposes and hereby offers to contract that the delivery thereof as aforesaid shall begin not later than eighteen months from the date of the execution and delivery of the contract; with the agreement on its part, that for each and every day over and above that time, the company shall pay to the City of Newark, as and by way of liquidated damages, the sum of one hundred dollars.

It proposes that the contract shall be for a period of twenty-five years; that beginning with the date when the supply under the contract shall first be furnished to the city, the latter shall pay to the company or its assigns, at the rate of thirty (30) dollars for each million gallons of water so furnished to the city, payable semi-annually, on the first days of January and July in each and every year; that the contract shall provide that Newark shall actually receive and pay for not less than fifteen million gallons a day for each and every day in the year, with the privilege to the city to increase, from time to time, within said period of twenty-five years, the amount to be received and paid for by it up to fifty million gallons daily.

It proposes that the contract shall contain an option, exercisable within thirty days after the delivery of the contract, for the acquiring by the City of Newark of the lands, water and water rights for such supply, on terms to be fixed in such contract, in accordance with this proposition.

It proposes to divert the water intended for the supply as hereinabove mentioned at some point to be fixed by it upon its own lands on the Pequannock river, between Charlotteburg and Smithville, at an altitude of not less than 500 feet above tide water. It owns and shall acquire lands and reservoir sites, in, upon or adjacent to the Pequannock river, and at and above the point of diversion aforesaid, having a capacity of holding and con-
taining an amount of water equal to a supply for the City of Newark of fifty million gallons daily.

It proposes to build and construct such dams and reservoirs thereon as shall have an actual capacity of holding and containing an amount of water equal to a supply for the City of Newark of twenty-five million gallons daily for each and every day in the year, and to build, construct and lay, from the point of diversion, and in a substantial, proper and workmanlike manner, a conduit line in wrought iron or steel, of sufficient capacity to convey and deliver, at the point of delivery to the City of Newark, fifty million gallons daily.

It proposes that all of the plans for the dams, reservoirs and conduit line to be constructed as last mentioned, together with all the work to be done under the contract, shall be such as shall be approved of by the engineers of the City of Newark and of the company; and that the materials, masonry and construction thereof shall be of the most substantial character, but without unnecessary cost as to style or finish.

It proposes that the contract shall provide that whatever be the quantity of water, up to fifty million gallons daily, that shall be received by the City of Newark from such supply, the same shall be gathered and impounded in the reservoirs to be constructed as mentioned in this proposition; but only at such times and in such quantities, and shall, when diverted at the point aforesaid, be thence used for the supply of water as and for the purposes aforesaid, in such manner as shall not interfere with any natural use, and as shall least interfere with any existing driving of mills or machinery or other existing mechanical use of any of the waters of the Pequannock river by any person or corporation, owning or occupying lands on either side or across the bed of the Pequannock river down to its junction with the Wynockie river; and that whatsoever water shall be thus diverted shall
be thereafter used exclusively by or under the direction of Newark alone.

It proposes that the contract shall further provide that the option therein and thereby given to the City of Newark shall be for the acquiring by it of the lands, water, water rights, reservoir sites, with the dams and reservoirs and conduit line to be constructed as aforesaid, having the capacities respectively hereinbefore mentioned, together with the full right to divert and use, at the point of diversion aforesaid, and for the purposes and in the manner aforesaid, up to the quantity of fifty million gallons daily, free from all liability for or on account of any loss or damage that shall lawfully accrue, or arise, because of such diversion and use of said waters, to any person or body corporate or politic whomsoever, owning or who shall or may own any of the waters of the Pequannock river, or be interested in the flow or use thereof, between the point of diversion and Newark bay, upon the city paying to the company or its assigns the aggregate sum of four millions six hundred and fifty thousand (§4,650,000) dollars in cash, in such manner as shall be agreed upon in that respect, between the company and your Honorable Board.

It proposes that in the event that the City of Newark shall require, within one year of the delivery of the contract, that the additional actual reservoirs be constructed upon the reservoir sites hereinbefore mentioned, of a capacity of holding and containing what would be equal to a present supply to the City of Newark of the remaining twenty-five million gallons daily hereinbefore mentioned (or of fifty million gallons daily in all,) the Company shall and will construct and deliver the same expeditiously and with as little delay as shall be practicable, upon the City of Newark agreeing to pay for the same the then actual cost of the construction thereof, together with fifteen per centum additional.
It proposes that the construction of the dams, reservoirs and conduit line, and the right to use up to fifty million gallons of water daily at the point of diversion in accordance with the contract, shall be guaranteed by the company to the City of Newark.

If this proposition be accepted, the contract shall contain the provision that, whether the option in the City of Newark be exercised or not, the city shall aid and assist the company at any and all times with all of its powers, rights and privileges; and, if so desired by the company, shall take steps to render operative in the city, if the legal electors thereof shall so vote, the “Act to enable cities to supply the inhabitants thereof with pure and wholesome water,” approved April 21, 1876; and shall agree that the company may, in Newark’s name or otherwise, but at its own cost and expense, avail itself of any and all provisions of law relating to the acquiring for or by the City of Newark, of any lands, water or water rights which may be required for any of the purposes of the contract, or be affected by any operation connected therewith.

In order that there may be no misunderstanding in respect of any of the features of this proposition, the company adds by way of recapitulation:

I. The company will furnish up to fifty million gallons daily, commencing with a delivery of at least fifteen million gallons daily, on or before August 1, 1890, and increasing from time to time as desired by Newark, at the rate of thirty dollars for each million gallons, payable semi-annually, with option on the part of Newark to purchase as above recited.

II. If Newark avails itself of its option of purchase, the company proposes—

(A.) For $4,650,000, to agree as follows:

1. To furnish a supply of fifty million gallons daily of pure and wholesome water.
2. That the source of such supply shall be the Pequannock river, and its water shed.

3. That reservoir sites be furnished having a capacity of holding and containing a daily supply of fifty million gallons.

4. That reservoirs be now built and constructed, having a capacity of holding and containing a daily supply of twenty-five million gallons.

5. That a proper conduit line in steel or wrought iron be constructed and laid between the point of diversion on the Pequannock river and the city's reservoir at Belleville, or to be connected with the city's mains at such other point as Newark may determine upon, capable of conveying and delivering a daily supply of fifty million gallons.

6. That the water shall be delivered as aforesaid by gravity, under a pressure of at least 75 feet above the level of the city's present high service reservoir, and without the necessity of pumping.

7. That all lands, sites and works shall be fully constructed and delivered to Newark on or before August 1, 1890, under a penalty of $100 a day, as liquidated damages.

8. That Newark shall be fully acquitted and saved harmless from any and all lawful claims of any person between the point of diversion and Newark bay, in respect of the diversion and use as aforesaid of such water, at the point of diversion, up to fifty million gallons daily.

(B.) Should Newark within one year from the delivery of the contract desire the additional reservoirs built upon the reservoir sites to be furnished as above mentioned, sufficient to hold a further daily supply of twenty-five million gallons, or in all fifty million gallons daily, the company will build and construct the same at an additional expense to the city equal to the actual cost of
construction thereof, with fifteen per centum added to such cost.

The ability of the Pequannock Company and those connected with it to fully perform and fulfill every obligation that would be incurred by it in connection with the contract will be established to the satisfaction of your Honorable Board, immediately upon notification being given the company that its proposition is otherwise acceptable.

Dated Jersey City, N. J., January 9, 1889.

PEQUANNOCK COMPANY,
By J. H. PRATT, V. President.

[L. S.]
N. F. TORREY, Secretary.

To the President of the Newark Aqueduct Board.

SIR: I beg to acknowledge, on behalf of the Lehigh Valley Railroad Company, your communication of January 4th, enclosing a copy of the resolution of the board adopted January 2d, calling for a revised proposition from this company in the matter of water supply for Newark.

In reply to your inquiry as to our means of supply, I would say that we believe this company is, at the present time, the only party in New Jersey possessing and holding in its present control, waters sufficient to meet the requirements of Newark. The city itself or any other party contracting to supply would, in undertaking to procure the requisite supply, have to go through the course pursued by the Morris Canal and Banking Company half a century ago, and acquire or condemn waters now owned or controlled in part, or in whole, by other interests. The Canal Company, however, has been, for upwards of fifty years, in possession of waters largely in excess of the needs of your city, and these waters are held under successive legislative enact-
ments from 1836 to 1887, authorizing their sale and let-
ting for water power and city and domestic use, as well
as for purposes of navigation. They are drawn from the
Pequannock, Ramapo, Wynockie and Rockaway rivers,
with large storage reservoirs in Lake Hopatcong and
Greenwood Lake, and are of exceptional purity, as shown
by analysis, which we can furnish for your inspection.

In 1871, the canal was leased by the Lehigh Valley
Railroad Company, and in the act authorizing the lease
the power to dispose of water to "the inhabitants of any
city, town or village along the line of said canal, or in
the vicinity thereof, for manufacturing or domestic and
other uses," was expressly given and confirmed; with
also the power "to make contracts with the corporate
authorities of any such city, town or village, or with
individuals, for such supply of water, for such compen-
sation as may be mutually agreed upon, and to erect
such works, and make such alterations in the said canal
as may be necessary or proper to enable said company
or its lessee or lessees, to furnish such supply of water
from the said canal."

The Lehigh Railroad Company would never have
entered into the financial obligations imposed by the
above lease, in respect to guaranteeing the bonds and
the common and preferred stock of the Canal Company,
had not this right to sell water been conferred by the
legislature of your State as an element of the lease, as
the property and business of the canal, exclusive of its
water rights, represented at the time of the lease, and
are now, but a small portion of the sum involved. In
1887 the legislature authorized the abandonment of the
canal, but in doing so, recognized and confirmed the
right stated in the above act of 1871, to sell and dispose
of water, on the faith of which right this company had
leased the canal and guaranteed its securities. It is for
this reason we are in the position to claim that this com-
pany is to-day the only party in the legitimate possession
of waters more than sufficient for the supply of your city, whose use for public water supply purposes will not cause any diversion or taking from existing vested interests, as these waters have now been diverted to public uses for half a century. As stated in our communication of July 7th to the city, this company is not desirous of engaging permanently in the business of water supply, nor do we deem it to be to the best interests of the company to place any speculative value on these waters. We are ready and desirous to dispose of them on fair and reasonable terms, and in such manner as shall meet the views of your city, if possible.

We shall, of course, be pleased to place at your disposal our surveys and computations in detail and also our maps and indicia of title, showing the waters at the disposal of the Canal Company to be largely in excess of your requirements, so that you may have before you all necessary information bearing on the subject, and we respectfully suggest that in considering the waters of this company as a means of supply for your city, you should bear in mind as above suggested, that this company is the only party in the State at present owning and in present possession of the quantity of water your city wishes to obtain, and has in hand undisputed possession of the goods for the delivery of which you desire to contract. We further respectfully suggest that in a matter of this nature, this latter consideration is a very important one, as with us your city need not wait the result of protracted litigation, and the sufficiency of our guarantees will not be questioned.

In regard to the specific terms on which we can offer to furnish water to your city, I suggest we would be willing to agree to the following changes from our proposition of July 7th last:

I. A supply of pure and wholesome water, sufficient for the needs of the city, shall be delivered within fifteen (15) months from the date of contract, or a forfeit of
$100 per day to be paid for every day that delivery shall be delayed.

II. The city shall have the right at any time within two (2) years from the date of contract, to terminate the provision therein for the payment for water by the million gallons covered by our proposition of July 7th, and to exercise either of the following options, viz.

III. To acquire for the sum of four million dollars ($4,000,000) a supply not exceeding twenty-five (25) million gallons daily, or to acquire for the sum of six million dollars ($6,000,000) a supply not exceeding fifty (50) million gallons daily, together with (in either case) a conduit capable of conducting twenty-five (25) million gallons daily; with, also, the right of way for a second conduit capable of conducting twenty-five (25) million gallons daily, the contract to specifically provide that water up to the limits named, shall in the case of the exercise of either option by the city, be guaranteed to be granted and assured to the city, and to be made available for yearly consumption in proportion to the growth and needs of the city.

IV. The delivery of water shall be in your high service reservoir for so much as may be there needed, and the balance of the supply for low service, shall be delivered in your main reservoir at Belleville.

V. The water shall be delivered through a pipe or conduit of sufficient size and strength properly to do the work, or of any material preferred, not more expensive than steel pipe.

VI. The contract based upon this proposition shall include a proper guaranty that the city shall be saved from all claims and all damages of every kind to Riparian proprietors, and the details of the contract itself, shall be such as shall be advised and agreed upon be-
tween the counsel representing the city and this company, respectively.

**CHAS. HARTSHORE,**

*Vice-President Lehigh Valley R. R. Co.*

Philadelphia, Jan. 9th, 1889.

Upon the reading of these communications and supplementary propositions, the secretary was instructed to furnish each member with a copy of the same, and the board again adjourned until the 14th instant, to take action thereon.

On the 14th, the board again convened; at this meeting further communications were received as follows:

"No. 259 Washington Street,
Jersey City, N. J., January 14, 1889.

"To the Honorable, the President of the Newark Aqueduct Board.

"Sir: The Pequannock Company desires to avail itself of your kind permission to remove one ground of criticism of its proposal for a new water supply, dated January 9, 1889, which has been expressed in the public prints.

"The objection is made that the statement is too indefinite in respect of what the cost to the city would be of the additional dams and reservoirs requisite to bring the storing capacity of the plant up to a supply equal to fifty million gallons daily. Estimates have been furnished this company that the cost of such construction would be in round figures about $300,000. Adding 15 per cent. to this, as stated in the proposal, would bring the total cost to the city of this construction up to $345,000. This, if itself added to the amount stated in the proposal, would bring the sum up to $4,995,000, as that for which this company proposes to furnish to the city, in its own right, within its own control, and free from all lawful claims and demands, the present abso-
lute ownership of an actual supply of fifty million gallons daily of the Pequannock water, together with full facilities for carrying that quantity by gravity, without the cost of pumping, and delivering it, if desired, at the point of delivery at a height seventy-five feet above that of the city's present high pressure reservoir. Should it be deemed preferable for any reason that a specifically defined amount be named for the construction and completion of the entire plant for the fifty million gallons daily service, the company will agree that it be fixed at the sum of four million nine hundred and ninety-five thousand dollars.

"The proposal of a 'water company' submitted to your board dated December 8, 1888, which has been adopted by this company, included a proposition to construct, lay and deliver a conduit pipe of four feet diameter. A pipe of that size has a capacity of carrying upon the level and of delivering somewhat over 52,000,000 gallons daily.

"If for any reason, the city authorities shall prefer to now arrange for the acquiring by it of a water supply, and the facilities for delivering that supply throughout the city, limited to twenty-five million gallons daily as a maximum, this company will agree to construct, lay and deliver a conduit pipe of that capacity, and furnish to Newark the right of way for a second pipe of the like capacity, and otherwise conform to the terms and conditions of the proposal of December 8, 1888, for the aggregate to sum of $3,800,000.

"If Newark will agree to take from this company and pay for twenty-five million gallons daily (which is the minimum amount proposed by the Lehigh Valley Railroad Company, Jan. 9th inst.) this company will agree that the option to be contained in its contract for the acquiring by Newark of the water supply, and all rights may be exercisable at any time within twenty years from the date of the delivery of the contract upon a notice of six
months, (if the option shall not have been availed of within thirty days after the delivery of the contract,) instead of running through only two years as proposed by the Lehigh Valley Railroad Company, payment for water meantime being at the rate heretofore proposed by this company, viz., $30 per million gallons, instead of the sliding rate running to the minimum $36, as proposed by the Railroad Company.

"This company begs to enclose some memoranda relative to the proposals under consideration by your Honorable Board, in the belief that they may be found of interest and of service in the course of the board's deliberations upon the subject.

"Respectfully submitted,

"PEQUANNOCK COMPANY,"

"By J. H. Pratt, Vice-President."

Memoranda in regard to proposals for a new water supply under consideration by the Newark Aqueduct Board.

1. Of and by itself alone, Newark cannot at present take any action towards obtaining, through its own unaided efforts, a new water supply for itself. Its own chartered rights in that regard have been heretofore fully availed of, and it can proceed no farther thereunder in that direction.

2. As the matter stands to-day, Newark's only available method of obtaining a further or other water supply than that which it now has, is, under the laws of 1888, (Chaps. CCL. and CCLI.) by contracting and agreeing with some "water company or other company, contractor or contractors," for a supply to it of water, for a period of not exceeding 25 years, and with an option to the city "for the acquiring of the lands, water and water rights for such supply, on terms to be fixed in said contract."
3. So far as this latter method is now available to Newark, and as the result of the sedulous efforts of its officials throughout the past year, it has the opportunity of making a contract and agreement, under these laws of 1888, with either one of two parties: (1) some licensee, assignee or grantee of the Lehigh Valley R. R. Co., as the lessee of the Morris Canal, and (2) the Pequannock Company. Mr. John R. Bartlett appears to have substantially left the field, so far as he and his immediate associates are concerned.

4. The proposal of the Lehigh Valley R. R. Co., dated January 9, 1889, suggests certain “changes” in its proposal dated July 7, 1888. Manifestly, therefore, the intention is that, with the incorporation of these specified “changes” into the proposal of July 7th, 1888, the latter shall stand, with those “changes” made, as the present proposal of the Lehigh Valley R. R. Co.

5. The Pequannock Co., in its proposal of January 9, 1889, adopts as its own the proposal of “a water company,” dated December 8, 1888, and then submitted to the Newark Aqueduct Board.

6. The Lehigh Valley R. R. Co.'s proposal suggests that, in the event of Newark's acceptance, it would "place its waters at the disposal of a properly organized water company," which company would enter into a contract with Newark. It does not propose to make the contract itself.

7. Each available proposal thus comes substantially from a water company. If it is to be assumed that the Lehigh Valley R. R. Co. itself is to be behind the water company at whose "disposal" it proposes to put "its waters," and that this would impart an element of strength to that water company, the Pequannock Company wishes it to be distinctly understood that those who will be behind and actually interested in the Pequannock Company, in any contract it shall make with Newark, are equally as strong in money, ability and responsibility, as the Lehigh Valley R. R. Co. itself.
8. The acceptability to Newark of these respective proposals is therefore to be determined in accordance with the individual merits of each proposal. Those merits are to be ascertained and measured with reference to (1) the subject matter, (2) the price, and (3) the terms, offered to Newark by the respective proposals. For the purposes of the comparison, each proposal should be examined with respect to the essential features and factors which are common to both, in connection with those which are separately distinctive.

9. Speaking generally, each proposal offers to supply Newark with water, at a specified price per million gallons, throughout the period of (say) 25 years, upon two bases, (1) for a 25,000,000, and (2) for a 50,000,000 gallon daily supply; with options to Newark to buy the water supply at stated prices. The distinguishing and characteristic differences will become manifest upon examination, notwithstanding the indefiniteness and comparative vagueness in the proposal of the Railroad Company.

10. The subject matter of each proposal may best be considered with reference to what is thereby offered to Newark, both as relates (1) to the mere supplying of water, (2) to the options given to Newark to acquire the supply, in respect of,

(A.) The sources of the proposed water supply.
(B.) The quality of that water.
(C.) The deliverability of that water to Newark; and, so far as relates to the option to Newark to "acquire" the water supply, to what it offers in respect of
(D.) What Newark would acquire by virtue of its options.

11. The sources of the proposed water supply are not specifically mentioned by the Lehigh Valley Railroad Company. That company states simply that it would place "its waters" at the disposal of "a properly organized water company," which itself would make the contract with Newark. It makes the proposal as the lessee of the Morris Canal Company, and "its waters" have
been acquired and are held by it, as such lessee only. The waters referred to in its proposal must, therefore, be those which it has derived under this canal lease; and being so, can only be the Morris Canal waters. The Railroad Company, as such lessee, is restricted in that regard to the sources of supply held under the Canal Company's charter, and to those heretofore acquired in connection with the canal. Even assuming that the "Canal-abandonment" act of March 28th, 1888, (Chap. CCXVII.) has become operative in its favor, its powers of sale thereunder would be limited to what water it had the rights to use at the time of the passage of that act, for, at that time, and for a long period prior thereto, it had acquired all the waters "necessary for the erection and use of said canal for the purposes of navigation only, and its necessary towing paths and works," and it had therefore exhausted its powers of acquiring waters for any purpose. It cannot, for any purpose of any contract for water supply with Newark or any other city, now acquire by gift, purchase, or condemnation, one additional source of water beyond what it then had, or now has. Indeed, by the explicit provisions of the charter of the Canal Company, (Sec. 27, Act of Dec. 31, 1824,) which have been continuously, and are to-day, equally in force, it is most positively prohibited from holding or acquiring in any manner "under any color or pretense," any more water than is necessary "for the mere navigation of said canal." Assuming, however, (as may, perhaps, fairly be done), that all the waters and water-rights which have been heretofore acquired and are now owned in connection with the canal have been and would be necessary for the operation of the canal for navigation only, the situation, nevertheless, remains that it is only these waters that may lawfully be made the subject of any contract, for water supply or otherwise, by or derived through the Lehigh Valley Railroad Company, lessee.
These last waters, so far as relates to the supply in Newark, would probably be those of either Lake Hopatcong, Greenwood Lake or Green Pond. The proposal is so indefinite that it is not determinable therefrom, whether the intent is that the supply should be from one, or the other, or all, of these sources; excepting that, as the proposal is to supply up to 50,000,000 gallons daily, it becomes obvious, to every one having knowledge of the existing rights of the Canal Company and its lessee, that a supply of any such quantity as an entirety, would necessarily have to be derived from all three of these sources. From no one, nor two, and indeed hardly from the three, can that much water be obtained. It is, to say the least, problematical whether that much water can be drawn from all those lakes without interference by the adjacent land-owners and of the health board.

The proposal of the Pequannock Company, on the other hand, is specific, precise, and definite. With a present ownership of about four miles on each side and across the bed of the Pequannock river itself, and other rights in, upon, and adjacent thereto, the source of the water supply it proposes is that of the Pequannock river itself, and its immediate water-shed. The average flow of that river, itself, over these properties of the Pequannock Company, during the past forty years, has been in excess of 80,000,000 gallons daily for each and every day in the year; and this one source is more than sufficient to meet the maximum requirements of the proposed contract.

12. The quality of the water proposed is left by the Lehigh Valley’s proposal as indefinite and vague, as are the sources of the proposed water supply; but there are the same means of estimating it as have been indicated in respect of these sources themselves.

Lake Hopatcong, Greenwood Lake and Green Pond, and every other source of supply now held under the Canal Company’s charter, as well as the primary sources
themselves, of those bodies of water respectively, already have growing settlements about or around them. The Canal Company does not own any of these waters. It simply has the right to draw from them. The waters themselves receive already the drainage, (constantly growing in extent and amount), from the settlements mentioned. These matters are and always shall remain wholly uncontrollable by the Canal Company, or any one deriving title through it.

The vast superiority, as to purity and wholesomeness, in the quality of the waters of the Pequannock river over any of the possible sources upon which the canal has at any time relied, or which it now owns, is so absolute, and so universally known and acknowledged, that no extended comment thereon can possibly be needed.

The lands now owned by the Pequannock Company are of such natural configuration, and those that would be used for reservoir sites under its contract with Newark would be of such character that any settlement along the banks thereof, leading to any (even the slightest) contamination from drainage, or other human use or mis-use of the waters, is absolutely impossible. The ownership of these lands, whether by the company, as supplier, or by Newark, as purchaser under its option, would give absolute and complete control over the entire water supply for all time to come, and prevent any possibility of any future contamination or deterioration in the quality of those waters. The waters themselves are of the greatest purity from their very incipient sources; and in their flow, over rocky bottoms, along a continuous descent of over three hundred feet before they reach the indicated point of diversion, become thoroughly aerated, "pure and wholesome."

13. The deliverability of the water to Newark is a controlling factor to Newark in estimating what advantages either proposal may have over the other. In that regard the point of diversion to be established under the Lehigh
Valley's proposal becomes even more an important element in the consideration, if it be assumed that Newark's determination is to contract now for a supply equal to 50,000,000 gallons daily. For no proposal which the Lehigh Valley Railroad Company has made gives any price in respect of a conduit line of a carrying capacity of over 25,000,000 gallons daily. If Newark is to receive 50,000,000 gallons daily, the Lehigh Valley's proposal must be examined in the light of the fact that, to the figures it has given in respect of conduit lines, must be added either the cost of a second conduit of equal carrying capacity, or the additional cost of one conduit of double the capacity of that for which the Lehigh Valley's proposal has been made. The proposed point of diversion thus becomes of essential importance as determining the length of the conduit as to which this increased cost would be necessarily incurred, either by way of duplication or of doubling the capacity.

It is further to be observed that, even if all other things were of equal merit in the two proposals, that plan would possess greatly superior advantages over the other which would provide for the delivery to Newark, if desired, of the whole 50,000,000 gallons daily at a height equal to or above the level of Newark's present high-pressure reservoir, without the necessity of any pumping.

This the Pequannock Company's proposal does. It is able to do so, because the indicated point of diversion is of such height above the sea-level that the whole of the water thence diverted can be conveyed over the distance between that point and that of final delivery, crossing meantime the intervening mountains, and yet reach the point of final delivery at a height of at least seventy-five feet above the level of Newark's present high-service reservoir.

But this cannot be done under the Lehigh Valley's proposal from any source now owned by it or within its
present control, or at any time appertaining to the canal, unless the point of diversion be established west of Boonton, and the proposed conduit overcome all the difficulties between that point and Newark. This of itself would add to the Lehigh Valley's proposal the increased cost of at least miles of length of conduit, to which reference has been made. Outside of Lake Hopatcong, Greenwood Lake and Green Pond, no other source of the Canal Company's supply is of sufficient height to allow waters that would be diverted therefrom to be delivered by gravity over the intervening mountains, and without pumping, at a height even equal to Newark's present high-pressure reservoir. Every gallon of water derived from any of these sources would have to be pumped, in order to be delivered into this high-pressure reservoir. The bearing of this element in respect of the comparative merits of the two proposals, will be more readily noticeable when the subject of the specified prices under the two proposals are considered.

14. The comparative merit of what Newark would acquire by virtue of the options given it under the respective proposals, so far as that merit is determinable in the reference to the prices, will be seen later, when the subject is considered specially in regard to the prices stated in the respective proposals.

But at this time and under this topic, it is to be particularly noticed that under the Lehigh Valley proposal, Newark, if it should avail itself of any option thereby given, would acquire at the utmost, only the right to have delivered to it a maximum quantity of 50,000,000 gallons of water daily, at whatever point of diversion might be established by the Lehigh Valley Railroad Company itself, whether with or without the concurrence of Newark. The latter never would acquire thereunder the slightest ownership of, or control over that water, or any of the sources of supply. For all that appears to the contrary, the proposal would be fully performed by the delivery
to Newark of that much water from the canal after it had received the latter’s contamination, dirt and filth. And, as has been already observed, every available source of supply which the Lehigh Valley Railroad Company, as lessee, now has, or can acquire, is subject to a present and constantly increasing contamination from the growing settlements around and about it.

Under the Pequannock Company’s proposal, however, Newark would acquire upon the exercise of any of the options, the absolute ownership of, and entire and exclusive control over the whole actual source of supply in a region where there is not only no present contamination, but no possibility, for all time to come, of there ever being any.

With the absolute ownership of the source of supply, Newark would be limited only by the capacity of that source, and would not be restricted to 50,000,000 gallons daily, if more should be needed. The Lehigh Valley’s proposal fixes 50,000,000 gallons daily as the maximum supply which Newark may acquire by purchase thereunder.

Newark would also, under the Lehigh Valley’s proposal, acquire only the right of that company’s licensee (the “properly organized water company”) to receive from it up to 50,000,000 gallons of “its water” daily. Having in view the provisions of the canal company’s charter, grave questions will assuredly be raised, and be made the subject of litigations, whenever any waters acquired by the Canal Company, or for it, to be used for the operation of the canal “for navigation only,” are attempted to be actually diverted to other uses. The constitutionality of the “Canal-abandonment” act of 1888, in the face of the contracts made by the provisions of the charter under which the waters have been acquired by the Canal Company, will unquestionably be assailed.

The act of March 14, 1871, (chap. CLIII.) would not be available. For the proposal does not contemplate the
sale of the canal’s “surplus waters” only, (if, indeed, it could under its charter even acquire or hold any “surplus waters” to any extent.) That proposal is for a sale of such a quantity of water that it must necessarily come from the actual canal waters themselves.

Newark should, therefore, not be deluded into the belief that under an acceptance of the Lehigh Valley’s proposal, it would be free from litigation. The contrary would soon be made to appear.

15. The prices of the respective proposals should be considered (1) with respect to those specified for the mere supplying of the water, and (2) with respect to the options for acquiring that supply; and both branches of this topic should be considered with reference to the proposed daily supply of 25,000,000, or of 50,000,000 gallons.

(A.) As to the prices for the mere supplying of the water.

Whatever might be the cost of pumping under the Lehigh Valley’s proposal may be eliminated from this branch of this topic. Each proposal is for the delivery at the specified price, into the high pressure reservoir, of whatever quantity of water should there be needed. If any water has to be pumped for this purpose, the cost of that pumping would, so far as the matter of the mere supplying of the water is concerned, be borne by the water company to “be properly organized” in accordance with the Lehigh Valley’s proposal.

But, for such delivery, the Lehigh Valley’s proposal is $39 for the first 20,000,000 gallons, with a reduction of 50 cents for each additional million gallons until the minimum price of $36 should be reached, and thereafter $36 for each million gallons up to 50,000,000; but with the exaction that Newark shall agree to take 25,000,000 gallons daily as the minimum.

This makes $966 a day as the cost to Newark of the
as the price of the maximum 50,000,000 gallons, under the Lehigh Valley’s proposal.

The proposal of the Pequannock Company being for a delivery at the price of $30 for each million gallons, a short arithmetical exercise shows that the Pequannock Company’s proposal, on this basis, is more advantageous to Newark than the Lehigh Valley’s, by $216 each day, or $78,840 each year for the 25,000,000 gallons daily supply; and by $366 each day, or $133,590 each year for the 50,000,000 gallons daily supply. The former, at 4 per cent. would represent a capitalization of $1,971,000; the latter, of $3,339,750.

(B) As to the options for acquiring the supply.

These, also, should be considered upon the 25,000,000 and on the 50,000,000 bases, respectively.

(a) For a daily supply of 25,000,000 gallons.

The Lehigh Valley’s proposal is that the “properly organized water company,” at whose disposal it would place “its waters,” would contract with Newark that, for $4,000,000, Newark might acquire,

(1.) The right to receive a maximum quantity of 25,000,000 gallons daily, of “its waters,” to be diverted at some point to be established by the Lehigh Valley Company, probably, (although this is not stated), to be agreed upon with Newark;

(2.) A conduit capable of conveying 25,000,000 gallons daily;

(3.) The right of way for a second conduit of the like capacity.

This is all that Newark would get for $4,000,000.

But, if “any storage reservoirs should be hereafter built for the proposed supply especially designed for Newark,” the latter would thereupon have to pay the “actual cost” thereof, in addition to the $4,000,000. Such reservoirs could scarcely be built at any point where the Lehigh Valley’s license could receive that much of “its waters,” for less than $1,500,000.
Nothing is said about the delivery being by gravity or without pumping. The terms of the proposal would be finally and wholly met if every gallon of water would have to be pumped, provided the pumping plant itself should be included in the sale to Newark, (as it obviously would.) But, in this case, if the whole 25,000,000 gallons daily would have to be pumped—(and this must be assumed)—Newark would be subjected to an annual expense of $110,000 a year, after it had paid the $4,000,000 for what rights it would secure under its option, and $1,500,000 for its "specially designed" storage reservoirs. This annual pumping expense would represent at 4 per cent. an additional capital of $2,750,000.

So that, if any such option should be availed of by Newark, it would pay thereunder what would represent a purchase price to it of—

$4,000,000 for the rights, one conduit and conduit right of way;
$1,500,000 for the "specially designed" storage reservoirs;
$2,750,000 for the capitalization of pumping service;

Or, $8,250,000 in all, instead of $4,000,000.

And for this, so far as the water supply is concerned, it would acquire no ownership in, or control over, that water, or its sources, to the slightest extent, except after that much water had been delivered over to it, of such quality and condition as circumstances might best allow, at the point of diversion; but simply the engagement of the "properly organized water company" to deliver that much water at that point, under such license as the Lehigh Valley Railroad Company may have seen fit to give it, when it should place "its waters" at its licensee's disposal.

Surely the manner in which this proposal is made must itself have been "specially designed."
As contrasted with this, the Pequannock Company offers, upon the 25,000,000 gallons daily basis—

(1.) *The absolute ownership* of, and entire and exclusive control over the actual source of supply of *at least* 25,000,000 gallons daily of the "pure and wholesome" waters of the Pequannock river.

(2.) *Reservoirs* actually constructed capable of holding a supply of this water equal to 25,000,000 gallons daily.

(3.) *Further reservoir sites* in fee, capable of holding an additional supply equal to a second 25,000,000 gallons daily, or 50,000,000 gallons in all.

(4.) *A conduit* capable of conveying *by gravity* 25,000,000 gallons daily.

(5.) *The right of way* for a second conduit of the like capacity.

(6.) *Delivery by gravity*, and without the cost of pumping, of the entire 25,000,000 gallons daily at a height of seventy-five feet above the level of Newark's present high-pressure reservoir.

*All for $3,800,000.*

That is, from the mere money standpoint as to what is common to both proposals, the Pequannock Company's offer is more advantageous to Newark upon the 25,000,000 gallons basis, by ($8,250,000 — $3,800,000) = $4,450,000, besides adding the absolute ownership of, and full and exclusive control over, the whole source of supply capable of furnishing at least 50,000,000 gallons daily, with reservoir sites sufficient to hold this last quantity and needing only the proper dams to be actually constructed; with a present offer to build the latter, if notified within one year from the delivery of the contract, at a cost to Newark of not exceeding $345,000.

(b.) *For a daily supply of 50,000,000 gallons.*

For such a supply, the Lehigh Valley Railroad Company's proposal is that it will put "its waters" at the disposal of the "properly organized water company," to the extent of not exceeding 50,000,000 gallons daily;
and thereupon the water company would agree that Newark, upon the payment of $6,000,000, might acquire,

(1.) The right to receive such waters, up to the extent of 50,000,000 gallons daily as the maximum, at the point of diversion as above mentioned;

(2.) A conduit capable of conveying only 25,000,000 gallons daily;

(3.) The right of way only for a second conduit of like capacity.

This is all Newark would get for the $6,000,000.

But, as in the case of the 25,000,000 basis, Newark would have to pay, in addition, the "actual cost of any "storage reservoirs that shall be hereafter built for the "proposed supply, especially designed for Newark." These could not be built, at any point as above mentioned, for the 50,000,000 gallons daily capacity, for less than $1,500,000.

The pumping of this much water would entail upon Newark an annual expense of at least $400,000, which would represent a capitalization, at 4 per cent., of $10,000,000.

Or, if the point of diversion should be established at a point whence the Lehigh Valley Railroad Company might deliver its waters, to the maximum extent of 50,000,000 gallons daily, to its licensee for Newark's use, so that they might be delivered by gravity and without pumping, at the level of the present high-pressure reservoir, the point of diversion would be so remote that the second conduit of 25,000,000 gallons daily carrying capacity, which Newark would have to build in such case at its own cost, could not be laid for less than $2,000,000. It may be assumed that the second conduit, of the capacity of 25,000,000 gallons daily, otherwise to be constructed at Newark's expense (if water that has to be pumped is taken) might be built by it for $1,500,000.

The acceptance by Newark of this (to-be-pumped)
50,000,000 gallons daily proposal by the Lehigh Valley Railroad Company would thus entail upon it a cost representing a purchase price of

$6,000,000 for the rights and one conduit and the conduit right of way;

$1,500,000 for the second conduit;

$2,000,000 for the “specially designed” storage reservoirs;

$10,000,000 for the capitalization of the pumping service, or $19,500,000 in all, instead of $6,000,000.

Or, at the very best, if the point of diversion should be established west of Boonton,

$6,000,000 for the rights, &c., as above;

$1,500,000 for the second conduit;

$2,000,000 for the “specially designed” reservoirs;

or $9,500,000 in all, instead of $6,000,000.

And again; for this, Newark would acquire simply the right to receive, from the Lehigh Valley Railroad Company’s licensee, not exceeding 50,000,000 gallons daily, of such of “its waters” as could thus be furnished, but with no ownership in, or control over, those waters to any extent prior to the time of their delivery at the point of diversion.

Contrasted with this, the Pequannock Company’s proposal, upon the 50,000,000 gallons daily basis, offers—

(1.) The absolute ownership of, and entire exclusive control over, the actual source of supply of at least 50,000,000 gallons daily of Pequannock water;

(2.) Reservoirs actually constructed having a capacity of holding at least 50,000,000 gallons daily of that water;

(3.) A conduit capable of conveying by gravity 50,000,000 gallons of that water daily;

(4.) Delivery by gravity, and without the cost of pumping, of the whole 50,000,000 gallons daily at a height 75 feet above the level of Newark’s present high-pressure reservoir;

And all for $4,995,000.
Again, from the mere money standpoint, as to what is common to both proposals, this makes a difference in money in favor of the Pequannock Company's proposal of at least ($9,500,000, less $4,995,000), $4,505,000, if—(as is doubtful)—delivery can be made of any of the Morris canal waters at the high-pressure level without pumping; and of ($19,500,000, less $4,995,000), $14,505,000, if the Morris canal waters must be pumped, (as is probable.)

And, again also, adding to the Pequannock Company's case, the absolute ownership by Newark of, and its entire and exclusive control over, the whole source of supply, guaranteed to be at least equal to 50,000,000 gallons daily, but as much more as that source may actually yield.

16. The terms upon which the payments would be made if Newark shall avail itself of any of its options under either of the proposals, as suggested in the proposals themselves, are left to be adjusted, and do not materially differ.

After a full consideration of the several propositions so received, this board adopted the following resolutions:

Resolved, That this board accepts the proposition of Lehigh Valley Railroad Company, contained in its communications made under date of July 7, 1888, and January 9, 1889, to furnish the City of Newark with a new supply of water upon the terms contained therein, subject to the following conditions:

1. The water so to be furnished shall be taken from Pequannock, Wynockie and Ramapo water sheds, or one of them.

2. It shall be so delivered in this city that it can be distributed through the mains and conduits of the city without pumping.
3. The pipe line to be constructed shall be of the best material, (not more expensive than steel) and shall be laid in a thoroughly proper and substantial manner, and be not less than four feet in diameter.

4. All necessary dams and reservoirs at the point of intake and above it, shall be constructed and maintained by the company.

5. Payments shall be made when the necessary works are constructed and the water delivered in accordance with the contract, and the option to purchase exercised by the city; until such option is exercised, payment for water delivered shall be made semi-annually.

6. The grant of water up to the maximum of fifty million gallons daily, with the right of the city to receive and use the same, shall be fully assured to the city by the Lehigh Valley Railroad Company.

In case these conditions are assented to by the company, we respectfully ask the concurrence of the Common Council in the contract or plan so accepted by this board, and we respectfully call the attention of your Honorable Body to Article VI. of their supplementary propositions, to wit:

“The contract based upon this proposition shall include a proper guaranty that the city shall be saved from all claims and all damages of every kind to Riparian proprietors, and the details of the contract itself shall be such as shall be advised and agreed upon between the counsel representing the city and this company, respectively.”

The principal features of this proposition as amended, are—

1st. It provides for a supply of pure water from the best source;

2d. If purchased at the million gallons the cost will be $39 per million until the consumption reaches 20,
000,000 gallons daily, then the price decreases as the consumption increases until the price is reduced to $36, and is thereafter to remain at that figure;

3d. The water is to be delivered in such manner that it can be distributed throughout the city, in our mains and conduits, without the expense of pumping;

4th. The company agrees to construct and build a pipe line from the point of intake to the city, not less than four feet in diameter, of the best material and laid in the best manner;

5th. It agrees to construct and forever maintain at the point of intake and above it, all necessary dams and reservoirs, and there to secure for the city water of the quality mentioned, sufficient to furnish a maximum of 50,000,000 gallons daily;

6th. The delivery is to be made within fifteen months from the date of the contract, and for two years from that date the city will have the right, at its option, to become the owner of the pipe line, and through it secure 25,-000,000 gallons daily for $4,000,000, or 50,000,000 gallons daily (the quantity increasing as the consumption increases), for $6,000,000. A right of way for a second conduit is also to be furnished the city so that a second conduit can be laid if hereafter it shall be found necessary;

7th. The right to receive and use the water is to be fully secured to the city, and the city protected from all claims of every kind;

8th. Payment is not to be made except for water delivered, or until the option to purchase is exercised by the city.
In presenting to you this report, of its action on this important subject, and asking your approval thereof, and your concurrence therein, this board begs leave to state some of the reasons which influenced it to give its assent to the proposal of the Lehigh Railroad Company, if that company shall consent to the modifications and conditions stated in the aforesaid resolution.

1st. Because the limit of expenditure is fixed and certain.

2d. The city will assume no responsibility or liability, and can only be called upon to pay for what it actually gets, after it is furnished.

3d. The city will be fully protected against claims of all other parties, and all claims for damages.

4th. Because the standing and responsibility of the Lehigh Valley Railroad Company is such that all doubt and uncertainty is removed, and we can rely with absolute assurance upon the fulfillment of the obligation it assumes.

Finally. The board desires to say that if, with your concurrence, this contract shall be made, it is its intention at the proper time, to accept the option given, so that the city shall be absolute owner of its own supply of water, and to secure the maximum quantity named, to wit, 50,000,000 gallons daily.

All of which is respectfully submitted.

By order of the board.

JOSEPH E. HAYNES, Pres't.

WM. E. GREATHEAD, Sec'y.
Financial Exhibit.

The following statement of the financial condition of the Newark Aqueduct Board was made by Commissioner Wismer, at the meeting of the Board held January 14, 1889:

"To allay any apprehension regarding the financial condition of the city to meet the increased expenses of a new water supply, I have made a careful estimate of the receipts and expenditures of the Water Department for the years 1892 and 1893. For 1892 our income will not be less than $420,000. Expenditures and interest account will be as follows:

$57,000 at 4 per cent. .................. $2,280.00
$285,000 at 4½ per cent. ............... 9,517.50
$100,000 at 5 per cent. ................. 5,000.00
$100,000 at 6 per cent. ................. 6,000.00
$550,000 at 7 per cent. ................ 38,500.00
$2,490,000 at 7 per cent, redeemable in 1892,* 131,450.00
Total maintenance, no pumping to be done, 65,000.00

Total .................. $257,747.50

"Net revenue for 1892, (no pumping to be done,) $162,252.50. This amount is sufficient to pay interest on $1,000,00 additional water debt, which I think will be all that is necessary to be issued up to that time on account of new water supply.

"In 1893 the condition will be more favorable. Of $2,490,000 7 per cent. bonds redeemable in 1892, $275,000 will be redeemed, but that amount being in the Sinking Fund by that time, the balance, $2,215,000, will be refunded at not over 4 per cent. Amount of interest payable on that issue in 1893, $88,600; all interest on other bonds outstanding, $61,297.50; total maintenance for 1893, $70,000; total expenditure, including interest, $219,897.50; estimated income for 1893, $442,000; net earnings in 1893, $222,102.50, applicable to the payment of the interest on the additional debt for a new supply. This amount is short only about $18,000 of the sum necessary to pay 4 per cent. interest on $6,000,000. So, if the whole cost of the plant should have been paid prior to 1893, which is not probable, only about $18,000 would have to be provided for in general tax levy."

* These bonds are redeemable February 1, 1892; total interest payable that year, $131,450, being 3½ per cent. due as above on the total amount, and 2 per cent. on August 1, 1892, on $2,215,000.