

**DOCUMENT NO. 45.**

**BOARD OF ALDERMEN**

MARCH 4, 1835.

*The Committee on Fire and Water, to whom was referred the Report of the Water Commissioners, and the Documents accompanying the same, in relation to supplying the City of New-York with pure and wholesome water, presented the following Report, which was read, 2500 copies directed to be printed, and the report, and such parts of the report of the Water Commissioners, as shall be deemed by the Committee proper, be published in the Newspapers employed by the Board.*

J. MORTON, Clerk.

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The Joint Committee of both Boards, on Fire and Water, to whom was referred the report of the Water Commissioners, and Documents accompanying the same, presented to the Board of Aldermen on the 16th day of February last, most respectfully

**R E P O R T :**

That they have examined the report and documents referred to them, and also the report of the same Commissioners, made to the Common Council on the 12th of November, 1833, (Doc. No. 36,) with the accompanying documents. They have like-

wise reviewed the able report of Colonel Clinton, made to the Committee on Fire and Water, on the 22d December, 1832, and the other valuable materials collected in Document No. 61, of the last mentioned year; also the report of the Committee on Fire and Water, made the 28th of December, 1831, and accompanying papers; and such other proceedings as have come to their knowledge. Deeply impressed with the vast importance of this subject, to the future welfare and prosperity of this City, the Committee have felt its claim to their best consideration and industry, and only regret that their powers and time are unequal to that treatment of it the subject deserves. The Water Commissioners have favored this Committee with their attendance, and given them such explanations of their views, and such information, as they stood in need of. The inquiries and studies of this Committee have convinced them, that it would be mere presumption for them, in the limited period they are allowed, to attempt a re-examination of the materials which the Water Commissioners have submitted, or to question the results to which they have come, and which are specified in their report. If any confidence is to be placed in man, or any deference yielded to his opinion as mere authority, these Commissioners are entitled to it. They consist of five of our most respectable, and intelligent, and public spirited citizens; they have, for two successive years, devoted a large portion of their time, gratuitously, to the subject matter of the report, looking for their reward only to the approbation of their fellow citizens, the perfection of a great public good, and the gratitude of posterity. Acting on such principles, we may with safety, accord to them our full confidence as their due, and may adopt their conclusions with safety. They have not, however, left the matter on this ground, but have given strong reasons for all they recommend. The debt of gratitude to these Commissioners is created, as due from us and our posterity for their zealous and most disinterested labor in the public service. The Commissioners have been assisted by Civil Engineers of most distinguished reputation; by gentlemen whose characters are established as worthy of all confidence; and

whose professional reputations are at stake, on the conclusions to which they have come, and the work which they recommend. The labors and reasonings of these Engineers, have been scrutinized, inch by inch, by the Water Commissioners: their facts and reasonings analyzed and sifted; and their conclusions approved of by them. The result of this scrutiny is given in the very able report referred to this Committee. Thus impressed with the deference due to the Water Commissioners and Engineers, this Committee forbear a re-examination of the subject of the report. They also forbear an examination of the report itself. There is nothing in that report, of which this Committee does not approve; they will not attempt to enforce the conclusions of it, lest they may render obscure that which is now clear, in its masterly reasoning; neither will they attempt an analysis of it, for every word of it should be read and dwelt upon by every Member of the Common Council.

The Water Commissioners report to the Common Council, the following opinions, as the result of their labors, namely:

That all the water of the Croton river may be taken from near its mouth, and brought to the City of New-York, in an aqueduct declining fifteen inches in the mile, and delivered in a reservoir on Murray's Hill, 114 feet 10 inches above high tide water line,—which is near seven feet higher than the roof of the highest building in the City.

That in the driest seasons, and at its lowest or minimum flow of water, the Croton River will supply thirty million of gallons of water a day, and ordinarily more than fifty millions of gallons.

That the water of the Croton is limpid and pure, and fit for use, at the place where they propose it should be taken from the river; that the whole river can be brought to Murray's Hill, in a close aqueduct of masonry, at an expense of four millions, two hundred and fifty thousand dollars, and there deposited in reservoirs ready for distribution.

That the revenue which would accrue to the City, from very low charges for supplying the water, would overpay the interest on the cost of the work.

These form the great facts upon which the Common Council are now called upon to act, and in the first instance to pronounce the judgment whether the work shall or shall not proceed. The Commissioners have most fully discharged their duty, and with great ability. It remains for the Common Council now to do theirs. The Commissioners have examined and canvassed every plan, and even every proposition, which has been suggested for supplying this City with pure and wholesome water; and after the most mature consideration, recommend that the Croton River be brought to the City in a covered aqueduct of masonry; and that the water be taken from the Croton at Halman's or Garretson's Mill, near its mouth. This Committee concur in the recommendation.

Various projects have from time to time been proposed, by which to supply this City with pure and wholesome water, and it is not to be supposed that the projectors of them and their friends will sit down in quiet under the preference given to one. It is not natural that they should. A regard for the public good has seldom been known to quiet the efforts of rivalry or of self interest, or so to clear the minds of the interested, as to enable them to see in the successful project, those qualities which obtained the approbation of the unbiassed; or in their own those defects which gave the preference to another. With all these classes of individuals, the greater expense of the proposed plan of bringing the water of the Croton to this City, in an aqueduct of masonry, will be urged as an argument against it, and the lighter expense of their own will be urged to reverse the decision of the Commissioners. But all other plans than the one adopted have fundamental defects—namely: The water of the Passaic is not sufficiently pure—it lies in another State—it must be brought across the Hudson—and the conduits will be always exposed to injury from the anchors of the shipping.

The Island of New-York does not supply water enough, which could be obtained from its springs or wells, obtained either by digging or boring—and however pure the same may now be, in some parts of the Island, all experience teaches us that it will be-

come impure as soon as a dense population shall cover the ground. That it is not sufficient in *quantity* is proved by the facts, that the wells on the Harlaem Heights, have been drained by the Harlaem Canal: those on Murray's Hill by the excavations for the Harlaem Rail Road. The removal of the hills north of 13th street, and the building of sewers in that neighborhood have reduced the supply of the public well from 20,000 gallons a day to about 6,000. And the new well at Jefferson Market, when worked steadily, drains the wells in that neighborhood. The turpentine distilleries on the East River; the chemical factories on the North River; the Gas works on the Collect all of which had an abundance of water on their premises, are now so scantily supplied, that the two former are driven to cart water from distances, and the latter to return their water to their well after using it. Water is now found but with difficulty in the 11th Ward, and then only at great depths—a foreign supply of water is absolutely necessary for the further extension of the population of that Ward and its protection from fire. The 12th Ward, though with its thin population it is now tolerably supplied, yet is already driven to deep boring on the 9th Avenue: And the removal of its hills, and covering of the lands with houses and pavements, will dry its springs, as at 13th street. It seems to be well ascertained that the water of this Island is all “surface water” and that the under ground water courses set to the south, until backed by the waters of the rivers. The consequence of this will be, that the spread of population northward will dry the wells there first, and the lower Wards will alone be left with a supply, as at present, of that mixture of vile ingredients we call water. But if there were an abundance of water under the surface of the Island, still it is proved that the expense of making enough of wells to supply the City with even the noxious article we should get by them, would cost vastly more than to bring to us the Croton River. (See Col. Clinton's Report, Doct. 61, of 1832, p. 207.)

The Bronx and the Byram, contain a supply of water only sufficient for our present population, (say about 6,000,000 of

gallons,) and it must be raised to Harlaem Heights by machinery. But even this quantity is doubted.

To dam the Hudson is magnificent in the thought, and though feasible as a work, is problematical as to its beneficial results, and certain as to its injurious consequences to the commerce of the river.

The several modes of bringing the Croton to the City in an open canal ; in iron pipes ; and in an aqueduct of masonry, have all been proposed and canvassed. An aqueduct of iron pipes is the most expensive of these modes ; that by an open canal the least expensive, but it will expose the water to pollution from the drainage of the barn yards, and of the cultivated country through which it would run, and from the varieties of soil over which the water would pass : and so to construct the canal, as to exclude effectually, them eans of contamination, would be to raise the expense of the work to within about \$1,500,000 of the cost of an aqueduct of masonry.

The question remains, ought the Corporation of the City of New-York to embark in this great work ? The Committee are firmly of opinion, that it ought to be done by no other body, corporate or personal. And in this, they are sustained by every Committee which has preceded them. The control of the water of the City, should be in the hands of this Corporation, or in other words, in the hands of the *people*. From the wealthy and those who would require the luxury of having it delivered into their houses ; and from the men of business, who would employ it in their work shops and factories, the revenue should be derived. But to the poor, and those who would be content to receive it from the hydrants at the corners and on the sidewalks, it should be as free as air, as a means of cleanliness, nourishment and health. In the hands of any other power than the Common Council, this free use would be restrained, and the experience of all other Cities, (and our own may be included,) teaches us the sad lesson, that the trust of this power would be abused.

It is stated above, that the estimated expense of bringing the Croton to Murray's Hill is about,	\$4,250,000
To this is to be added the estimated expense of laying the water pipes in the City to distribute the water,	1,262,00
Total expense,	<u>\$5,512,000</u>

The work of laying the water pipes is now, and for some years has been, in the course of execution. It is a part of the settled policy of the City, as to its public improvements, and as connected with its public wells for the extinguishment of fires. The cost thereof may therefore with propriety be deducted from the above amount; and in considering the question now under discussion, the estimated cost of bringing the river to Murray's Hill, may be taken as the amount affecting the question.

Shall then the Common Council approve of the plan adopted by the Commissioners, and thereby recommend to the electors, to "authorize the Common Council to proceed in raising the money necessary to construct the works?" this Committee most respectfully answer in the affirmative. They believe that all those upon whom the burthen of the expenditure will fall, namely, the taxable inhabitants of the City, are with very few exceptions in favor of it, and are not only ready to incur the debt of the principal, but, by becoming takers of the water, to furnish the means of paying the interest; and every poor man must be in favor of it, as he will thereby be furnished gratuitously, with one of the greatest necessities and luxuries of life.

In the language of the Commissioners, "nothing less than a river distributed through thousands of channels, and brought to the premises of every householder, will be commensurate to the wants of a population, such as the City of New-York contains and will contain," and there is no other river but the Croton at our command, which is of sufficient size and purity.

*The public health requires it.* The effect of cleanliness in Cities, in preventing or staying epidemics or pestilence, is so far proverbial, as to need no argument in its support; and the loss occasioned by one season of pestilence, in the derangement or suspension of all business, public and private, and from the labourer to the capitalist, the consequent drafts on the City Treasury, throwing out of the account the loss of life and ravages of the disease from which the wealthy may fly, but to which the poor man and his family must submit, would, if saved, go far to pay the cost of the proposed work. It is well known that the City of Philadelphia suffered but little from Cholera the last summer, and it is also well known that when the disease appeared in New-York, the City of Philadelphia opened her hydrants upon the streets and yards within their reach, twice a day, washing them thoroughly; and the disease was confined to localities beyond the reach of her hydrants.

Bad air and bad water are leading causes of sickness in all populous towns. With a river at our command, the causes of the noxious vapours which our gutters now supply, and which contaminate our air, will be removed. And what evil consequences may not be looked for from the water our laboring and poorer classes drink; when, in the language of the Lyceum of Natural History used, in 1832, "with our (then) present population there is put into the sand about one hundred tons of excrement in twenty-four hours. In these deposits we may find all the ingredients detected by analysis, and which destroy the purity of our waters," and what good, in point of health, may we not expect from the free use of pure water by our citizens, instead of an article impregnated with such vile and disgusting ingredients?

*The public safety requires it.* By a report furnished to the Committee, by the Chief Engineer and the Water Purveyor, it appears that there have been 110 destructive fires during the last year, and about 220 false alarms.

During the last thirteen months, the Insurance Companies have paid losses by fire to the amount of \$910,931. This is obtained from the companies by the Chief Engineer, and is

believed to be an under estimate. The amount of loss by fire not insured against, is supposed to be from one half the amount insured against, to an equal amount. Upon the first principle the losses by fire the last 13 months, would amount, in round numbers, to \$1,366,000, and on the other to \$1,820,000. The items taken from the notes of the Chief Engineer and Water Purveyor amount to \$1,775,000. During the month of January, 24 fires destroyed 37 buildings and \$177,150 worth of property. It is firmly believed by those who are called upon to observe our fires, and have opportunities for observation, that from one half to two thirds of the losses by fire would be prevented by an ample supply of water. The losses by fire the last year, are equal to one third the whole estimated expense of bringing the water from the Croton, and delivering it at our doors.

The duty which the Authorities owe to the people, and which the people owe to themselves, to advance all those improvements which will tend to lighten the public burthens, require that this great work be done. The report of Colonel Clinton before mentioned, contains an estimate of the savings of property to the Corporation and citizens, which would ensue by the introduction of an ample supply of water into the City. Upon the principles of that estimate, such savings in the Fire Department, in wells, pumps, cisterns, and losses by fire, would now amount to the sum of more than *one million of dollars* per annum; and this, on taking the loss by fire, at the mean of the losses before stated. This sum, if taken as the interest at seven per cent. on a capital invested, would justify an expenditure of more than \$14,000,000, to furnish the City with an ample supply of water. Such facts strike with astonishment and lead to the inquiry, How have we slept so long under this reign of destruction, with the means in our hands of overthrowing its empire? Such losses would pay for the work in little more than five years, and the reductions of the premiums of Insurance are not taken into the account.

But will the revenue to be derived from the work justify the necessary expenditure upon it? It is *descending* to speak

about revenue, after the facts last stated. The importance of the work, as a public universal protector of property, and even of lives, from destruction, would warrant a general taxation to pay for it, without reference to any revenue it might yield. All estimates and thoughts of revenue from the work, sink into insignificance, when compared with the immense losses it would save; with the considerations of public health and public safety above presented; and with the blessings to individuals in the daily, nay hourly luxuries to be furnished from the thousands of hydrants which would "dot the map" of our City. Still the Commissioners have bestowed great pains on this subject; and not only in collecting facts to show the revenue the work will yield, but also, apparently, to bring their estimate to the least possible amount: And, yet, on the supposition that the water will be taken by only one half of the dwelling houses, and after putting the price, not only to them, but to all factories and business establishments, at the lowest rates, they shew a revenue of more than \$310,000 per annum; an excess beyond six per cent. upon the estimated expenditure. This Committee believe, and from the facts stated by the Commissioners, that the above estimated amount of revenue will, in reality, be doubled, and from the sources enumerated by the Commissioners. But should revenue fail from those sources, and it is impossible that it should, the supply of water for the extinguishment of fire, would so reduce the risk of loss by fire, and, of consequence, the rates of insurance, as to warrant a tax to pay the debt; and the savings of insurance would, in a few years, pay off the debt, without regard to the savings from loss by fire above stated. But no tax will be required, and instead of the city being obliged to pay six per cent. on the water loan, the money can be got at an interest of four per cent. and even less,—for twenty or twenty-five years.

In addition to the several all important considerations above enumerated, for undertaking this great work—and they are but a few of those which might be urged, and of those which are presented in the reports of the Commissioners—it is a remarkable feature of the work, that as the benefits, and com-

forts, and luxuries, and blessings, it will confer will be common to all classes of our citizens, of every lot and condition in life, so will be the benefits of the business it will create in its execution, and the expenditure of the millions it will occasion. The cost of this work will consist almost entirely of labor: Even the value of the materials that will be used will consist in the labor bestowed upon them. And the whole of the labor and the materials will be furnished by the two counties of New-York and West Chester. The large sums which in each week will be expended, will be paid to several thousands of our own citizens, to whom employment will be furnished for four years in succession, on the labor of the work; and the money will regularly each week return to the City, to reward the industry of other classes of our citizens at home, giving energy to enterprise and vigour to exertion.

The Committee humbly trust that the period has now arrived when the disgrace of her water shall be wiped from this proud City; and if the last to act, she shall no longer be considered the least in the splendour and magnificence of the work by which one of the greatest of human blessings shall be secured to her present and future generations. We are now behind the age. The examples of Philadelphia, and even the small cities on the Hudson are our reproach. No city in Europe, of half our size, is without its fountains brought from distant hills or rivers, and even the Turk, performing the rites of his infidel religion, bathes at Constantinople in waters brought from the mountains, at the estimated expense of 50,000,000 dollars. With the most earnest hopes that this work will now be commenced and pressed on with all zeal to its accomplishment, this Committee recommend the following resolutions for adoption by the Common Council:

*Resolved*, That the plan adopted by the Water Commissioners for the City of New-York, for supplying the City of New-York with a sufficient quantity of pure and wholesome water, for the use of its inhabitants, and described in their report made to the Board of Aldermen on the 16th day of February last, be, and the same hereby is approved.

*Resolved*, That a poll be, and hereby is appointed to be opened on the days upon which the next annual election for Charter Officers for this City, is by law appointed to be held, to the end, that the Electors may express their assent or refusal to allow the Common Council to proceed in raising the money necessary to construct the works as aforesaid, by depositing their ballots in a box to be provided for that purpose in their respective Wards, according to the provisions of the act "to provide for supplying the City of New-York with pure and wholesome water," passed May 2, 1834.

Most respectfully submitted, this 4th day of March, 1835.

JOHN I. LABAGH.

WM. C. WALES.

ROBT. C. CORNELL.

LAMBERT SUYDAM.

HORACE HOLDEN.

WM. SAML. JOHNSON.