

# THE CITY RECORD.

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## THE CITY RECORD.

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GEORGE B. McCLELLAN, MAYOR.

JOHN J. DELANY, CORPORATION COUNSEL. EDWARD M. GROUT, COMPTROLLER.

CHARLES S. HERVEY, SUPERVISOR.

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### BOARD OF ESTIMATE AND APPORTIONMENT.

MINUTES, BOARD OF ESTIMATE AND APPORTIONMENT, CITY OF NEW YORK, COUNCIL CHAMBER, CITY HALL, FRIDAY, DECEMBER 18, 1903.

The Board met in pursuance of an adjournment.

Present—Seth Low, Mayor; Edward M. Grout, Comptroller; Charles V. Fornes, President, Board of Aldermen; Jacob A. Cantor, President, Borough of Manhattan; J. Edward Swanstrom, President, Borough of Brooklyn; Louis F. Haffen, President, Borough of The Bronx; Joseph Cassidy, President, Borough of Queens; George Cromwell, President, Borough of Richmond.

Hon. Seth Low, Mayor, presiding.

The minutes of meetings held September 30, October 5, 7, 8 and 9, 1903, were approved as printed, and the reading of the minutes of meetings held October 12, 14, 15, 19, 22, 31, November 13, 20, December 1, 4 and 11, 1903, was dispensed with.

The Mayor presented the following communication submitting report transmitted by the Commissioner of the Department of Water Supply, Gas and Electricity of the Special Commission of Experts appointed to report upon the questions relating to the City's water supply, and as to the sources from which a largely increased supply can be obtained, which was ordered on file.

CITY OF NEW YORK—OFFICE OF THE MAYOR.

*The Honorable the Board of Estimate and Apportionment:*

I have the honor to submit herewith the report, transmitted to me by Commissioner Monroe, of the Department of Water Supply, Gas and Electricity, of the Special Commission of Experts appointed by him to report upon all questions relating to the City's water supply, and especially as to the sources from which a largely increased supply can most advantageously be obtained. The Commission consisted of Professor William H. Burr and Messrs. Rudolph Hering and John R. Freeman. Their work has been done thoroughly and well, and I take advantage of this opportunity to make my acknowledgments to them for the zeal and industry with which they have carried to completion, in a few months, an inquiry so vital to the welfare of the City. No one can read their report without perceiving that it is the report of men thoroughly familiar with the terms of the problem requiring consideration, and highly competent to deal with it.

A study of the report will make it clear to every candid mind at all familiar with the situation that preparation for a largely increased water supply for the City is immediate and urgent. I wish to place myself on record, as earnestly as possible, in support of this view.

Under the most favorable circumstances, it is estimated that it will take five years to bring water from the northern and trans-Hudson watersheds, so as to add the first sixty million gallons per day to the present supply. The report includes special recommendations for all the boroughs, but the creation of a new high service gravity system from the north is the main feature of the report. This water is to be made available to increase the supply for Brooklyn and Queens, as well as for Manhattan and The Bronx. When all the elements of the problem are considered—the magnitude of the work, the fact that it will have to be carried on in various counties of the State, some of them at a long distance from the City, with all the chances of delay that are incidental to such an enterprise—it may easily be nearer ten years than five before the proposed increase of supply is actually available, even if the work of extension should be begun at once. I venture to urge this matter, therefore, upon the incoming authorities of the City, as second in importance to nothing with which they will have to deal.

The sources of increased supply recommended by the Commission are clearly summarized in their own report, and it is not necessary for me to repeat them here. It is enough to point out that the Commission were instructed to confine their inquiry to watersheds lying wholly within the State of New York, as only such watersheds can be availed of with certain freedom from the delays incident to litigation

that may be taken to the Supreme Court of the United States. It is an interesting circumstance that, up to this time, that tribunal has not yet defined the extent to which one State may use water originating within its borders that flows out of it into another State. This question is now in litigation before the Supreme Court of the United States, between the States of Colorado and Kansas, growing out of the use by Colorado of interstate water for purposes of irrigation, and, as a result of this litigation, this question may finally be passed upon. But until this question has been determined by the Supreme Court of the United States any attempt on the part of The City of New York to use interstate waters would be to invite needless delay and very costly litigation.

The Commission, in addition to reporting upon the most available sources for an increase of supply for the various boroughs, have dealt with other questions of prime importance. First, with the subject of waste; second, with the subject of pumping; and, third, with the subject of filtration. On the subject of waste, the conclusion of the Commission is:

"That the greatest possible saving by reduction of waste and by decreasing extravagant use will not more than provide for the natural increase in demand (during the construction of the new works) due to the growth of the City, and it may not be sufficient for that; hence the construction of an additional supply should be undertaken at the earliest practicable moment."

The methods suggested for the reduction of waste involve important changes in the plumbing regulations of the City, so as to avoid the installation of water in new buildings with hot and cold water pipes side by side. When such pipes are close together, much water is wasted in the effort to secure either hot water or cold. They also propose an enlarged use of meters, especially in buildings over five stories in height, and urge a system of thorough inspection throughout the entire City. The actual leakage from defective street mains has been found to be much less than many have supposed. Unless the methods suggested are resorted to, it is evident that the amount of water that can be saved by the stoppage of waste is very limited.

One of the most striking sections of the Commission's report is that which deals with the subject of pumping. Through the development, in recent years, of the higher territory in Manhattan and The Bronx, about twenty per cent. of the Croton water has now to be pumped, in order to supply buildings on high ground. In Brooklyn and Queens boroughs all the water is pumped, and a part of the Brooklyn supply has to be pumped four times.

"Greater New York maintains thirty-two pumping stations, including eighty-six pumps, and its present daily pumpage is 160 million gallons. \* \* \* About 75,000 tons of coal are burned each year, and \$12,000 per year expended for oil and petty supplies."

The Commission make detailed suggestions for the concentration of pumping at fewer stations, and for the adoption of the most modern and efficient machinery; as a result of which they estimate that, through an expenditure of about \$1,000,000, a saving in the expense account of about \$300,000 per year can be effected. I have seldom seen a more impressive demonstration of the economy of using new machinery, as compared with the machinery of twenty or thirty years ago, than is contained in this section of the report. No part of the report is better worth careful study by those who are to be responsible for the Water Department.

On the subject of filtration, the Commission recommend that arrangements be made, as rapidly as possible, for filtering all the water used in the City, and they point out in detail how this can best be done. The water now in use in the different boroughs is, on the whole, fairly good; but the conditions surrounding the sources of supply in some quarters make it more and more difficult to keep it wholly free from contamination. The water, moreover, is often turbid, and contains objectionable organic growths. While such foreign matter is not necessarily deleterious to the public health, it makes the water more or less unpalatable. Advances in filtration of public water supplies have been rapidly made in the past few years, and predetermined results can now be obtained. The cost is far from prohibitive, and I know of no expenditure of equal amount which would add so materially to the health and comfort of the City as the filtration of its water supply.

The report of the Commission is naturally limited to the engineering and physical aspects of the problem, and to the probable cost. It seems to me desirable, however, to say a few words as to the financial ability of the City to undertake the proposed extension of its water works. The report of the Commission contemplates an ultimate enlargement of the City's supply, from the north, to the extent of an additional 500 million gallons per day. It is estimated that this supply, with all necessary aqueducts, reservoirs, filtering basins and pumps, can be procured for \$100,000,000; and that it will suffice to supply the needs of the City for the next twenty-five or thirty years. The new aqueduct, to be immediately built, must be built large enough to carry this ultimate quantity. As a consequence, it is estimated that the first addition of 60 million gallons daily will cost \$39,000,000; for the further increase of 260 million gallons daily the additional expenditure necessitated will be a further \$21,000,000. In other words, for an outlay of \$60,000,000 an additional supply equal to the present Croton supply can be had. The remaining \$40,000,000 necessary to secure a still further addition of 200 million gallons daily need be spent only from time to time during the next twenty-five years.

As bearing upon the possibility of financing this large improvement, I ask your attention to the fact that a constitutional amendment is to be voted upon next November, which, if it be adopted, will exempt all water bonds of the City, issued after January 1, 1904, from the ten per cent. debt limitation of the State Constitution. The necessity for this exemption was foreseen by Comptroller Coler, and it is due to his efforts, as I understand, that the proposed amendment received the necessary assent of the first Legislature. When it came up for adoption the second time, by the Legislature of last winter, in accordance with the State Constitution, it came into direct conflict with another provision of that instrument, which provides that whenever any question of expenditure for the enlargement of canals is to be submitted to popular vote no constitutional amendment shall be pending. When the Legislature ordered the submission of the canal question to the voters this year, it was at first thought that the pending water debt amendment must fail. A happy suggestion of Corporation Counsel Rives, however, saved the day, and averted the necessity of commencing again the tedious process of securing the submission to the people of the amendment desired by the City. He pointed out that the Legislature was entirely at liberty, in approving the proposed amendment, to order its submission at any election which it pleased. The last Legislature, therefore, gave its approval to the amendment, and ordered it to be submitted to the people in November, 1904. I need scarcely point out to the City the importance of securing favorable action upon this amendment when it is submitted to the popular vote.

The present annual income from water revenues, for the whole City, is substantially..... \$9,000,000 00  
The cost of maintenance is substantially..... \$2,600,000 00  
Interest..... 2,600,000 00  
5,200,000 00

Showing a balance of..... \$3,800,000 00

There are outstanding, in round numbers, \$77,000,000 of water bonds, for all parts of the City. Assuming a sinking fund at 1 per cent. for 50-year bonds, the amount annually required for this purpose would be \$770,000. This shows a net profit from the present water works of something over three millions of dollars, on the basis of present earnings. If it be assumed that the money necessary for the new water works can be borrowed at 3 1/4 per cent., and that 1 per cent. is necessary to provide a sinking fund, a supply more than equal to that now available for Manhattan and The Bronx can be had for an annual charge of \$2,550,000. The figures are:

Interest on \$60,000,000 at 3 1/4 per cent..... \$1,950,000 00  
Sinking fund provision, \$60,000,000 at 1 per cent..... 600,000 00  
\$2,550,000 00

Total.....

In other words, the profit on present earnings from water revenues would more than pay for the new enlargement up to the extent of \$320,000,000. The income from water revenues has increased during the last two years at the rate of \$450,000 to \$500,000 per annum. There seems to be no reason why the water revenues should not increase at the rate of \$450,000 annually until the maximum supply is distributed. Every such increase would be largely net profit. It may, therefore, be safely assumed that the new water supply will pay for itself as easily as the present water supply does. It will not only do this, but it will pay, as the present supply would, for the cost of filtration. The Commission have not had time to go into these figures as regards the present Croton supply; but the cost of the filter plants is included in the cost of increasing the present supply by the amount of 320,000,000 gallons daily, viz., \$60,000,000.

I conclude, therefore, that not only is the need for the enlarged supply immediate and urgent, but also that the new system will be more than self-supporting.

SETH LOW, Mayor.

New York, December 18, 1903.

CITY OF NEW YORK, November 30, 1903.

Hon. ROBERT GRIER MONROE, Commissioner of Water Supply, Gas and Electricity:

SIR—In accordance with the terms of an agreement made with the Department of Water Supply, Gas and Electricity on December 16, 1902, this Commission was created to "make a thorough, complete and exhaustive examination and investigation of" certain subjects connected with an additional supply of water for The City of New York, as expressed in the following instructions embodied in that agreement:

A. The quickest and best method of reducing the waste of water in the City to the lowest practicable amount, the quality of water derived from the various present sources of water supply, with recommendations as to the most practicable means of improving such quality, the pressures in the distribution of the present supplies of water, and of any future supplies, and the methods generally for such distribution for the purpose of attaining the highest practicable degree of fire protection.

B. The probable future consumption of water in each of the boroughs of the Greater New York up to such time as shall seem best to the Commission, giving due consideration to the probable increase of population and its consumption per capita, and of the reduction of waste by the efficient execution of the methods therefor proposed by the Commission.

C. The future sources of supply for the City which shall be most available from the point of view of cost and quality of water to meet the probable future conditions of the City, with the estimated cost of each, the probable yield of water from each and the length of time required to complete each, with general plans and specifications.

D. The feasibility of developing a temporary and supplementary supply of water of comparatively moderate cost, pending the completion of the permanent future supply.

This Commission having completed the work of investigation and examination, as set forth in the preceding instructions, presents herewith its final report.

Prior to the date of the formal creation of the Commission a number of meetings were held to arrange the general scheme of its operations so that the different branches of work might be effectively begun on the date of formal appointment. Since the inception of the Commission's work there have been held seventy-one stated meetings and visits of personal inspection in the field at the points of operations of the various engineering forces, besides many informal conferences with the heads of departments and visits of inspection to the works completed and in progress of the Metropolitan Water Supply of the City of Boston, as well as at other points where useful information bearing directly upon the work of the Commission could be secured. Papers and reports of investigations bearing upon the general problem of additional supply for New York have been examined and made use of wherever they could be found.

The area covered by the present City of New York is about 300 square miles and about one-quarter of it only is served with public water supplies. The population of Greater New York is about 3,700,000, of which about 1,900,000 are found in the Borough of Manhattan, 1,290,000 in the Borough of Brooklyn, 268,000 in the Borough of The Bronx, 183,000 in the Borough of Queens, and 73,000 in the Borough of Richmond. The total population in the City is increasing at the rate of 33 per cent. in ten years. The most rapidly growing borough is The Bronx, where the population is increasing at the rate of about 120 per cent. in ten years. With the completing of the bridges and tunnels across the East river, a much more rapid growth in the boroughs of Brooklyn and Queens must be anticipated and provided for than shown by recent growth.

The boroughs of Manhattan and The Bronx are supplied almost entirely by water from the Croton watershed, having a drainage area of about 360 square miles, a small amount being supplied from 22 square miles of the Bronx and Byram rivers. When the new Croton dam is completed the total available storage capacity in the Croton watershed will be about 70,000,000,000 gallons. The present (November, 1903) draft from the Croton supply is at the rate of about 272,000,000 gallons per day, and about 13,000,000 gallons per day from the Bronx and Byram supply.

Two aqueducts are available for conveying Croton water to the City, the old Croton aqueduct having a capacity of about 80,000,000 gallons per day and the new Croton aqueduct having a capacity of about 300,000,000 gallons per day. The old aqueduct in its present condition can, however, scarcely be considered available except as a resort in case of emergency. The new aqueduct is practically the sole reliance of The City of New York for the conveying of water from the Croton basin to the distributing system.

Inasmuch as the area of the Croton basin is about 360 square miles, and as it is rarely safe to depend upon an average maximum draft greater than 750,000 gallons per square mile per day from such a watershed, even with the storage fully developed, it is evident that the boroughs of Manhattan and The Bronx are already drawing from the Croton supply an amount dangerously close to the limit of its yield in ordinary years. The current season has been one of phenomenal rainfall, and the dangerous shortage of this portion of the water supply of New York City has been obscured. If the City should experience either one year of low rainfall or, still worse, two such years in succession, as has occurred a number of times in the near past, the capacity of the Croton basin would be exhausted unless the consumption were restricted. It will be shown later in this report that any practical retrenchment due to the restriction of preventable waste cannot be relied upon to give substantial relief from this condition of exhaustion of the Croton supply.

The Borough of Brooklyn secures its supply from the surface waters and ground waters of Long Island. Some of the surface waters are rapidly becoming so polluted that they will not be safely available much longer, but the ground waters can be developed to a greater extent than heretofore. A large portion of the Brooklyn supply is taken from shallow and deep wells penetrating the saturated sands underlying the surface of the southerly portion of Nassau County. The demands of this borough have already exceeded the present supply and additional works are being constructed for the purpose of securing an increased quantity of ground water. The completion of the works at present contemplated will give but a small relief. Other additional supply in large amount must be secured in the immediate future.

The needs of the Borough of Queens are probably more immediately pressing than those of any other part of The City of New York. Its present supply is derived from the ground water secured from wells driven within its limits, the yield being both insufficient in quantity and unsatisfactory in quality. It is imperative that its supply should be increased at the earliest practicable date from some source yielding a sufficient volume of pure water.

The Borough of Richmond is also in need of an improved supply, which it is not practicable to obtain within its own limits. Its present supply is from wells driven on Staten Island, some of which yield water of poor quality and of insufficient volume.

In all parts of the City, therefore, it is seen that the demands are either equal to or greater than the present supply in a year of low rainfall. Although the Croton water is of fair quality for a surface water, it may be stated that not in any one of the boroughs is the quality of the water as excellent as it should be.

Modern advances in the sanitation of public water supplies are such as to indicate with a force equivalent to demonstration that there are few, if any, public supplies of surface waters of sufficiently high degree of excellence in all respects to obviate the necessity of filtration. The general problem before this Commission is therefore to provide for Greater New York such sources of additional water

supply as will make abundant provision for a long period in the future both as to abundant quantity and satisfactory quality.

Since the completion of the new Croton aqueduct there have been no systematic investigations for the purpose of finding sources of additional water supply for The City of New York accompanied by extended and accurate surveys. It has been known that the Housatonic river yields an abundant quantity of water for such a purpose, and that it could be brought to the distribution system of the City without serious difficulty or relatively great expense. Also that a smaller quantity could be obtained from Ten Mile river. The Catskill and Adirondack Mountain streams and filtered water from the Hudson, near Poughkeepsie, have been recognized as available, but complete quantitative investigations of an extended character have not before been undertaken. The most comprehensive examinations of a general character which have been completed are those of Mr. John R. Freeman in his extended "Report upon New York City's Water Supply," made to Hon. Bird S. Coler, Comptroller, 1900, and "An Inquiry Into the Conditions Relating to the Water Supply of The City of New York," conducted by a number of eminent engineers and others of The City of New York for the Merchants' Association of New York, 1900. These two reports contain a mass of most valuable information relating not only to the present water supply of the City, but also to sources available for the contemplated additional supply, and the information contained in them has been constantly used in these investigations.

This Commission has been limited in its operations to the drainage areas of streams lying wholly within the State, by instructions transmitted to it through the Commissioner of Water Supply, Gas and Electricity from the Corporation Counsel. These instructions, given for the purpose of avoiding any interstate litigation, have prevented this Commission from considering streams like the Housatonic or Ten Mile rivers or other interstate streams which have hitherto been regarded as available for the purposes of additional supply.

The wide scope of the investigations to be undertaken by the Commission made it necessary at the outset of its work to appoint a large force of engineers, biologists, chemists and others. The organization was completed by dividing the main portion of its work into six departments, at the head of which were placed engineers of extended experience in similar recent large water works constructions near New York, Boston, Philadelphia, Eastern New Jersey and elsewhere. These departments were:

1. Aqueduct and Reservoir Department, E. G. Hopson, Engineer.
2. Catskill Department, Walter H. Sears, Engineer.
3. Filtration Department, William B. Fuller, Engineer.
4. Chemical and Biological Department, George C. Whipple, Engineer.
5. Long Island Department, Walter E. Spear, Engineer.
6. Pumping Department, Will J. Sando, Engineer.

There was also assigned to the Commission the investigation of the waste of water in the City. This, however, had already been begun in the boroughs of Manhattan and The Bronx by Mr. Nicholas S. Hill, Jr., Chief Engineer, and it was found advisable to co-operate in and make use of his operations in the regular work of the Department having charge of valves, meters and distribution pipes, rather than to establish a department for the independent study of this question. Mr. I. M. De Verona, Chief Engineer of the Borough of Brooklyn, also inaugurated similar investigations in that borough. The Commission has made use of the results of both of these fields of investigations in its conclusions.

A detailed statement of the organizations made in the six chief departments of the Commission's work will be found in Appendix XI.

#### Water Waste.

One of the first subjects to which the attention of this Commission was directed was that of water waste and its prevention. At the preliminary meeting of the Commission on December 8, 1902, a conference was had with the Commissioner of Water Supply, Gas and Electricity, at which Mr. N. S. Hill, Jr., Chief Engineer of Water Supply for Manhattan and The Bronx, presented a full explanation of the work that he was inaugurating for the measurement of water consumption and waste in typical districts by means of the pitometer, an instrument recently perfected and made convenient for practical use.

A public hearing was given by this Commission, at the request of the Citizens' Union, on Tuesday, December 23, at 3 p. m., at the City Hall, at which several prominent citizens presented their views and suggestions upon the subject of water waste and its prevention. The statements were chiefly of opinions and suggestions. These statements emphasized the need of the house-to-house inspection for leaky fixtures. The views expressed at this hearing were given due consideration by the Commission in planning its work.

The plans of the Chief Engineer received the hearty approval of this Commission, and it became plain that the work of water waste investigation could be best carried on through the regular channels of the Department of Water Supply, Gas and Electricity, mainly because of its having at its command the corps of men most familiar with the locations of the pipes and gate valves. Moreover, many of the data necessary for this work could best be secured in connection with the work of preparing new plans and records of the pipe system already begun by the Chief Engineer of the Department.

The organization of a new corps for this work, necessarily made up of men unfamiliar with the details mentioned, would have involved much additional expense and delay, and would have taken much of the Commission's time away from its pressing duties connected with the organization of investigations for new sources of supply. This Commission has therefore relied for its data on water waste in Manhattan and The Bronx upon the researches and observations made under the Chief Engineer, who from time to time promptly placed the results of his studies on this subject before the Commission. The methods and results have been the subject of frequent conference. From his oral and written reports and from the sheets of computed results, the account of the methods and results presented in Appendix IX. has been prepared.

#### Scope of Work.

It was obviously impossible, within the time and means available, to explore the mains and service pipes and house plumbing throughout the entire City, and the work of investigation was therefore concentrated upon certain typical districts in different parts of the City. These comprise a principal hotel district with large transient population, two residential districts with houses of an expensive class, two east side tenement house districts, two large downtown commercial districts having a large day population but a small population by night, a few others of intermediate grade and two typical districts in The Bronx, one of which contained the large railway terminal yards at Harlem.

There were two distinct branches of inquiry, one along the street mains and the other along the house pipes or plumbing; the first comprised a measurement of the quantity of water delivered daily into each district and the observation of its rate of draught continuously day and night, so that the mean rate of flow in working hours could be compared with that in the quietest hour of the night and also on Sunday; the second inquiry comprised an inspection and search for leaky plumbing fixtures within each house of the district, including a measurement of the rate of each leak, where possible, by catching the escaping water in a small measure.

The street measurements were supplemented by an examination of the operative condition of the gate valves on the mains around the margin of the district, and a record of their location and of the number of turns of the wrench required to open each; meanwhile the gates found defective were repaired or replaced.

The house-to-house observations of leaky plumbing were supplemented by obtaining a variety of data upon the absence of ball cocks on tanks, the size of house tanks, the indications of waste through tank overflow pipes and a variety of other data that will be found in the appendix.

The street measurements and the house measurements were further supplemented by an examination of the rate of flow after midnight in the sewers of the district, in the course of which the spur from every building was inspected for signs of leakage so far as practicable. The Inspector reported that the night sewer flow in most sections was surprisingly small in view of the large night flow shown by the pitometer measurements, indicating that the night flow was due largely to refilling tanks.

#### Methods of Measurement of Consumption and Waste.

The method of measurement of the rate of draught of water by each district consisted in cutting the main pipes of this district off from those of the surrounding territory by closing the gate valves on the street mains crossing the boundary and

thus concentrating the inflow into a single pipe or into the smallest number of feed pipes practicable. The rate of flow was then measured and recorded by means of a pitometer in the form of a continuous diagram, which shows this rate of draught per minute throughout the twenty-four hours. With ordinary occupancy and ordinary conditions it is found that the real use of water between 3 a. m. and 4 a. m. is very small, and that the large and uniform draught of water night after night at these hours indicates leaky pipes or leaky fixtures.

It is obvious as a matter of general experience that very few persons draw water between 2 a. m. and 4 a. m., and that the non-resident suburban population is then absent from Manhattan, but there are peculiar conditions in this borough that may lead to a large legitimate night draft. Chief among them is the use of large house tanks, many of which were put into the upper stories of buildings just below the hydraulic grade in districts where the pressure in the street mains is drawn down by day. These tanks may refill by gravity during the night after the pressure rises with the lessened draft.

Unfortunately, local conditions did not permit these district measurements to be made so elaborately in detail as has been found practicable in other cities. The principal limitations were:

First—It was not deemed prudent to test the tightness of the shut-off of the pipes of the districts under test from those of the adjacent territory, completely closing the feed pipes into the district for a half hour more or less after midnight, and opening hydrants, lest damage be caused by collapse of house boilers, or lest damage be caused to those who legitimately use large quantities of water at night in almost every district. The engineer in charge, however, made other examinations for testing the completeness of isolation. The same reasons appeared to forbid, save in a few instances, shutting off street mains within the district, block by block, after midnight, noting the time of closing and opening these gates for subsequent comparison with the continuous chart of flow to see if the flow of water dropped or rose at the same time, thereby indicating the presence of a leak on the section shut off.

Second—There is an almost universal absence of curb stopcocks on the service pipes into buildings so that it is not possible to shut these off in succession along a street after midnight, noting the time and listening by a "waterphone" for the hissing sound denoting flow when the cock is nearly closed, and subsequently comparing these times of shut-off with the autographic chart of the district meter.

Third—The extensive use of large house tanks already mentioned interfered with the interpretations of the measurements, and therefore it is uncertain how much of the night flow after 3 a. m. goes to refill these tanks, particularly those tanks set nearly at the level of the hydraulic grade line, which is below the water surface in the tanks by day and above it at night. It is obviously impracticable to inspect the height of water in any large number of these house tanks during the night.

Fourth—The absence of ball-cocks on the feed pipes of a large proportion of all the house tanks in the City, thus permitting them to overflow through the waste pipe, adds an amount to the flow after midnight, and perhaps earlier, which is difficult to estimate.

Notwithstanding the above limitations a large amount of valuable data has been secured in the prosecution of these measurements, the principal results of which are condensed into tabular form in Appendix IX.

#### Street Mains Generally Not Leaky.

New data on the probable waste from leaky street mains have been secured during the past two or three years in connection with the large amount of street excavation carried on for electric subways and rapid transit tunnels. The Department Inspectors are said to have carefully followed the progress of all such excavations, and although notable leaks have been occasionally discovered they have been few and the leakage small in proportion to the large extent of pipes thus exposed.

#### Conclusions Regarding Water Waste.

The data found in the course of these investigations, described briefly above and more fully in the appendix, appear to justify the following conclusions:

First—The leakage from the mains is much less than heretofore supposed. The distribution system of New York needs many new gate valves and hydrants to bring it into satisfactory condition, but the deterioration of the street mains is not such as to require extensive renewals to prevent waste.

Second—The main sources of waste are probably leaky plumbing fixtures, the overflowing of tanks not provided with ball-cocks, defective plumbing design and possibly abandoned service pipes.

The house to house inspection in typical districts in the Manhattan and Bronx Boroughs indicates that the loss from leaky plumbing fixtures probably exceeds 15 per cent. of the total supply, or upward of 40,000,000 gallons per day.

The omission of ball-cocks on tank feed pipes can be remedied by more stringent regulations of plumbing through proper ordinances and inspection. The waste due to leaky fixtures can be largely reduced by the universal application of water meters to the house service pipes or by constant inspection, or best by both combined. That much reduction of waste certainly has been accomplished in the typical districts tested during the last twelve months is demonstrated by the returns of the Chief Engineer submitted to us. The permanency of this reduction can only be secured by the continuance of the system of house to house inspection.

Under the usual and defective design in plumbing, hot and cold water pipes are placed side by side as run through the house, without proper circulation, requiring the waste of large quantities of water before securing either the hot or cold water desired. We do not believe it feasible to reduce materially that extravagant use of water due largely to this defect in the plumbing design in present structures, because of the great expense of changing the pipes and the trouble to householders, but a careful revision of the plumbing laws should remove this cause of waste in all future plumbing.

Third—The reduction of all waste is effectively aided by the use of meters, which tends to make each householder an inspector of leaks and thus bring prompt remedy for all obvious waste from leaky fixtures, and furthermore lessens the temptation to waste water at night for fear that poorly protected pipes may freeze, and lessens the tendency to waste large quantities of water while trying to obtain cooler water from the pipes.

The Commission strongly recommends that the use of meters be extended to other classes of buildings than those now metered, and particularly that all buildings more than five stories in height be metered at the earliest practicable date. This will cover the large modern apartment houses, which now being on frontage rates pay an inadequate return to the City for the water used, and are prolific in water waste.

All meters should be owned, installed and maintained by the City and tested at regular intervals in order to secure reasonably effective service from them. The many cases where connections back of meters have been discovered by the Chief Engineer during the past year prove the unwise of permitting meters to be set by other than the employees of the Department.

Fourth—The recent measurements of water delivered and the analysis of the statistics of the Water Registrar's office for typical districts investigated demonstrate the absolute unfairness of the frontage charges, leading to marked inequality of burden on users in different portions of the City. This is most manifest in connection with the large apartment houses covered by our recommendation to extend meters to all buildings over five stories in height.

Fifth—These investigations have also demonstrated the necessity of considering the great transient population of the City when accounting for the per capita consumption. It is estimated by the Chief Engineer of the Department of Water Supply, Gas and Electricity that about 600,000 people come into Manhattan daily, and that while the per capita use and waste for the borough is 129 gallons, if based on the resident population, it becomes 100 gallons if based on the combined resident and non-resident population.

In the special census taken by the employees of the Water Department, during the investigations of waste in each of the four typical districts, the term non-resident was used as covering those non-resident to that district. In District No. 1, for example, it not only covered the hotel population, but also the proprietors, clerks, milliners, dressmakers and other employees of the large shops, possibly a majority of whom lodge in the Borough of Manhattan. In this residence and hotel district the per capita consumption was found to be 175 gallons based upon the resident population and 121 gallons based upon the combined resident and transient population.

In the case of District No. 8, comprising the entire territory below Fulton street, filled with offices and commercial establishments, the non-residents were enumerated

by counting the regular occupants of each office, shop, store or other building. The per capita consumption of this district was 860 gallons per day when based upon the resident population and 83 gallons per day when based upon the combined resident and non-resident population.

These investigations exhibit in a marked manner the effect of non-resident population on the per capita consumption of a given district. On the other hand the fact that the non-residents of one district are frequently the residents of another renders it impossible to draw conclusions for the Borough of Manhattan from the data of individual districts in it. Results applicable to the borough can only be obtained from data covering the population resident and non-resident to the entire borough.

Sixth—These investigations indicate that the greatest possible saving by reduction in waste and by decreasing extravagant use will not more than provide for the natural increase in demand due to growth of the City, and it may not be sufficient for that; hence the construction of an additional supply should be undertaken at the earliest practicable moment.

Seventh—This Commission finds the present average daily draft from the Croton sources to be so close to the utmost quantity that these can be relied upon to yield in a year of drought, that the natural growth of the City and the legitimate natural increase in the consumption per capita during the five years or more that must elapse before the additional supply can be ready for delivery may bring the City to the verge of a water famine should years of low rainfall occur, unless effective means be taken to restrict waste and lessen extravagant use. In the event of a drought it might even become imperative to throttle the supply of the distribution system.

#### Quantity of Water and Size of Aqueduct.

The quantity of water required for the additional supply of New York City within a given period of years will depend chiefly upon the increase of population during that period and the consumption per head of population. The investigation of the probable increase of population in the entire City has shown that by 1930, if not sooner, it is reasonable to expect a total population in all the boroughs of Greater New York of about seven millions of people, or nearly three and one-half millions more than the population of 1903. It is a matter of experience that even when preventable waste of water is reduced to a minimum, the demand per head of population increases with the lapse of time. The use of water induces a more lavish use even for those purposes which must be considered legitimate and not wasteful. There may be reasonable doubt as to the amount of water to be required per head of population in The City of New York during the next twenty-five years, but even if measures for the restriction of waste are efficiently enforced, there are strong reasons for believing that the average quantity required over and above the preventable waste will increase to a substantial extent during that period of time. The Commission believes that it is not excessive to base an estimate of future requirements which the additional works must supply on 150 gallons per day for each member of the population. If that amount be assumed for purposes of computation, the additional quantity required will be 3,500,000 by 150, or 525,000,000 gallons per day, in addition to the quantity required by the increase in per capita consumption of the present population, amounting to about 85,000,000 gallons daily. It is certain that a part of this additional supply, covering a portion of the increased amount required for the Borough of Brooklyn, will be taken from the ground waters of Long Island. The amount to be secured cannot be accurately estimated at this time, but it may reach from 25,000,000 to 50,000,000 gallons per day from Nassau County. Under this estimate the additional quantity of water to be secured from the north and brought to the City through an aqueduct would be 500,000,000 to 575,000,000 gallons per day not later than 1930, and probably sooner.

It appears therefore that works required for an additional supply of water for The City of New York within the next twenty-five years must have a capacity of not less than 500,000,000 gallons per day. This daily requirement determines the capacity of the new aqueduct.

While it would be feasible to build two aqueducts instead of one, with a combined capacity of 500,000,000 gallons per day, that construction would be much more expensive than a single aqueduct discharging the desired amount. The materials and processes at the command of engineers at the present time make it perfectly feasible, and quite within the limits of reasonable construction, to build a single aqueduct discharging 500,000,000 gallons of water per day when running eight-tenths full.

The aqueduct designed by the Commission for this purpose, as shown by the accompanying plans, is of the usual shape, with the greatest width nearest the bottom. The interior vertical diameter is 18 feet 6 inches and the maximum width 19 feet at about one-quarter of the height from the bottom. This aqueduct section would not ordinarily be expected to flow more than eight-tenths full, i. e., with a depth of water 15 feet 10 inches. It could, however, at the depth corresponding to maximum delivery discharge about 550,000,000 gallons per day.

#### High Level Aqueduct First Required.

Those portions of the Manhattan and Bronx Boroughs which are supplied with the low level Croton service, i. e., from a maximum elevation in reservoirs not greater than 131 feet above mean high tide, already require nearly the full capacity of the new Croton Aqueduct. Furthermore, that supply covers the older portion of the City, which is growing at a comparatively slow rate. On the other hand, that portion of the City which is now supplied by the high service reservoir at High Bridge and the Tower adjacent to it, requiring water to be pumped to an elevation ranging from 280 feet to 320 feet, is increasing at the remarkably rapid rate of over 120 per cent. in ten years. Again, the loss of head is so great in some portions of the low service supply that it has become necessary for great numbers of occupants of all classes of buildings to use small power pumps at much cost to lift water to tanks in the top of buildings. Requirements for fire protection are also increasing, and it will be necessary to extend mains under high pressure for that purpose, probably throughout the length of Manhattan Island. It is also necessary to contemplate the extension of mains across the East River into districts in the Boroughs of Brooklyn and Queens, necessitating materially higher heads than those sufficient for the low service supply as it now exists. Indeed, it may be stated that by far the larger development of water supply for The City of New York hereafter will be such that it can only be supplied from a high level.

This Commission, therefore, recommends that the first works of construction for the additional supply shall be so designed as to bring the water into a suitable reservoir at the northern limit of the City, having its high water surface at an elevation of not less than 295 feet above mean high tide.

An excellent location for this reservoir is at the summit of high ground called "Hill View," in Westchester County, adjacent to the City line, about three miles north of Jerome Park Reservoir. The entire storage capacity would be 2,030,000,000 gallons, and 325 acres of ground would be required. The portion of the reservoir to be constructed first would have a storage capacity of about 600,000,000 gallons.

#### THE WATERSHEDS MOST AVAILABLE FOR FUTURE SUPPLY.

##### Fishkill Creek.

Watersheds possessing the highest degree of availability for increasing the water supply of the City, must, obviously, be so located as to require the least amount of construction work to bring the water into the distributing system. The watershed of Fishkill creek fulfills this condition. It lies adjacent to the Croton shed on the north, and its waters can be secured more quickly than those of any other supply of equal amount, the course of whose flow is located entirely within the State of New York. The chief difficulty to be overcome in securing the Fishkill waters, or those still farther north, and that which controls the shortest time in which a new supply can be obtained, is the large amount of tunnel construction for the aqueduct through the rough, mountainous region lying between it and the Croton shed.

It is feasible to utilize directly without pumping about 81 square miles, or more than one-half of the available Fishkill watershed for the high service plan, by building two reservoirs, one at Stormville, on Fishkill creek, covering 1,694 acres, and having a contributory drainage area of 49 square miles, and one at Billings on Sprout creek, a tributary of Fishkill creek, covering 969 acres and having a contributory drainage area of 32 square miles. The high water surface of the Stormville reservoir would be 372.5 feet above Croton datum, and its storage capacity would be 10,000,000,000 gallons. The elevation of the high water surface of the Billings reservoir would be 372.5 feet above Croton datum, and its storage capacity would be 6,800,000,000 gallons. A reasonable estimate of the yielding capacity of the Fishkill watershed shows

that the 81 square miles tributary to those two reservoirs may be counted upon to deliver at least 60,000,000 gallons of water per day. This would be the first portion of the additional supply available for the City, so that the construction requisite to bring it to the distributing system should be pushed forward to the earliest possible completion. The total area of that portion of the Fishkill watershed available for supplying water to New York is 156 square miles and lies above Brinckerhoff station about six miles easterly of Fishkill Landing.

If at any time in the future the needs of the City should make it advisable to secure the yield of the remaining and lower 72 square miles of the Fishkill watershed, it can be done by constructing a dam across Fishkill creek, near Brinckerhoff, so as to raise the water surface as high as the avoidance of shallow flowage will permit. If the waters of Fishkill creek were to be used to supply the low service system of New York, the construction of this reservoir would undoubtedly be most judicious, but it is not available for the high service gravity development recommended by this Commission, requiring an elevation of water surface of 335 feet at the Stormville filter site, described elsewhere.

#### Wappinger Creek.

The next watershed in geographical order available for increasing the additional supply is that of Wappinger creek, lying north of and adjacent to the Fishkill watershed. The reservoir available for the high service development must be built at Hibernia, where a reasonably good dam site is found. This Hibernia reservoir has a contributory area of 90 square miles. The high water surface of this reservoir would stand at an elevation of 372.5 feet above mean high tide. The area overflowed by it would be 4,350 acres, and its storage capacity would be 30,300,000,000 gallons.

This creek has a total drainage area available for a low service supply of 172 square miles above the point where a reservoir dam for such a plan could be constructed at Rochdale, about six miles east of Poughkeepsie. The elevation of high water in this reservoir would be 271 feet above Croton datum and the area submerged 7,040 acres. It would possess a storage capacity of 47,200,000,000 gallons. If it should be considered advisable in the future to secure the water yielded by the remaining eighty-two square miles of this watershed the dam at Rochdale could be constructed so as to form a great reservoir at that point, from which water could be raised by pumping into the Hibernia reservoir and flow from there by gravity into the high service system.

Also in the watershed of Wappinger creek at Clinton Hollow, about two miles northwest of Hibernia reservoir, on a tributary of the main creek, there is a good site for a dam, where a reservoir having a storage capacity of 13,900,000,000 gallons may be constructed. The area tributary to this reservoir is twenty-six square miles, and the high water elevation in it would be 387 feet. The area submerged at that elevation would be 2,157 acres. In view of this small drainage area, it would not be advisable to construct this reservoir except as a feature of more extended development.

Examinations which this Commission could not complete should be continued on the Jansen Kill, below Silvernails, to determine whether a reservoir below that point may not be feasible so as to connect with the Clinton Hollow reservoir by a short aqueduct mainly in tunnel, rather than to connect Silvernails and Hibernia reservoirs by the aqueduct hereafter described and provisionally adopted for this report. The Clinton Hollow watershed could then advantageously be developed as an incidental feature on the main aqueduct line.

#### Jansen Kill.

Adjacent to the drainage area of Wappinger creek, on the north, lies the watershed of the Jansen kill. At a point called Silvernails, on this creek, about twelve miles northeasterly of Rhinebeck, an excellent dam site is found where the high water surface of the reservoir would be 465 feet above mean high tide. The drainage area tributary to this Silvernails reservoir is 149 square miles, and its storage capacity is 17,200,000,000 gallons, the flowage area of the reservoir being 2,014 acres.

The natural development of these watersheds for an additional supply would be in accordance with their geographical location, viz.: Fishkill, Wappinger, and, lastly, the Jansen kill, the total drainage area, including that of the Clinton Hollow reservoir, being 346 square miles. If the yielding capacity of these three drainage areas be taken at 750,000 gallons per square mile per day the addition to the present supply of the City would be 260,000,000 gallons per day. This estimate is probably lower than would be found under actual development, and it may, therefore, be stated that this additional drainage area east of the Hudson river would give to New York City an increased high service supply practically equal to that which it is now drawing from the Croton watershed, which has substantially the same area.

As shown by a detailed investigation in another part of this report, the waters of the Fishkill and Wappinger creeks and the Jansen kill are materially harder than the Croton water now supplied to the City, in consequence of the large limestone areas found in all three watersheds. It is highly desirable to include in the new system of additional supply softer waters which, mingled with those from the easterly side of the river will bring the average hardness down at least to that of the Croton water. This may be done by taking the waters of Esopus creek.

#### Esopus Creek.

The upper watershed of the Esopus creek lies on the southeasterly slope of the Catskill Mountains, and no limestone is found in all its area. Its waters therefore are of unusual softness. Esopus creek empties into the Hudson at Saugerties after having flowed northerly and parallel to the Hudson from a point immediately back of Kingston. The turbidity occasionally appearing after heavy storms arises from clay banks on a few small tributaries. It can be readily eliminated by protecting these banks.

At a point called Olive Bridge, on the Esopus, about thirteen miles westerly from Kingston, there is an excellent dam site for a larger reservoir, the Ashokan, than ever yet constructed for storage purposes in connection with municipal water supply. This reservoir, as planned, has an area of 5,978 acres, or about 9.34 square miles, and the elevation of its high-water surface is 560 feet above Croton datum.

This watershed is characterized by extensive, steep mountainous slopes and wooded areas of such character that it is safe to estimate its yielding capacity in connection with this reservoir at 1,000,000 gallons per square mile per day. It may therefore be counted as yielding 250,000,000 gallons per day in the system of additional water supply. This, added to the yield of about 260,000,000 gallons per day from the three watersheds on the easterly side of the Hudson, will give a total additional yield of about 500,000,000 gallons per day, even without the Clinton Hollow drainage area. The same amount may also be obtained by substituting the softer waters of Rondout creek for the yield of the Jansen Kill. This fills the proposed 500,000,000 gallon aqueduct to be constructed northward from the City to Stormville, in the Fishkill watershed, through which point the waters from all the additional areas must pass on their way to the distribution system of the City.

The freedom of the upper Esopus drainage area from limestone, its rocks being of a silty character, makes the water of Esopus creek by far the best for municipal use of all the waters available for that purpose under the instructions given to the Commission, except those of the upper Rondout watershed, amounting to about 100,000,000 gallons daily, which are of the same character, and the availability of which will be considered later in this report.

It is the judgment of the Commission that the waters of Esopus creek should be brought down directly to Stormville, and that an aqueduct of about 400,000,000 gallons daily capacity should be completed for that purpose, as soon as practicable after the completion of the main aqueduct between New York City and Stormville. It is recognized that the waters of the Fishkill shed are the first to be secured by the City; but as they are somewhat harder than the Croton supply, the Commission recommends that the Ashokan reservoir should be constructed, and that the aqueduct with the capacity of about 400,000,000 gallons per day should be built at the earliest practicable date, so that even with the subsequent development of the Wappinger creek and Jansen Kill sheds, a desirable softness of the additional water may be secured.

#### Availability of Schoharie Creek.

The upper part of the Schoharie drainage area lies adjacent to and immediately north of the upper portion of the drainage area of Esopus creek, although it forms a part of the western slope of the Catskills, and as its general elevation is greater than that of the Esopus, it is entirely feasible to divert the upper waters of Schoharie creek into the Esopus watershed by means of a tunnel

about 10 miles long through that ridge of the Catskill Mountains which forms the divide between the two drainage areas. The line of this tunnel is shown on the accompanying plans. It runs from the Prattsville reservoir on Schoharie creek to Bushnellville, in the Esopus shed.

The total drainage area of the Schoharie Creek available for diversion into the Esopus Valley is 228 square miles. It is a mountainous district of steep wooded slopes and of such a character as to afford a relatively large run-off. Its high elevation gives it an abundant rainfall, although records to establish the precise yearly amount do not exist. Reconnaissance has shown that reservoir capacity to supply 750,000 gallons per square mile per day from this watershed of 228 square miles can be developed. The average yield to be passed through the diverting tunnel would, therefore, be about 170,000,000 gallons per day.

It has been impossible within the time and means at the command of the Commission to make complete surveys for these proposed storage reservoirs on Schoharie creek, but the reconnaissance shows ten such sites affording storage capacity aggregating about 60,000,000,000 gallons.

The high cost of the necessary diversion work added to the compensation which would have to be paid to satisfy the riparian rights on Schoharie creek and Mohawk river, makes it exceedingly doubtful whether this plan for increasing the additional water supply will ever be executed. There is a large amount of water much more available which can be taken from Rondout creek. Again, in the more distant future it would be economical and entirely satisfactory to take the water of the Hudson river a short distance above Poughkeepsie.

It is essential for the complete treatment of the work before the Commission to set forth the availability of the upper waters of Schoharie creek, but the Commission has no recommendation to make in regard to their diversion.

#### Other Available Watersheds.

The two other streams on the west side of the Hudson river available for additional supply are Rondout and Catskill creeks, the former discharging into the Hudson at Kingston, and the latter at Catskill. The drainage area of Rondout creek lies adjacent to that of Esopus creek on the south, while the drainage area of Catskill creek is immediately north of a portion of the Esopus watershed and east of the Schoharie. The available part of the upper watershed of Rondout creek lies above Honk Falls, near Napanock, and has an area of 131 square miles. The available part of the Catskill watershed lies above East Durham, and has an area of 163 square miles.

#### Rondout Creek.

The water of Rondout creek is of the same excellent quality as that of Esopus creek. This fact and the proximity of the Esopus aqueduct line make it highly advisable that further surveys and investigations should be conducted in this watershed, for the purpose of determining precisely its yield and the cost of its development. The Engineers of the Commission have made sufficient reconnaissances to show conclusively that it is available, but it was not possible to make complete surveys. The Commission recommends urgently that these surveys of watershed, reservoir sites and for the location of an aqueduct connecting with that from Ashokan reservoir to the Stormville filter be immediately completed. The character of this water is so similar to that of Esopus creek that there probably would be no objection to their mingling before reaching the filters at Stormville.

#### Catskill Creek.

The same reasons that limited the operations of the Commission on the Rondout watershed prevented complete surveys and examinations in the watershed of Catskill creek, although reconnaissances sufficient to determine certain of its general features were made. The water of Catskill Creek is not so pure and soft as that of either Esopus or Rondout Creek, and it is subjected to periods of greater turbidity. It is a less desirable addition to the increased supply of the City than either of those two. When the needs of the City in the more remote future require an increased supply over that to be afforded by the three principal watersheds on the easterly side of the Hudson, and by the Esopus and Rondout on the westerly side, it may be advisable to make complete investigations as to the availability of the water of Catskill Creek; but the Commission is clearly of the opinion that its development, if ever made, should follow that of Rondout Creek.

The reconnaissances show an aggregate storage capacity of about 21,000,000 gallons in the Rondout watershed, and about 24,000,000 gallons in the Catskill watershed.

The exact elevations of the high water surfaces in these reservoirs have not all been determined, but they are abundantly high for the high service distribution of New York City, ranging more than 660 feet above Croton datum.

#### The Yield of the New Sources of Supply.

The water available from any watershed is that which flows off in times of flood and during other seasons. This yield or runoff varies much with the slopes and character of the watershed. If the slopes are steep and rocky with little soil to hold back the rainfall, there will be a rapid and large runoff. If, on the other hand, the slopes of the drainage area are gentle, the yield or runoff will not only be less rapid, but smaller in amount.

The three watersheds on the easterly side of the Hudson are, generally speaking, similar in character to the Croton shed, and as they are not far removed from it the general features of the rainfall and runoff are not likely to be much different. The watersheds of the Catskill Mountain region, on the other hand, are essentially different from those on the easterly side of the Hudson. The drainage area of the Esopus has steeper slopes and a surface in general from which storm waters will run off much more rapidly than from the drainage areas available east of the Hudson, and it is of much greater elevation above sea level. From these and other considerations a greater yield per square mile may be expected, and it has been found in our observations. A safe estimate of the greater available runoff from any drainage area for purposes of municipal water supply must be based upon observations of rainfall and stream gaugings extending over a long series of years. Such extended observations, unfortunately, have not been made for any of the watersheds contemplated for the additional supply. Certain comparative deductions may be made from extended observations on other and similar drainage areas not too remote from those under consideration, and not radically different in character. For this purpose the results of the most extended observations available upon the Croton watershed of the New York supply, upon the Sudbury and Nashua watersheds of the Boston supply, those obtained by Mr. Emil Kuehling for the proposed barge canal across the State of New York, those obtained by this Commission from short periods of observation and from other reliable sources, were examined and studied.

The available yield of a watershed is also largely dependent upon the storage capacity or volume which can be developed in it, as the storage reservoirs must hold the surplus flood and other waters until they are needed in seasons of low water. The storage capacity of each watershed considered was, therefore, definitely determined, those capacities for the Rondout and Catskill creeks being of a more approximate character than the others, for the reasons already given.

The following tabular statement exhibits the aggregate amount of storage which it is entirely feasible to create in each watershed:

	Gallons.
Fishkill watershed, 153 square miles	52,680,000,000
Wappinger creek, 172 square miles	52,200,000,000
Jansen kill, 149 square miles	17,150,000,000
Esopus, 255 square miles	101,550,000,000
Schoharie, 228 square miles	65,585,000,000
Rondout, 131 square miles	20,531,000,000
Catskill, 163 square miles	24,488,000,000

The preceding totals for Fishkill and Wappinger creeks include portions available for high service distribution only by pumping, but they are available totals.

As a result of these studies the Commission believes it safe to estimate an available yield of 1,000,000 gallons per square mile per day for Esopus watershed, and 750,000 gallons per square mile per day for each of the others. Those rates of yield will afford the following daily supplies for the watersheds first recommended for high service development, and in the order of their recommendation:

	Gallons Per Day.
Fishkill watershed, 81 square miles.....	60,000,000
Esopus watershed, 255 square miles.....	255,000,000
Rondout watershed, 131 square miles.....	98,000,000
Wappinger creek watershed, 90 square miles.....	67,500,000
Jansen Kill creek, 149 square miles.....	112,000,000
	592,500,000

If the Clinton Hollow drainage area be included, twenty-six square miles should be added to the Wappinger creek drainage area, and 19,500,000 gallons to its daily yield.

It is essential not to overestimate the yield of a given territory in which reservoirs are to be constructed, for the reason that the daily draft of the distribution system will at times deplete the storage and expose a margin around the perimeter of the reservoir. If this uncovered margin is exposed through too long a period, vegetation will spring up on it and prejudice the quality of the water when the reservoir is again filled. It has been found in experience with the Metropolitan Supply for the City of Boston that a daily draft of 750,000 gallons per square mile of drainage area tends at times to keep the reservoir from refilling for periods as long as two years. The Croton records show a similar result, with a daily draft of about 850,000 gallons. This latter result appears to indicate that a somewhat greater yield than 750,000 gallons per square mile per day might be taken on the easterly side of the Hudson, north of the Putnam County hills, but it is considered safer to limit the estimates to that amount. Any additional yield of which the drainage areas are capable will be a corresponding advantage both in quantity and quality by decreasing the period of exposed margins of reservoir.

#### Other Possible Reservoir Sites.

Although the Commission recommends certain specific reservoirs in the drainage areas on both sides of the Hudson, including the great Ashokan Reservoir on the Esopus creek, other possible reservoir sites have been studied in each of the drainage areas considered. It has been the purpose of the Commission to indicate specifically those reservoirs, together with the aqueducts connecting them, leading to the best immediate development in the four drainage areas first available. It is not advisable to construct a large number of relatively small reservoirs, even should such a plan lead to some economy in first cost. Small and shallow reservoirs are easily affected by organic growths, producing disagreeable tastes and odors. They are sensitive to the influence of vegetation, swampy areas and other prejudicial features of reservoir sites. Furthermore, water passes through them in a comparatively short time, so that the sterilizing effect of lying in a large reservoir for a long period is lost. Reservoirs of great capacity, on the other hand, with their increased depth and greater volume of storage, are far less affected by organic growths or by other more or less prejudicial effects in smaller volumes of water. The time required for the passage of water through a great reservoir has a most important influence in sterilizing the water, as most of the pathogenic bacteria in the water of a storage basin will die in two to four weeks. The beneficial effects of the storage of water in reservoirs of great capacity are too pronounced to be ignored, and the Commission has had them constantly in view in devising the system of additional supply.

Sites for reservoirs of large capacity are few on the Fishkill and Wappinger creeks and on the Jansen kill, the principal of which have been selected in the plans outlined. On the Esopus creek, on the other hand, there are a number of good reservoir sites, which it may be judicious to develop in the future, but which are not needed for early construction.

#### Aqueduct Construction Necessary for the Additional Supply of 500,000,000 Gallons Per Day.

The aqueducts required for conveying the water from the watersheds on both the easterly and the westerly sides of the Hudson river, as set forth in the preceding description, will not differ greatly, whatever may be their order of development. The site selected for the filter beds for all waters of the additional supply is at Stormville, on Fishkill creek, about twelve miles easterly of Fishkill Landing, and all waters secured north of that point on either side of the river must be brought to this site for filtration before flowing southward to the City. An aqueduct of 500,000,000 gallons capacity must, therefore, be constructed from Stormville to an equalizing reservoir at the northern limit of the City (Hill View Reservoir). The length of this aqueduct from the Stormville filter beds to the Hill View Reservoir is 49.1 miles, of which 29.2 miles is of the cut and cover type, 17.3 miles of tunnel in the mountainous portion of Putnam County and 2.6 miles of steel pipe siphon in the valleys crossed by that line.

The total fall or loss of head in flowing from the filters to the Hill View Reservoir will vary slightly with the condition of the filters and the elevation of the water in the reservoir, but it will be about 45 feet. The gradient of the cut and cover and tunnel sections of the aqueduct has been made .61 foot per mile, while the gradient of the steel pipe section has been made 2.429 feet per mile, so as to secure maximum economy in construction.

From the Stormville filters one aqueduct of about 400,000,000 gallons capacity will be constructed, first in a northerly and then a northwesterly direction to the Ashokan reservoir. At a point beyond the Hudson the future Rondout aqueduct will join that from the Ashokan reservoir. It is considered advisable to build the aqueduct from this point to the Ashokan reservoir of the full 400,000,000 gallons capacity to meet possible emergencies of operation in connection with the future development of Rondout watershed.

A second aqueduct of about 250,000,000 gallons capacity should be built from the Stormville reservoir to the Billings reservoir. Although the assumed average draft would require the Billings reservoir to be connected with the Hibernia reservoir by an aqueduct having a capacity of only 200,000,000 gallons per day, there are operative reasons given in Appendix I. why it would be advisable to make the capacity of this aqueduct 250,000,000 gallons per day, especially as it is only 3.5 miles long, and the difference in cost would be comparatively small. From the Hibernia reservoir on Wappinger creek it will be advisable to build a short tunnel and open channel of about 220,000,000 gallons daily capacity to the Silvernails reservoir on the Jansen kill, which will complete the chain of aqueducts and reservoirs required to secure the high level yield of the Fishkill and Wappinger creeks and the Jansen kill, the general direction from the Stormville reservoir to the Silvernails reservoir being a little east of north.

The length of aqueduct from the Stormville filters to Ashokan reservoir is 38.9 miles, and includes a crossing of the Hudson river near Hyde Park. This aqueduct line has been completely surveyed and mapped between the Stormville filters and Wappinger creek at Rochdale, so that data for final location are available. From West Hurley, the point at which the aqueduct leaves Ashokan reservoir, to Wappinger creek, the line has been carefully reconnoitered, so that its feasibility has been completely determined and its approximate alignment is known. It was the purpose of the Commission to complete detailed surveys of the aqueduct line between Wappinger creek and Ashokan reservoir, but the funds available for its work were not sufficient. Enough data has been secured to predict confidently the approximate location and cost. The approximate amount of cut and cover section of this aqueduct is 16.1 miles, with about 6.4 miles of tunnel and 14.5 miles of steel pipe laid in tunnel beneath the bed of the river or in a dredged channel.

The aqueduct line from Stormville reservoir to Silvernails reservoir has been completely surveyed so as to give data for final location and close estimates of cost. The 250,000,000 gallon aqueduct from Stormville filters to Billings reservoir would have a cross section 14 feet in height and 14 feet 4 inches in width, each dimension being a maximum. The grades would be .61 foot per mile in cut and cover work and in tunnel. In this aqueduct there would be 6.2 miles of cut and cover work and 1.7 miles of tunnel, making a total of 7.9 miles.

The aqueduct from Billings reservoir on the Fishkill watershed to Hibernia reservoir on Wappinger creek would be 3.5 miles in length, nearly all of which would be in tunnel.

The 220,000,000 gallon aqueduct between the Hibernia and Silvernails reservoirs would leave the latter at Pine Plains and enter the Hibernia reservoir at its upper end, so that its total length would be 7.56 miles, 6.98 miles of which would be in open channel and .58 mile in tunnel. The gradient of the tunnel portion would be 1.37 feet per mile and of the open channel 1.35 feet per mile.

If it should be desired to secure the yield of the Clinton Hollow watershed of 26 square miles, it would be necessary to construct a tunnel 2 miles long from Clinton Hollow reservoir to the Hibernia reservoir. As the yield which could be depended upon from this watershed would be but about 1.95 million gallons per day, the Commission is not of the opinion that that amount of supply will justify the requisite expenditures for the construction of the dam and tunnel required to obtain it.

If an advantageous reservoir site should be found on the Jansen Kill lower down on the stream than Silvernails, it might prove advisable to connect such a reservoir with that at Hibernia by way of Clinton Hollow, instead of using the line from Silvernails direct to Hibernia already described. Under such a plan the development of the Clinton Hollow watershed would become desirable.

#### Order of Development.

The Commission has given prolonged consideration to the question whether it is most advisable to develop either the yield of Wappinger creek or of that creek combined with the Jansen Kill before or after the development of the supply from Esopus creek. The waters of Wappinger creek are much nearer to the Stormville filter site than the waters of Esopus creek. It will even require materially less expense to secure the waters of the Jansen Kill after the development of the Fishkill watershed than those of Esopus creek. The waters of both Wappinger creek and the Jansen Kill, however, are relatively hard, having a mean or average hardness of fully double that of the Croton water and perhaps more. The waters of Esopus creek, on the other hand, as well as those of Rondout creek, are remarkably soft, having a degree of hardness about half that of the Croton. Indeed, as has been before stated in this report, the waters of Esopus and Rondout creeks are exceptionally desirable for public supply; they are the best waters that are available in any direction for an additional supply for New York City. The Commission, therefore, is strongly of the opinion that the waters of Esopus creek should be secured and brought to the Stormville filter site as soon as it is practicable to do so; and it is further of the opinion that in consequence of the exceptionally excellent character of the water that it should be brought in a separate aqueduct to Stormville without mingling with waters of either the Wappinger or the Fishkill creek. It will probably also prove advisable to develop the yield of Rondout creek immediately after securing the waters of the Esopus. The separate delivery of these waters at the point of intake to the main aqueduct may at times be of great value to the City. Many waters are occasionally subject to temporary bad tastes or odors, although the probability of such characteristics are greatly reduced when water is stored in large reservoirs. The excellent character of the Esopus and Rondout waters renders highly improbable these temporary prejudicial characteristics, and it is desirable to control the mingling of such waters with others of less excellent quality should tastes and odors develop in them. An independent aqueduct for the Esopus and Rondout waters makes them completely available for this desirable kind of control which, in the judgment of the Commission, should be secured even at some additional expense.

#### Quickest Availability of Fishkill Waters.

The construction of the new tunnel through the mountainous portion of Putnam County, together with the construction of the main aqueduct from the northerly limit of The City of New York to the southerly extremity of the tunnel, may involve more contract work than would be advisable before securing the Fishkill waters, which the investigations of this Commission show it to be imperative to secure at the earliest possible date. It would be feasible to turn the water from the Fishkill watershed into the new Croton lake immediately after the completion of the new aqueduct and tunnel north of it, without awaiting the completion of the 500,000,000 gallon aqueduct between the tunnel and the City. If work were concentrated upon the construction of the tunnel it could be completed within four or five years under energetic management.

In this plan for making the Fishkill waters available in the earliest possible time, it would be necessary to build the Stormville and Billings Reservoirs and 28.56 miles of aqueduct, of which 14.60 miles would consist of cut and cover work and by-pass through the filter beds, and 13.96 miles would be tunnel.

The cost is estimated as follows:

Stormville Reservoir, complete .....	\$2,503,000 00
Billings Reservoir, complete .....	1,806,000 00
14.60 miles cut and cover aqueduct .....	5,289,000 00
13.96 miles tunnel .....	7,812,000 00
Total .....	\$17,410,000 00

In this cost the damages to mill owners and others for diverting the Fishkill creek are not included.

For a total expenditure, therefore, of about \$17,000,000 or \$18,000,000 the waters of the Fishkill creek could be turned into the new Croton lake.

As the watershed tributary to the Stormville and Billings reservoirs is 81 square miles, the construction of this aqueduct and tunnel from Billings to a point near Yorktown, near the new Croton lake, a supply of 60,000,000 gallons per day could be added to the yield of the Croton watershed. If the full capacity of the new Croton aqueduct should be required for the daily draft of the Croton water alone, the old aqueduct could be put into commission for the additional 60,000,000 gallons or more, supplied through the new aqueduct from Stormville. It is possible that the exigencies attending the completion of the new works for the additional supply may make it advisable to resort to this temporary measure.

#### Filtration.

The advance of knowledge in the filtration of public water supplies, the experience now available regarding the efficient and economical methods of such filtration, and the late demonstrations of the sanitary value of properly filtered water in reducing the sick and death rates, particularly in cases of typhoid and diarrhoeal diseases, have convinced this Commission that all waters to be secured for an additional supply of New York City should be either naturally filtered, such as spring or ground water, or artificially filtered according to the most efficient processes.

Accordingly its efforts were directed to studying the possibilities of the future developments of the ground water supply which is available on Long Island, and to studying the best plans for filtering those surface waters which it will be necessary to use.

Formerly the chief desire was to remove from the surface waters the occasional turbidity due to surface washings, also the vegetable stain of many waters, the vegetable growths associated with objectionable tastes and odors, or in other ways to improve the palatableness of such waters. Later, since the true relation between polluted water and health was discovered, it became a recognized necessity that bacteria, some of which are characteristic of disease, should also be removed from the water.

Filtration, according to the best practice of to-day, is capable of removing all of the objectionable elements at a reasonable cost. More than 25,000,000 people are now supplied with filtered water in Europe alone, and further millions are on the eve of being supplied with it in America. In every well studied case of the introduction of efficient filtration, water-borne diseases have been found to be greatly reduced.

To-day two classes of water purification are known to be efficient. One embodies the slow or sand filters, and the other the rapid or mechanical filters. The former operate essentially by passing water slowly downward through beds of sand of medium sized grains resting upon a layer of gravel, the beds being contained in water-tight basins. The speed of such filtration varies, in accordance with local conditions, from 2,000,000 to 6,000,000 gallons per acre per day, or with a vertical motion from 6 to 18 feet per day. Ordinarily the sand filter is from 3 to 4 feet thick, and the gravel 1 foot thick. The filter units range in area from  $\frac{1}{2}$  to 1 acre. The raw water flows to the filter, enters above the sand, usually stands upon it to a depth of from 3 to 4 feet, or even more, and thence passes through the sand and gravel into collecting pipes or drains laid on the floor of the basin, which take it to the reservoirs and pipes leading to the consumers. To prevent freezing, it is desirable in the New York climate to cover the filters.

Rapid or mechanical filters operate essentially by passing water rapidly downward through beds of very coarse sand resting upon metal strainers. These filters consist of small units generally less than 1,000 square feet, and the water passes perhaps 40 times as fast as through the slow filters, which brings the quantity filtered up to 125,000,000 gallons per acre per day, or a vertical speed of 375 to 400 feet per day.

While the slow filters depend for their efficiency upon a gelatinous coating which naturally forms and covers the sand grains of the upper layer, producing what is called ripeness, the rapid filters depend upon a gelatinous coating which is artificially produced by the coagulation and breaking up of a very small quantity of sulphate of alumina or iron into aluminum—or iron—hydrate. The films thus formed by the introduction of these materials permit the bacteria and the suspended matter to be retained and removed later by a cleaning process.

The cleaning of slow filters is accomplished by the removal of the upper layer of sand from  $\frac{1}{2}$  to 1 inch in thickness. This material is removed, then washed and finally returned to another filter ready to receive a fresh supply of sand. The wash water is delivered under pressure, and is also utilized to carry the sand from the old to a new or clean filter, where it is again distributed.

The cleaning of rapid filters consists in allowing filtered water to pass upward through the entire sand layer at a sufficiently high velocity to float the sand grains of the entire mass and thereby remove the suspended matter attached to it by a stirring of the sand caused either by the escape of compressed air or by revolving rakes. The sand, after washing, settles back into its place and the filter is then again ready for service.

The efficiency in producing clear water free from bacteria is nearly the same with both classes of filters. The slow filters require a larger area and a greater investment of money, while the rapid filters require much less land, but a greater cost for operation. The total cost, however, generally does not differ materially. The slow filters are somewhat more simple in operation and less likely to get out of order, while the rapid filters are more efficient for waters that are very turbid or highly colored.

This Commission recommends for the additional water supply from the Hudson River watershed the slow filters, because there is sufficient area of suitable land available, and because the character of the turbidity and color of the water are such that a coagulant would rarely if ever be required to obtain clear and colorless water, and because the magnitude of the works renders the conditions of operation more simple and therefore more easily managed.

It is necessary to add, however, that conditions may and already do exist on Long Island where rapid filters may be preferable, because of the rapidity with which they can be installed and the smaller expense of installation.

To protect the artificially purified water as well as the ground water from deterioration by exposure to sun, heat and dust, it must be kept in covered reservoirs for distribution, and thus not be exposed in passing from the filters to the point of consumption.

The sole object of the distributing reservoirs is to afford storage of enough water near to the consumers to compensate for the varying hourly drafts and to provide against sudden large drafts in case of fires or bursting mains. An excessive size is, therefore, not necessary, and a covering of the necessary area is feasible and not expensive. For the supply of Manhattan and The Bronx the proposed Hill View reservoir will serve this purpose. The Jerome Park reservoir when covered can be utilized as a distributing reservoir for the present low level supply after it is filtered. For Brooklyn the Prospect Park reservoir can be readily adapted for the same purpose by providing a cover. Suitable sites for additional distributing reservoirs should soon be secured both for the rapidly developing boroughs of Brooklyn and Queens on the ridge in the centre of the island and for the Borough of Richmond on the highest portions of Staten Island.

The Commission has made an extended study of the filtration of the proposed additional supply of waters from the Hudson River Valley, from which the next increase of supply should be obtained. It has not been able to enter with the same detail into the study of filtration works for the existing supplies of the Croton and of the Long Island surface waters.

Regarding the latter, it is urged that investigation be made to ascertain the expediency of erecting filters for the purification of those surface waters which are subject to the pollution from a growing population and which for some time it may be deemed best not to abandon in favor of another source of supply.

Regarding the Croton water, the Commission urges that suitable lands be secured at once upon which to erect a filter plant sufficient in size to purify the entire supply obtained from this source. There are but a few sites still available for such a plant of slow filters, and a long delay in procuring it may seriously affect its future cost. Examinations of the sites have been made sufficiently extended to determine their feasibility and to ascertain their approximate cost.

The chief work of the filtration department consisted in the discovery, surveying and mapping of all areas suitable for filter sites for the different water supplies which were investigated to supplement the present Croton supply.

The reconnaissance and first surveys were based upon the existing maps of the United States Geological Survey, but accurate levels were run over all the territory under consideration.

The detached positions of the various locations surveyed for the above purpose made it desirable to locate them accurately by means of latitude and longitude measurements, and these were based upon the data furnished by the United States Government.

A large number of locations were closely investigated with reference to their suitability for different propositions of additional supply, namely, for a low level aqueduct and a high level aqueduct, and also for obtaining the waters through different combinations of the available sources.

After the location of the best filter site for the recommended project was definitely determined, the necessary areas were carefully cross-sectioned, sufficiently close for the preparation of estimates of cost. Numerous studies were made to determine the most economical arrangements, and the results are shown in the appended plans.

Of all the sites examined the choice was narrowed by topographical conditions and by the limitation of aqueduct grades to two, which were respectively located at Stormville and at Freedom Plains, Dutchess County, New York. The Commission selected the former site because of the advantage of being south of Fishkill Creek, and thus in a better position to take water from it as a first installment for an additional supply. This site has also the advantage of a higher elevation and thus somewhat reduces the cost of an aqueduct to the City.

The site lies directly south of the Stormville depot and covers about 780 acres. It is a rolling country, but the excavation appears to be throughout a gravelly material overlying dolomite rock, all of which can probably be used for the preparation of the concrete required in the construction of the filters.

The raw water is received at the upper end of the plant by two conduits, one bringing the water from the east and the other from the west side of the Hudson river. Suitable arrangements are provided to allow for all possible conditions which may arise and which may be desirable in passing the water through the filters. Provision has been made for a compensating basin of over 60 acres in area where water may be temporarily stored, and by which it is possible to hold water at practically a constant level on the filters. Owing to the great length of the aqueduct and the impracticability of increasing or reducing the flow at the lower end, except after the lapse of several hours, such a compensating basin becomes desirable to act as a balance. Its size was determined largely by the configuration of the ground, it being thought advisable to utilize all of the low ground between the filters and the railroad for this purpose.

It is strongly recommended that the filters be covered.

The design has been prepared to allow filtering at the rate of 3,000,000 gallons daily per acre of sand surface, with 11 per cent. reserve for cleaning and washing sand. Provision has also been made in the size of all the conduits and drains to allow for filtering at the rate of 6,000,000 gallons per day per acre of sand surface. If it is found practicable to increase the filtration rate beyond the usual one of 3,000,000 gallons per day, which seems to be probable, the plant will be adapted to this economy.

The plant has been divided into units, each one consisting of 20 filters, and each filter having a net area of 0.93 acres. No open sand courts are recommended, but instead a covered pipe gallery, with the filters located on either side. In it are contained the pipes, valves and meters for operating the filters, the booster stations and the apparatus for transporting and washing sand. It is recommended that the structures of the filters be constructed of concrete, with the dimensions and details indicated in the drawings. The sand in the filters will range in thickness from 20 inches as a minimum to 3 feet 8 inches as a maximum; that is, the filters are started with the latter depth of sand, and after the various cleanings have reduced it to 20 inches, the filter is then refilled with washed sand to the

original depth. The water level can be maintained at any height up to 6 feet above the maximum elevation of the sand layer.

The material should be a silica sand, having an effective size of 0.28 to 0.35 m. m. and a uniformity coefficient not greater than 2.5.

Provision is made for efficient ventilation and rain water drainage and for convenient access to every part of the works.

An operating station is provided at the centre of each unit, from which all the operations can be controlled.

The Hill View reservoir will occupy the highest portion of the hill, which is north of the City line, between the town of Mount Vernon and the City of Yonkers. Its entire storage capacity will be 2,030,000,000 gallons. It is estimated that the entire structure will be of concrete and covered with two feet of earth, the entire excavation being used in making an embankment and boulevard around the outside of the reservoir limits. Provision is made for proper gate-houses and tower to control the inflowing and outflowing water.

#### THE DEPARTMENT OF CHEMISTRY AND BIOLOGY.

The work of this Department was outlined at a preliminary meeting of the Commission on December 12, 1902. Commissioner Robert Grier Monroe made available for its work the excellent facilities of the Mt. Prospect Laboratory of the Department of Water Supply, Gas and Electricity, than which there is probably none in the country better equipped for this class of work. By December 17 the general scheme of operations had been planned, and on January 5 the first party was sent into the field. This branch of the work was organized thus early in order to be in readiness for the collection of samples of the winter and spring flood waters in all streams that might be available for the proposed additional water supply; for in the case of surface waters it is the melting snows and the spring floods which furnish the greater part of the supply for storage in the impounding reservoirs for use during the summer and autumn.

For the first two months the work was directed from the Mt. Prospect Laboratory, Brooklyn, but a field laboratory centrally located at Poughkeepsie was established in March, fully equipped for the complete physical and bacteriological examination of water. A part of the work for the Croton watershed was carried on in a branch laboratory established at Katonah, but all chemical and microscopical analyses were made at Mt. Prospect.

The instructions to this Department were to make such chemical and biological analyses of the water and such other investigations and inspections as were necessary to determine the sanitary quality and general fitness of all of the sources of additional supply available for The City of New York, and to make a comparison of the various waters proposed with the present water supply of the City.

As the work of the Commission progressed the scope of this Department was extended to cover numerous other investigations, the most important of which were those relating to the phenomena of capillarity, percolation and soil moisture.

The territory covered by the investigations comprised the western two-thirds of Long Island and extended along the Hudson to the head waters of its principal tributaries. Samples were taken from the principal eastern tributaries all the way from the Croton watershed north to Schroon lake in the Adirondacks, and the western tributaries of the Esopus, Rondout and Catskill creeks were also investigated. Occasional samples were also taken from the Housatonic, Ten Mile, Walkill and other streams for comparison. The entire territory covered more than 15,000 square miles and the magnitude of the work may be appreciated from the statement that between January 1 and October 31, when the field parties on the investigation for additional water supply were disbanded, more than 9,000 samples of water had been examined at the Poughkeepsie Laboratory, in addition to upward of 5,700 samples examined at the Mt. Prospect Laboratory. Most of the field investigations on additional supply ceased on September 10, but the tidal observations and the soil moisture experiments were continued until October 31.

The work of the Department may be most conveniently described under the following topics:

- First—Quality of the Present Water Supplies of New York City.
- Second—Stream Investigations.
- Third—Hudson River Studies.
- Fourth—Ground Water Studies.
- Fifth—Probable Quality of Water Recommended.
- Sixth—Soil Physics.

#### Quality of Present Water Supply for New York City.

The City of New York, with its five boroughs, has 82 distinct sources of water supply; some are, however, small. The City is an aggregate of many communities which were once independent and had their own systems of water supply, which have been affected but little by the municipal consolidation. The 33 surface water supplies furnish a total of 333,000,000 gallons per day, while the 49 ground water supplies furnish 70,000,000 gallons per day. Manhattan and The Bronx have surface waters exclusively, while Queens and Richmond have ground water almost exclusively, and Brooklyn has surface water and ground water mixed, in about the proportion of 40 per cent. of ground water to 60 per cent. of surface water, these waters being mixed before they are distributed to the consumers.

Filtration is used only to a limited extent, and only on the Brooklyn system. Two mechanical filters purify the polluted water of Springfield pond and Baisley's pond before these are turned into the aqueduct, and two sand filters are now under construction for Simonson's pond and for Horse brook, near the Hempstead Storage Reservoir of the Brooklyn system. None of the water supplied to Manhattan, Bronx or Richmond is now filtered.

#### Sanitary Conditions.

We have as yet no better index to the general sanitary condition of a public water supply than the typhoid fever death rate of the community which it serves. This is especially true of large cities, and it is satisfactory to find as a result of a compilation made by this Department, covering the statistics from 1868 to 1903, that the typhoid fever death rate in New York is much lower than in most large American cities.

A study of these statistics in comparison with those of rainfall and stream flow observations shows that typhoid fever is most frequent in dry years, when the reservoirs are most heavily drawn upon, and that with an increased storage capacity in the watershed there has been a tendency for the typhoid death rate to diminish. On compiling the typhoid statistics for The Bronx, Manhattan and Brooklyn, it is at least suggestive to find that the death rate from this cause is greatest for the community having the largest population per square mile on its watershed.

There have been heretofore no statistics of the sanitary condition of the present water supply compiled in form convenient for comparisons. Therefore, advantage has been taken of the present opportunity to review the records of many tests made in the City's laboratories in recent years and group them in form convenient for various lines of study and for comparison with the results of analyses of the sources of additional supply considered. These matters are set forth in much detail in Appendix VI. It is found that the present sources of surface water supplied to the several boroughs of New York City are all under fairly good sanitary supervision and that the quality of work done by the sanitary patrol and the frequency of tests of the quality of the water supplies have made marked progress in recent years.

The analyses made for the Brooklyn Water Department have shown that the ground water supplies are substantially free from pollution dangerous to health, or in other words, the natural filtration which these waters receive on their passage through the ground purifies them so that generally speaking they are safe, notwithstanding that considerable sources of surface pollution lie in their path.

#### Analyses of Present Supplies.

Under the present rules, samples for analyses are collected every day from the terminus of the Croton aqueduct at One Hundred and Thirty-fifth street, Manhattan, and from the terminus of the Brooklyn aqueduct at the Ridgewood Pumping Station, also at several taps in Manhattan and Brooklyn. Once a week samples are collected from all the distributing reservoirs, supply ponds and storage reservoirs. Once a month, or once a quarter, every driven well supply is analyzed, and all apparent sources of dangerous pollution of which any notification reaches the Department of Water Supply, Gas and Electricity are made subject to an immediate investigation.

As to the tests of these samples, it may not be amiss to state here that the character of water analysis has entirely changed during the past fifteen years, under

the development of the sciences of biology and bacteriology, and the proof that certain diseases, notably typhoid fever, are water borne. Fifteen years ago the only water analysis made was the chemical analysis, but so far as the public health is concerned, this by itself now would be regarded as of little value. To-day a complete sanitary water analysis consists of four parts—the bacteriological examination, the microscopical examination, the physical examination and the chemical analysis—and for the best interpretation of these an inspection of all the sources of the water and their surroundings are also necessary.

#### Bacteriological Examinations.

The bacteriological examination as practiced in the present investigation consisted of a determination of the total number of bacteria and the test for *bacillus coli* made upon three different quantities of the water in question. In bacteriological examinations of water supplies no distinction is made between the harmful and the harmless bacteria, and the method of counting the total number of bacteria in a sample has chiefly a relative value for comparing different sources of supply, while the test for *bacillus coli* is chiefly of value as demonstrating the freedom from pollution, and in tracing such pollution as has its origin in the intestines of warm blooded animals.

#### Microscopical Examination.

This is of value chiefly as a measure of the probable freedom of waters from aromatic, grassy and fishy odors in unclean reservoirs, to which they are sometimes subject, for surface waters contain many forms of animal and vegetable life which, although too small to be observed with the naked eye, may by their growth and decomposition make a water unpalatable and offensive to the taste. This examination is made by filtering out the organisms and transferring them to the stage of a microscope, where they can be identified and counted.

#### Physical Examination.

The physical examination is chiefly of value as demonstrating the qualities of the water evident to the senses, such as temperature, turbidity, color and odor. The color and turbidity at the present time are measured by comparison with well defined standards. The color is caused chiefly by vegetable matter in solution coming largely from swamp lands on the watershed, being practically an extract of the leaves, twigs, etc., which accumulate upon the wet surface of the ground. While color in water is not distinctly harmful, if great enough to be noticeable in a glass it may detract from its palatability, or if so high as to be distinctly noticeable in a washbowl or porcelain bathtub, may give the suggestion of uncleanness. The color in water, being due to substances in solution, must be distinguished from turbidity, which may be in a large part removed by subsidence. Turbidity is chiefly objectionable because of rendering water unattractive.

#### Chemical Analysis.

The chemical analysis is useful mainly as indicating the presence or absence of previous pollution by an excess of chlorine or by the amount and character of the nitrogenous matter present, but it is also of great practical importance for showing the hardness and alkalinity of the water and its effect when used in steam boilers.

The present and proposed sources have been studied by repeated samples throughout all seasons of the past year, and an abstract of these results will be found in Appendix VI.

#### Character of the Croton Water.

The Croton water has frequently been turbid during the past few years, and occasionally malodorous. The occasional odors are due not to pollution, but chiefly to the effect of microscopic organisms which grow at certain seasons of the year, mainly in the reservoirs in Central Park. These basins have not been cleaned for many years, and there must be considerable deposits of mud at the bottom. With 200,000,000 gallons of water per day passing through these reservoirs computations based on analysis show that a deposit of about an inch in depth every ten years may be expected, but the amount of this sediment is of less importance than its character. It is largely organic and contains many micro-organisms, and these basins have thus become so seeded with algae, protozoa and other organic life that at times the water emptying from the basins is found to be objectionable, while that entering is in good condition. Obviously these reservoirs should be cleaned more frequently.

The impounding reservoirs of the Croton system show conditions not materially different from those that occur in storage reservoirs elsewhere. These reservoirs were constructed without the removal of the turf, stumps, peat deposits and other organic matter from their beds. When the reservoirs were flooded some of this organic matter decomposed during the first few years, and water drawn meanwhile from the lowest sluices was offensive. This decomposition has now practically come to an end, and the reservoirs are apparently but little different from natural lakes having mud bottoms. Most of the reservoirs of the Croton system are deep and undergo the process of stagnation and overturning. Under the differences of density due to the varying temperature from top to bottom vertical circulation ceases during a portion of the year, and the free oxygen in the lower strata becomes exhausted, after which organic matter at the bottom is liable to give off offensive odors.

In general, the conditions of the Croton water appear such that filtration is all that is needed to make it entirely satisfactory, providing it is subsequently stored in covered reservoirs, so subdivided into compartments that the bottom of the reservoir can be conveniently cleaned. It is desirable that attention be given to this question of removing organic matter from the bed of the reservoir to be formed by the New Croton Dam. If the Croton supply is soon to be filtered, as recommended by this Commission, this work of freeing the reservoir bed from organic matter may be done on very economical lines.

With the advent of filtered water the problem of caring for the stored water and keeping it free from objectionable organisms will become more difficult, for to turn filtered water into a reservoir which is seeded with the germs of so many micro-organisms as the Central Park Reservoirs would largely destroy the benefit of filtration.

It may ultimately be found necessary to provide for the further subdivision of these reservoirs and to cover them by masonry arches similar to those proposed for the Hill View Reservoir. In such an event these arches would be covered by a few feet of level earth grassed over and made available for park areas.

The effect of the longer storage of the Croton supply in the new Croton lake and in Jerome Park Reservoir prior to filtration will tend materially to improve the sanitary quality of the water.

The hardness of the Croton water differs greatly in different portions of the watershed, but as the water reaches the City it averages about 40 on the ordinary scale of hardness, which is not objectionable. Moreover this hardness consists mainly of the carbonates and is of the temporary kind which does not form a hard scale in steam boilers as does the hardness due to sulphates.

The Bronx and Byram water is in general superior to the Croton and notwithstanding their drainage areas are nearer the City they now have a lower population per square mile. The excellent sanitary condition of this water is indicated by the low typhoid death rate in the Borough of The Bronx.

#### Quality of Brooklyn Supply.

The water supplied to the Borough of Brooklyn may be considered of reasonably good sanitary quality under ordinary conditions. It is occasionally turbid and sometimes high in color. It is fairly soft, although it contains relatively high sulphates, nitrates and chlorides, making the water unsatisfactory for boiler use, but not high enough to cause trouble in domestic use. The large and increasing population of the watershed, the small size of the supply ponds permitting delivery of surface wash into the aqueduct, are such unsatisfactory conditions that the filtering of all this surface supply should be accomplished at the earliest practicable date.

Mr. I. M. De Varona, Chief Engineer of the Brooklyn Water Supply Department, has for five years past given attention to the analyses of the water supplied by all portions of the Brooklyn drainage area, and care appears to have been taken to shut off any sections of the gathering ground in which pollution was imminent. Bad growths of micro-organisms sometimes occur in the Ridgewood and Mount Prospect Reservoirs, imparting to the water unpleasant odors and rendering it unsightly, and it has frequently been necessary to by-pass these reservoirs and cut them out of the general circulation during periods of offensive organic growths. The Mount Prospect Reservoir has much heavier growths of organisms than the Ridgewood Reservoir, and is also subject to contamination by clouds of dust blown from the street, and it should be covered if it continues to be used. These reservoirs should be covered by some such method as shown in the plans of the Hill View Reservoir,

and provision should be made for cleaning them regularly as long as unfiltered surface water continues to be used.

There are no limestone deposits which outcrop on Long Island, and the surface waters are comparatively soft, but increase in hardness from east to west, this being due, apparently, to the increased density in population. Several of the driven well waters are very hard, but this hardness is so diluted by the admixture with the surface water that the average total hardness is but slightly more than that of the Croton. The chlorine entering the water from certain of the wells adds materially to the corrosive effect of this water on boilers. Chloride of magnesia appears to be the most active agent of corrosion, but is doubtless aided by the amount of dissolved free carbonic acid in the water and also by the nitrates that it contains. All hardness due to sulphates, nitrates, and other similar salts is generally higher than in surface waters of the Croton watershed.

#### Sanitary Studies for the Additional Supply.

The following qualifications were regarded as essential for the new supply: First—Absolute freedom from pollution, or from organisms capable of producing disease or discomfort.

Second—Freedom from odor and from noticeable turbidity and color.

Third—Softness.

Fourth—Freedom from iron in solution.

Fifth—Freedom from substances liable to corrode metal work, either in boilers or service pipes.

Sixth—A cool and equable temperature is desirable.

Unfortunately the characteristics which may render a water dangerous do not always make it unpalatable, and a water which may be attractive and pleasant to the taste may contain disease germs, but on the other hand, waters that are high in color and turbid may not be at all unsanitary. Special attention has been given to the hardness and alkalinity of the samples of water investigated. The temporary hardness coming from carbonates and bicarbonates in comparison with the hardness from sulphates, which in boilers form a hard scale, has also been given much attention. All of these questions of hardness will be found fully discussed in Appendix VI. An interesting study has been made to determine what additional value to the community a water supply would have which should contain only half the hardness of the present Croton supply, or on the other hand what would be the probable extra cost of soap and boiler compounds with a water which would have double the hardness of the present Croton supply, and in fact the final decision of this Commission lay on the desirability of the hardness of the waters of the Wappinger creek and the Jansen kill in comparison with those of the Esopus and Rondout.

Assuming that one gallon per inhabitant per day is used in washing, requiring soap, and taking the total horse-power of steam boilers from the Police Department's report, an estimate shows that the consumers may be compelled to expend \$100,000 annually for soap and boiler compounds for every increase of 10 points of the scale of hardness for a public water supply of 275,000,000 gallons per day, the present consumption of Manhattan. On this basis, comparing the waters of the Fishkill and Wappinger creeks and Jansen kill, having an average hardness of over 90, with the waters of the Esopus and the Rondout creeks, having a hardness of about 20, it is found that the excess of cost, due to this difference in hardness, would amount to the surprisingly large sum of \$700,000 per year. While this estimate is not to be accepted as exact, at least it serves to point out the commercial value of softness in a water supply.

#### Stream Investigations.

The investigations of the quality of water in the various streams considered as possible sources at first covered a wide range of territory, comprising all of the principal tributaries of the Hudson, the Ten Mile, the Housatonic, and the north-easterly headwaters of the Delaware, but as the work progressed many of these courses were eliminated from further consideration and the work confined to a narrower field. Stations were established on all the important streams, and local representatives were engaged to collect daily samples, observe the height of the river by reading the staff gauge, and record the meteorological condition. Thirty-four stations were established, but not all were continued. At nine of these stations rain gauges were located. In all cases the points were selected with care to secure representative samples.

In addition to these analyses inspection tours were made over the drainage areas to determine the sources of pollution, the character of the vegetation and extent of the cultivation of the land, the appearance of the banks of the streams and the general topography and geological features. The completeness of these investigations varied according to the probability of the water being used. Two general inspections were made of all of the drainage areas, while in those selected for future sources three detailed inspections were made. A sanitary survey was made of the drainage areas of the Fishkill creek, Wappinger creek and Roelij Jansen kill, also the Esopus, Catskill and Schoharie creeks, to secure reliable data concerning the amount of transient population along these streams, the number and size of summer hotels, the character of the villages and their method of sewage disposal. The Inspectors counted the houses and located them on the maps, estimating the number of summer boarders from inquiry and by conferences with the postmasters. Sources of pollution were of course noted and located on the maps.

Consideration of a supply of filtered water from the Hudson, taken near Hyde Park, required a careful study of the tributaries above that point. The results of these various lines of investigation may be stated briefly as follows: The Adirondack streams were found free from pollution, conspicuously free from turbidity, even during spring freshets, and very soft, but the water is about twice as dark as the Croton, due to the presence of swamps. The Batten kill, the Hoosac and Mohawk rivers were found polluted and their waters hard and at times turbid. The Walkill was found decidedly hard and discolored by the extensive swamps and peat deposits of the drowned lands.

The Fishkill and Wappinger creeks, the Jansen kill, the Esopus, Schoharie, Catskill and Rondout creeks were considered more particularly as direct sources of supply. The Esopus and Rondout creeks were found the most attractive in quality, by reason of their extreme softness. The drainage areas of all of these mountain streams are sparsely populated, and although they contain many summer hotels and cottages these can be made unobjectionable from a sanitary standpoint by a comparatively small expenditure for sewage disposal in the principal villages and summer colonies.

The drainage areas considered east of the Hudson are also sparsely populated. Their streams have water averaging nearly two and one-half times as hard as the Croton, while the Esopus, Rondout and Schoharie creeks have water only half as hard as the Croton.

An extended investigation was made to determine the average hardness of the water that would be delivered from large impounding reservoirs on each of these watersheds, for obviously the daily samples taken in summer, when the flows show a much higher degree of hardness than the spring flood waters with which the impounding reservoirs will be replenished. Allowing for this and weighting the average of the weekly samples in proportion to the volume to be stored at the different seasons it was estimated that the average quality of the water stored in these impounding reservoirs would be as follows:

Reservoir System.	Hardness.	Million Gallons Daily	Reservoir System.	Hardness.	Million Gallons Daily
Stormville .....	102	37	Esopus .....	20	255
Billings .....	58	14	Rondout .....	23	100
Hibernia .....	91	68	Schoharie .....	21	171
Clinton Hollow .....	67	20	Catskill .....	36	123
Silvernails .....	107	112			

It is found that combining the Fishkill, Esopus and Rondout waters in the proposed new aqueduct, the average hardness would be 29, while, with the Hibernia reservoir system added to make up the full 500,000,000 gallons per day, the hardness of the whole would be increased to 40, which is practically the same as that of the present Croton supply. In Appendix VI. an estimate is presented of the probable chemical and physical characteristics that the proposed new supply would possess.

#### Hudson River Water.

This water was made the subject of very full studies during the first few months

of the Commission's work, because the proposition to obtain the new supply from the Hudson at a short distance above Poughkeepsie was at that time the most prominent.

The averages of many analyses show that the quality of this Hudson water near the proposed location of the intake would be about the same as that taken from this river, between Albany and Troy and filtered for municipal use, and that it can be made at least equally satisfactory by filtration. It was found that the additional pollution which the river receives at Albany is more than offset by dilution from the volume of water that comes in from the tributaries entering below Albany. The average hardness of water taken from the Hudson would be about 46, somewhat less than at Albany, and little more than that of the Croton.

This Commission is of the opinion that by adopting proper precautions, and also reinforcing the flow in time of drought from large storage reservoirs under the City's control, to be established in the Adirondacks, the water taken from the river near Hyde Park could by filtration be rendered palatable and entirely safe for drinking, domestic and industrial use.

#### *Salt Water in the Hudson.*

With a view to locating the proposed pumping station for Hudson water at a safe distance above the point to which the tide may carry salt water under extreme conditions of drought and wind, an extended series of observations was made.

The scientific solution of this problem is complicated. It is known that the salt water does sometimes affect the Poughkeepsie supply. An amount of salt too small to be tasted may seriously affect the value of the water for steam and industrial purposes, as is seen in the case of the present Ridgewood supply. The present season proved less favorable for finding the limit of the flow of salt water than if there had been less rain, but many valuable data were secured. Many hundred determinations of the amount of chlorine at different depths at points all the way from New York to Albany, and under varying conditions of stream flow, tide and wind, were made. Automatic tide gauges were located at Yonkers, Oscawanna, West Point, Poughkeepsie and Rhinecliff. From a review of these records and from many inquiries of those familiar with the river it appears that a location near Hyde Park could be made safe in connection with a reinforcement of the summer flow; but whenever a season of extremely low rainfall, like that of 1883 or 1891, again comes the present studies should be supplemented by further investigations with a view to recourse to the Hudson for water supply in the distant future.

#### *Ground Water Supplies.*

Analyses previously on record in the Brooklyn Water Department gave nearly all the chemical and bacteriological information that was needed concerning the present quality of the ground water sources of Long Island. Test of samples taken from some of the thickly populated parts of Brooklyn were analyzed for comparison, and the results are very interesting in showing the amount of pollution that may exist on the surface and not render the water from a driven well unsanitary, even with a coarse, gravelly soil. It was found that samples of water which, from chemical analysis, might be considered unsatisfactory were sterile by bacteriological tests, and can safely be used for drinking purposes. This is largely due to the distribution of the sand or gravel, which causes a diffused and slow movement of the ground water. Investigations were made to determine the limits at which pollution extended from large amounts of foecal matter deposited at a depth of six or eight feet below the surface, as in privy vaults, and other experiments have been made to determine the rate of decrease in bacteria from the surface of the ground downward.

#### *Long Island Sources.*

It is the opinion of this Commission that the water to be obtained from Long Island should be either ground water not subject to pollution, or properly filtered surface water.

It is entirely practicable and economical to supply Brooklyn and Queens from the recommended Hill View reservoir, about three miles north of Jerome Park reservoir. The details of this supply system of pipe lines extending across the East river can be readily arranged when necessary. As they were not so important as the questions concerning the sources available for the nearer future, they did not receive special consideration. The Commission desires to urge, however, that one or two connections should be made as soon as practicable between the large mains in Manhattan and those of Queens and Brooklyn, so as to place safeguards against the possibility of any sudden breakage, or of any dangerous or temporary shortage in either of the boroughs.

This Commission is of the opinion that at present, and for some years to come, the more economical method of increasing the present supply for the boroughs of Brooklyn and Queens is by adding to it new sources on Long Island. And it is recommended, from the information collected, that all further increase should be in the direction of an extension of the ground water sources, because this could be accomplished in less time and at less cost than the collection, storage and filtration of surface waters not yet utilized.

It was not practicable, for lack of time and funds, to make complete surveys and detailed estimates of cost of the necessary works of such additional supplies. The present report is, therefore, limited to an expression of opinion based upon personal examination and careful study of the situation, and a thorough investigation of the island sources.

The sources of all underground waters, as well as of surface waters, is the rainfall. It is therefore necessary first, to ascertain the amount which falls upon the territory whence it can be brought to the City, and incidentally also its distribution as to time and place. Secondly, it is necessary to follow the rain water after it has fallen and to find the proportion which is available for the City's use.

The precipitated water and snow divides into several parts. One flows off immediately upon the surface into natural depressions of the land, and thence into brooks and rivers. This run-off increases in proportion as the ground is frozen, as it is wet and as the rain is intense. Another part is retained for some time by the vegetation and mould, or upon the surface in the form of snow or ice. Another part is evaporated from the plants, from water surfaces and from land surfaces, especially when warm and dry. Still another part percolates into the soil if it is permeable, and is absorbed by the roots or held in the ground by capillarity, to be withdrawn by evaporation from the soil. Finally, one part descends into the ground to impenetrable clays or dense rocks, and until it reaches a plane of saturation, below which is accumulated within the interstices of the rocks and soils, a large quantity of ground water which creeps through the pores to the lowest levels where it can escape as spring water into streams, lakes or the ocean. Each of these parts has been considered so far as practicable with reference to the conditions on Long Island.

In order to ascertain whether there was a sufficient quantity of ground water of good quality available for the purposes of a water supply, an investigation was extended over most of the island. This was begun early in March.

Arrangements were made by which the United States Geological Survey could aid in the work of the Commission by undertaking a study of the geology of the island, making some of the stream gaugings and measuring the velocity of ground water flow.

The work of the Commission itself comprised observations on rainfall, temperature, wind and relative humidity, studies of evaporation from soil and the amount of percolation, the location of existing wells for ground water observation, sinking new test wells to supplement those already existing, for the purpose of determining the character of the soils and rocks in the sub-strata, the gathering of ground water statistics to learn the rate and amount of percolation and of fluctuation of the water table, determining the levels of this water table in wells and measuring the surface water flows.

The investigations were started in the Borough of Queens and County of Nassau, and were later extended into Suffolk County and as far as Patchogue and Port Jefferson, with some observations reaching as far as Riverhead. Most of the collected information was plotted, and is contained in Appendix VII.

#### *Meteorological Observations.*

Several meteorological stations were already in existence, at some of which observations were made by the United States Weather Bureau and at others by the Brooklyn Water Department. The Commission established five more stations. At Floral Park and Brentwood continuous records were obtained, the former representing the watersheds of the present Brooklyn supply and the latter permitting a comparison of the meteorology of Suffolk County with that of Nassau County. At

Oyster Bay, Farmingdale and Manor the stations were equipped with standard rain gauges and thermometers, which were read by special observers.

A compilation of the rainfall records shows an average precipitation for 78 years of 42.56 inches per annum. For the purpose of a reliable supply of water it is necessary, however, to consider not the average but the greatest quantity permanently available. In view of the large storage capacity of water within the interstices of the ground on Long Island, it is safe to base this supply upon a series of consecutive dry years rather than upon a single dry year.

The period of lowest precipitation on record showed for a period of five years, between 1835 and 1839 inclusive, an average of only 35.20 inches per annum. On this basis it is quite proper to assume 35 inches per annum as the greatest precipitation from which to estimate the amount of ground water which at all times can be abstracted and utilized. From this assumed rainfall it is necessary to deduct the water which runs off on the surface to the ocean, and that which is evaporated and absorbed by vegetation. The remainder is the source of the available ground water. While as much information as time permitted was obtained regarding the stream flow and evaporation, most of the observations made by the Commission had for their object a more direct determination of this available quantity.

#### *Surface Waters.*

Long Island, from which the surface water supply is now derived, has near its centre, and stretching from west to east, a ridge several hundred feet in height, from which streams run northerly into the Sound and southerly into the Atlantic Ocean. A large part of the island near the ocean is very flat and filled with bays and channels through which the tide ebbs and flows.

The shortness of the island streams makes them small, and the flowing water in their lower portions is maintained almost entirely by the ground water which enters them, the upper portions of the streams being dry, except during and shortly after rain storms.

The Brooklyn water supply is derived partly from the flow of many of these streams and partly from the ground water, all between Spring creek and Massapequa.

In order to gain a fair estimate of the amount of water flowing off the surface of the territory under consideration, including that portion of the ground water which issues as springs and supplies the dry weather flow of the streams, gaugings have been made by erecting weirs across some of the characteristic streams, utilizing for this purpose also the existing information of the Brooklyn Water Department as far as practicable.

Little stream gauging work had been done except during periods of drought, before the present year, when in April and May the United States Geological Survey established ten stations, two in Nassau County and eight along the southern shore of Suffolk County. These measurements were not sufficiently precise or long continued to permit a fair estimate to be made of the surface run-off. The Commission therefore, made some independent stream flow gaugings, but confined them to six of the most important streams between Freeport and Massapequa.

The Long Island streams are somewhat flashy because they are short and their upper parts are rather steep. Therefore the few daily observations had been of little use and the Commission established self-recording gauges and weir measurements.

Besides these six weir stations, four other stream gauging stations were established, at which daily approximate measurements were made, at Jamaica creek, Seaford creek, Massapequa stream and Dixie's creek.

The watersheds of the stream between East Meadow brook and Massapequa stream were studied in some detail to get the drainage areas and the physical surface characteristics.

At present practically all of the available surface water of Queens and Nassau counties has been secured and made tributary to the supply. The only larger quantities of surface water left to be secured are in Suffolk County, where at present the law prevents their being taken.

Estimates of the stream flow were made in 1867 by J. P. Kirkwood and in 1875 by Julius W. Adams, which were to the effect that in the dry years it amounted to about 50 per cent. of the minimum rainfall, which, however, included whatever ground water flow entered the streams. The true surface or flood flow was estimated by Adams at 12 per cent. The studies of the Commission have indicated that the flood flow for a long period of minimum rainfall might be as low as 9 per cent., and that for average years it may be about 16 per cent.

The Commission has concluded that the entire visible flow of the streams may be estimated at 35 per cent. of the average annual rainfall and at 23 per cent. for five-year periods of minimum rainfall.

Assuming a rainfall of 35 inches for a dry period, the flood flow in the streams would correspond to a depth of 3 inches per year and the entire visible stream flow to 8 inches.

The general quality of the surface water now delivered to the Borough of Brooklyn from the easterly half of its present area of supply is similar to that of the usual water courses from sparsely settled farming country. The water contains a sufficient quantity of organic matter to support a fairly high percentage of bacteria; it has an occasional taste due to the growth of certain organisms, and after rain storms, when the fields are washed by the water running off, it also becomes turbid and dirty. The westerly half of the area contains populous communities, resulting in the pollution of its waters, which is already serious, and which will continue to increase.

Filter plants have recently been erected at Springfield and Jameco stations to improve the supply from these polluted sources.

In view of what has been stated regarding the quality of the surface waters, this Commission is of the opinion that all such waters supplied to the City should be artificially filtered, and it recommends the immediate construction of suitable plants for that purpose. Such filtered surface waters, as they are softer than the ground waters, will, when mixed with them, moderate the hardness of the latter.

#### *Evaporation.*

Evaporation of water proceeds from water and land surfaces and from plants. It increases as the humidity of the air becomes less than that of the soil and as the temperature of the air and soil rises. It is greater on slopes with southern exposure than on land sloping to the north and increases with the movement of air over the surfaces.

Evaporation is also dependent upon the character of the soil. It is greater in dense and compact soils with small pores like clay than in sands. It is, however, more rapid in the open soils because there is less resistance to the rising water.

The most powerful preventative of evaporation, however, is the covering of the soil with material having greater porosity, which reduces the capillary action and, therefore, the ascent of moisture. It is greatly reduced by the formation of any detached crust and also by loosening, plowing or raking of the soils. On cultivated lands where mulching is practiced, the soil moisture is retained much more than in cultivated fallow soils.

In forests the evaporation is much less than on cultivated fields. It has also been found that if average soil is saturated with water but covered by grass or trees as in a swamp, there is a greater evaporation than from a free water surface.

To get some local data on evaporation from soil, two sets of tanks were placed at Floral Park, one being 2.5 feet and the other 5 feet in depth. In the former the water was kept 2 feet and in the latter 4.5 feet below the surface. The results gained therefrom are given in Appendix VII.

#### *Percolation.*

With a given rainfall the amount of water percolating into the soil will generally depend upon the amount of water evaporated, and hold an inverse ratio thereto. It will also depend upon the effective size of the grains, increasing therewith, and, finally, upon the porosity of the soil.

If the soil is uncovered or very open, the amount of percolation varies with the rainfall. The time of descent will vary with the size of the pores. In coarse sand it will be rapid, and in fine sand, slow. In either case the water, if not intercepted by an impervious material and diverted laterally into an open water-course, will eventually reach the ground water level.

Sands and gravels, if the grains are fairly uniform in size, have a porosity of about 30 to 45 per cent. of the total volume, the proportion being less when the grains are not uniform in size. Although the porosity of clay ranges from 40 to 70 per cent. the velocity of percolation through it is exceedingly low because of the fineness of the pores.

Only a general estimate can now be made of the average porosity of the soil of

Long Island, for although many samples have been taken during the investigations of the Commission, the mechanical analyses by the United States Geological Survey have not yet been reported.

Prof. Charles S. Slichter was detailed by the United States Geological Survey to make certain determinations regarding the velocities of the ground water on the south shore of Long Island, partly to estimate the general flow seaward and partly to study the effect of pumping and the velocity of the ground water near the Brooklyn well stations. These observations were made between East Meadow Brook and Massapequa stream for comparison with the surface flow to be measured from the same area. They were along the six mile stretch having five pumping stations for the Brooklyn water supply and several ponded streams flowing into the conduit at all times. Nine stations were established and at these 12 measurements were secured.

It is generally found that water bearing sand and gravels will readily yield a supply of water amounting to 10 to 30 per cent. of their bulk, according to the conditions above mentioned.

#### Ground Water.

Ground water free from local pollution or mineral impurities belongs to the best class of waters for city supplies. There are several instances in Europe where it is preferred to filtered river water, even when it is more costly.

Where the territory is strongly manured for agricultural purposes or is perforated by cesspools and sewers near to the point of taking, there is danger of pollution and of transmitting enteric diseases, which in such territory increases with the density of population. Water percolating through soil may partake also of mineral impurities, increasing its hardness or dissolving mineral matter such as iron or sulphur.

On the other hand, its long journey through porous soil insures to it by this aging a purification, first through the agency of nitrifying bacteria and then by the death of the usual pathogenic bacteria, which is not exceeded by any other known means. Therefore, if taken under proper precautions it is the most healthful of waters. During percolation and subterranean storage the temperature is equalized to a degree which benefits the water both in summer and winter.

The ground water should, therefore, not be drawn from too near the surface nor under conditions permitting the inflow of sea water or mineral impurities.

To guard against a local pollution of the water drawn up in the wells it is advisable and customary to acquire a strip of land as wide as practicable along the site whence the water is derived, and to maintain this as a park or in some other suitable way.

The flow of the ground water is caused by the action of gravity propelling it through myriads of channels found between the grains of soil and sand. The geological formation of Long Island is favorable to a sustained and ample flow of ground water. The surface soils are mostly sand and gravels, sometimes separated by layers of loam and clay. They extend to such depths that a great storage capacity for water is available. The geological strata, as may be expected, are not uniform. Therefore those that bear water are not always continuous, vertically or horizontally.

The ground water in a number of places on Long Island, particularly along the south shore, rises to the surface of the ground, causing swamps, but in other places the surface saturation is found from 50 to 100 feet below it. A survey of the underground conditions on Long Island was the only means of throwing light upon the probable flow, in the absence of practical tests of long duration. The most important observations required by the Commission concerned the quantity of water available from the subsurface strata.

The elevation of water surface was observed at frequent intervals in 1,045 existing wells. Of these 147 were in the Borough of Queens, 396 in Nassau County and 502 in Suffolk County. In addition to these 332 two-inch wells were driven for purpose of observation and collection of samples of soil, 2,016 sets of samples having been taken and classified. Of these driven wells 47 were in the Borough of Queens, 288 in Nassau County and 38 in Suffolk County. Forty wells for soil pollution experiments and 104 for underflow measurements by the Slichter method. In addition to these wells, 22 test pits were dug by post-hole augers where the ground water was within five to ten feet of the surface.

The observations of the ground water surface were begun on existing wells in March and ended November 1, when 37,042 observations had been taken. The area over which they extended is about 1,000 square miles.

The elevation of the ground water as found above sea level causes a flow both towards the ocean and the Sound. The quantity thus flowing away must be replenished by the rainfall upon the Island. The main question is, therefore, whether or not the quantity of water thus constantly flowing towards the sea is sufficient for the purposes of municipal supply. This depends upon the amount of rainwater percolating into the ground and reaching the ground water surface, which has been discussed above.

The United States Geological Survey made an examination of surface rocks and soils, also of samples from well borings, and made a report therefrom on the geology of the Island with special reference to ground water questions.

The results of the observations and surveys are given in detail in the respective appendices.

Having reached in its vertical descent the ground water surface, which forms the hydraulic slope necessary to cause a flow to some point of discharge, they flow laterally with a slow but definite velocity.

This lateral flow is somewhat like that of a stream, although the frictional resistance of a fillet of water in passing through the pores depends rather upon the size of the pores than upon the distance of the fillet below the surface.

The advantage of a line of wells rather than an infiltration gallery lies in the fact that they draw the deeper and more sterile waters, giving those descending from the upper layers a longer time in which to lose any objectionable bacteria.

The oyster industries of a portion of the south shore of Long Island are thought at the present time to require a temporary immersion of the oyster in fresh water immediately prior to marketing, in order to "fatten" or "fatten" them. So far as this Commission can learn, this practice is not general and injures the quality of the oyster. Allowing ground water to flow from the upland into the ocean for this purpose greatly reduces the available volume of the natural waters of Long Island for the supply of the Boroughs of Brooklyn and Queens and other communities.

From the observations made during the present year, it is concluded that the amount of water percolating into the ground and issuing either into the streams or into the ocean directly, is equal to a depth of rainfall of 14 inches per annum. This represents 40 per cent. of the rainfall of a series of dry years.

It is the unqualified judgment of this Commission that the water found available on Long Island is no more in quantity than can be accounted for by the rainfall upon the surface of its own territory and by its local geology. A brief study of the geological formation of the shores of the neighboring mainland is sufficient to justify this conclusion.

It is also the opinion of the Commission that an ample supply of ground water is available on Long Island to justify the material extension of the present supply, and that the surface waters should eventually either be abandoned or filtered before entering the conduits.

It is the further opinion that the ground water should be obtained through the construction of conduits properly located and provided with pumping stations along their course, so as to allow the ground water to flow into them by gravity through appropriate wells placed at one side of them as frequently as the water yield of the soil in the particular locality will permit, and that their depth should be sufficient to penetrate saturated gravels at least 30 feet below the ground water surface. By this means the Commission believes that all the available ground water will be obtained at less cost than by other means, and a much larger quantity than at present.

The Commission further recommends that studies be made for an extension of the supplies for the Boroughs of Brooklyn and Queens in the manner indicated, that the collecting conduits be located to effect a minimum lowering of the present ground water level by adjusting them as nearly as possible to the present water levels and that pumping stations be placed at suitable intervals to force the water thus collected into covered reservoirs, whence it would enter the distributing pipe system.

#### BOROUGH OF RICHMOND.

The Borough of Richmond is at present supplied with ground water from several stations. Some of this water is excessively hard. The quantity is generally limited and an additional supply is urgent.

This Commission has approved of a proposition from a private company to furnish at once for a period of ten years a sufficient quantity of filtered water from the State of New Jersey. No other means appears practicable so quickly to supplement the present sources.

A further study should be made to determine whether it would be more economical and desirable to continue this supply for a great period, or to furnish water from the Borough of Brooklyn through a pipe line across the narrows.

As soon as practicable sites for both equalizing and distributing reservoirs should be secured, as they will soon become necessary in several parts of the borough. The Commission recommends for such a purpose the early selection and purchase of the required property.

#### PUMPING DEPARTMENT.

At the time when this Commission began its work, and particularly after the Corporation Counsel had advised that interstate streams should not be considered available, thus ruling out the Housatonic and Ten Mile rivers, one of the most promising sources appeared to be water taken from the Hudson above Poughkeepsie and filtered. The constant use of filtered Hudson water for more than twenty years by the cities of Poughkeepsie and Hudson and the success of the large recent filters for Hudson water at Albany, as well as the extended successful European experience with filtering water much more polluted than the Hudson water, gave proof that this source could be made wholesome in quality, and it was plain that the volume would be ample, particularly after the construction of storage reservoirs in the Adirondacks.

Therefore, while not delaying the investigations for sources of polluted upland water lying at an elevation suitable for delivery by gravity, designs were worked upon for taking this Hudson water and pumping it to an elevation suitable for delivery in New York City at the level of the present Croton terminal reservoirs, also other plans for delivering this new supply of water at the high service elevation were studied. The use of Hudson water in the quantity required involved pumps of larger aggregate capacity than are contained in any pumping station yet built. So large a part of the annual cost of this supply was involved in pumping and the size and cost of the aqueduct depend so largely upon a careful balancing of cost of pumping to an extra height against the saving by the diminished size of an aqueduct having higher velocity and greater friction loss, that these numerous and important problems of pumping were considered by the Commission to require a separate department for their special study. Moreover, among the projects for water from an upland source, there were some which contemplated building impounding reservoirs at a lower level than the aqueduct, in order to make a larger drainage area available and pumping the water to the height required, notably, a project for impounding the Fishkill water near Brinckerhoff, which, in connection with the high level aqueduct, would have required a large pumping plant.

Therefore, after much preliminary consideration of the pumping question, the Department of Pumping was organized and began work on May 1, 1903. Later, accurate preliminary surveys had demonstrated that reservoir sites existed suitable for impounding the water of the Fishkill and Wappinger creeks and Jansen Kill, and that the remarkably soft water of the Esopus could be stored by a much higher dam than originally proposed, and in a larger reservoir, so that the details of design of pumps and pumping stations for a Hudson supply became of less immediate importance. At the request of the Commissioner of Water Supply, Gas and Electricity, its energies were directed towards tests of the economy of the present municipal pumping stations of Manhattan, Queens and Brooklyn, and to studies for their improvement. These studies are reported in some detail in Appendix VIII., and only a brief outline need be presented here.

#### Pumping from Hudson River.

For the projected Hudson river pumping station, located not far from Hyde Park, there were ultimately to be two independent groups of pumping engines and boilers, separated sufficiently so that an accident in one, as, for example, a boiler explosion, would not interrupt the operation of the other. The two stations were ultimately to contain pumps aggregating 500,000,000 gallons daily capacity, all working under 400 feet lift if a high level supply were adopted, in order to give the requisite slope for transportation through the 67-mile aqueduct to New York and to provide for head lost in passing through the filters. This would have called for pumping engines of 35,000 pump horse power. The first installation was to be of eight engines giving about 160,000,000 gallons daily, or about one-third of the entire capacity of the new aqueduct. These pumps were to be made in units of 20,000,000 gallons nominal daily capacity, but designed with such ample valve area and water passages that 25 per cent. overload, or extra speed, could at any time be carried in emergency with entire safety and good economy; so that when one engine was shut down for inspection or repair its neighbors, by being speeded up, could carry on its work. The steam pressure decided upon was 200 pounds per square inch; the duty requirement, 145,000,000 foot pounds per hundred pounds of coal in daily operation; speed for nominal capacity, 30 revolutions per minute, or 330 feet piston travel; and the engines triple expansion crank and fly wheel type. The estimate cost is as follows:

Fireproof pumping stations complete, with foundations suitable for 12 engines of 250,000,000 gallons daily aggregate capacity, each.....	\$536,000 00
Twelve (12) pumping engines.....	1,616,000 00
Engineering, inspection, etc. ....	310,000 00

Total for each station, 250,000,000 gallons daily.....\$2,462,000 00

For comparing the cost of water pumped with the cost of water from a gravity supply, so much depends upon the degree of skill and watchful care exercised by the management that it is difficult to estimate the precise cost per million gallons pumped. Extravagance or indifference of management may with the best of machinery double the operating cost; therefore, a brief comparison was made of the actual average of pumping in sundry representative large municipal stations.

While it has appeared possible from estimates that under the best pumping station management and with pumps of most nearly perfect design, water could be taken from the Hudson, pumped, filtered and delivered through the high level aqueduct at a total cost little if any greater than that of upland water with its expensive reservoirs and larger aqueducts, it must be remembered that mediocrity of management may have much more effect on the efficiency of a pumping plant than upon the efficiency of a reservoir and aqueduct system and that under most favorable conditions, whatever the saving of cost might be in water pumped from the Hudson and filtered, any possible saving of expense cannot, in the judgment of this Commission, compensate for the advantages of the upland gravity supply.

#### Inspection of Present Pumping Stations of New York.

Although the Croton and the Bronx and Byram are gravity supplies, about 20 per cent. of the Croton supply has now to be pumped to supply the buildings on high ground. All of the water used in Queens Borough has to be pumped to its full pressure, and all of the Brooklyn water also has to be pumped and some of it four times over. Greater New York maintains 32 pumping stations, including 86 pumps, and its present daily pumpage is 160,000,000 gallons. Nearly all of the stations have three shifts of Enginemen and Firemen in the 24 hours, and there are about 400 men on the pumping station payrolls. About 75,000 tons of coal are burned each year, and \$12,000 per year expended for oil and petty supplies.

This inspection shows that much of this work has not been done efficiently, and if it were all put under the supervision of an expert of the highest technical skill he could, if given proper authority, save many times his salary, mainly by a closer watch on the station duty, and by stimulating the Stokers and Enginemen to keep closer and more intelligent watch upon a daily record of the performance of their machines and the consumption of coal, oil and supplies. Efforts towards improvements of this kind had already been made by Mr. N. S. Hill, Jr., Chief Engineer, before this Commission began its work, and he has co-operated cordially in this work.

#### Improvements Recommended at Pumping Stations in Borough of Manhattan.

The One Hundred and Seventy-ninth Street Pumping Station is the principal pumping station connected with the Croton system, and contains pumps with a nominal daily capacity of 58,000,000 gallons, two of which, Nos. 5 and 6, have been in process of installation during the past year and are not entirely complete. The four pumps previously in use are of excellent design, and are capable of better economy and of pumping more water than heretofore. A test of these pumps on May 8

showed excessive loss of action, caused principally by water valves adrift, which amounted to 60 per cent. on pump No. 2 and 65 per cent. on pump No. 4. After replacing these valves and making simple repairs this slippage was reduced to about 4 per cent.

A short time prior to these tests the Chief Engineer had observed the unsatisfactory performance of these pumps and had instituted a search for the cause, which was revealed so conclusively by the test of August 8. The tests and examinations also showed that parts of the steam valve gear were much worn and that the larger bearings were in need of adjustment. Indicator diagrams showed a poor distribution of steam and consequent impairment of efficiency. The receivers were found in a leaky condition, and by cleaning the condensers the vacuum was increased one and one-half inches. The repairs found necessary were quickly made and were comparatively inexpensive.

The organization of the One Hundred and Seventy-ninth Street Station, in the number of men employed, was found to compare favorably with that at similar stations in other cities, and the daily rate of wages was found to be about the same as those prevailing for similar work on large pumping engines elsewhere. The excessive cost of pumping was due to inefficient management.

The Ninety-eighth Street Station contains pumps aggregating 25,000,000 gallons daily nominal capacity. Engines Nos. 1 and 2 have been in service twenty-three years, and they appear to be hardly worth the expense of repairing, particularly in view of their being of a design not giving good economy, even when in thorough repair. The No. 3 high duty engine at the Ninety-eighth Street Station is of modern design, and while well adapted for use in emergencies, it can best be shut down and the pumping concentrated at One Hundred and Seventy-ninth street, as will be later explained.

The High Bridge Station contains pumps of 11,000,000 gallons nominal daily capacity. These pumps are of design so uneconomical in operation, in comparison with the modern pumping engines at One Hundred and Seventy-ninth street, that it is best to abandon their use, withdraw the men, and do this pumping also by the engines at One Hundred and Seventy-ninth street.

During May, June, July and August, 1903, the average daily pumpage at these stations was 30,400,000 gallons at One Hundred and Seventy-ninth street; 20,400,000 gallons at Ninety-eighth street, and 1,500,000 gallons at High Bridge; a total of 52,300,000 gallons. The nominal daily capacity of the One Hundred and Seventy-ninth Street Station is 58,000,000 gallons, and an examination of the machinery shows that it can be prudently run at a speed to deliver about 64,000,000 gallons daily, which would give a surplus of about 11,700,000 gallons, or about 20 per cent. above the average total daily consumption of the past season. The centralizing at this station of all the pumping is thus found to be practicable for the immediate future. The existing mains and gate valves permit this arrangement.

The high duty pump at the Ninety-eighth Street Station should be maintained idle but ready for any emergency, with one or more boilers under steam and a minimum force of men in readiness.

By this centralization of the pumping there would be a large saving in the use of coal, due mainly to the better and more economic design of the engines at One Hundred and Seventy-ninth street.

The average cost per million gallons pumped one hundred feet high for all these stations during four months of the past season, after the tests and repairs at One Hundred and Seventy-ninth street had begun, but before they were finished, averaged \$6.27. After repair work now in progress is completed a saving will be found, and under good management and skilful firing the design of the engines and boilers makes it appear possible to pump in regular daily work at an expense per million gallons 100 feet high of not exceeding \$4. This would be a saving of 34 per cent., as compared with the cost for June, July and August, 1903; or instead of \$11,000 per month the cost should be about \$7,000 per month, saving nearly \$48,000 per year. The saving in comparison with the condition prior to beginning the tests and repairs in May, 1903, would be larger, for immediately prior to these tests and repairs it was taking six pumps to do the work subsequently performed by four.

#### New Jerome Park Station.

At this station, now under construction, slight changes were recommended, comprising the adding of an economizer and a superheater and the use of air pumps and feed pumps driven from the main engine. These would materially increase the duty in regular operation.

#### Pumping Station in Queens Borough.

There are in this borough five pumping stations operated by the City, one in Flushing, one in Bayside, one at Whitestone, and three in Long Island City, of which No. 2 has been out of commission for the past year because of a boiler explosion.

During the months of May, June, July and August, 1903, these averaged a daily pumpage from driven wells of about 3,600,000 gallons under an average total lift of 176 feet. The total pumping expenses during that period were \$18,945, making the average cost of pumping 1,000,000 gallons one foot high 24 cents, including only the cost of coal, attendance, ordinary repairs and supplies, and not including any allowance for interest, depreciation, sinking fund or extraordinary repairs.

The cost in small stations like these must always greatly exceed that in large stations, mainly because of the labor cost being relatively so much larger; but a comparison with the results achieved by small pumps under fairly comparable conditions in certain other cities indicate that this cost is unnecessarily high.

An inspection showed that all of these stations in Queens Borough, with the exception of those at Bayside and Flushing, contain antiquated machinery, some of it erected twenty-nine years ago being still in daily use. The Bayside and Flushing stations each contain one engine of modern design, which has been run alternately with the older and less economical engine.

The Chief Engineer, Mr. N. S. Hill, Jr., had already begun the renovation and repair of these plants, and proposes to replace the older engines in the larger stations, Long Island No. 1, Bayside and Flushing, by modern high duty engines. This should result in saving more than 40 per cent. of the fuel at these three stations, amounting on the basis of the present rate of pumping to \$6,250 per year. Beyond the replacement of old pumps by new in the larger stations, there are few important changes that can be recommended until the future source of supply for this growing borough has been more fully determined.

#### Pumping Stations in Borough of Brooklyn.

This Department has co-operated with Mr. I. M. de Varona, Chief Engineer, in the investigation of methods for securing greater economy in the operation of the numerous low lift driven well plants. It appears that this can be best attained by operating the several plants by motors with electricity generated at a power house which it is recommended should be established in connection with the Millburn Pumping Station. The electric transmission lines can be placed on the strip of land owned by the City in which the conduit runs.

The Pumping Department has also co-operated with Mr. de Varona in the preparation of plans and specifications for the Gravesend Station, upon designs for improving the economy of the proposed pumping station for the infiltration galleries at Wantagh, and has advised concerning the type of engine and layout of a plant for the new high service pumping engines at Ridgewood.

With regard to centralizing the pumping and lessening the cost of lifting the water from the present driven well stations into the conduit, nine sites, lying between Spring creek and Massapequa, have been selected by Mr. de Varona for future operation, all of which together will yield, by his estimate, 113,000,000 gallons per 24 hours.

The location of these may depend somewhat upon the success of and experience derived from the first infiltration gallery which is now in process of construction near Wantagh under Mr. de Varona's design and supervision.

The present driven well pumping plants are nearly all of a crude temporary character of construction. Most of them were built in a hurry to meet a temporary shortage of water, and the type of pump and engine is excessively wasteful of fuel. Thus the cost of pumping probably averages three times that which is necessary for scattered plants of this kind equipped with modern high grade machinery.

The Commission estimates that with centrifugal pumps of the latest design, electrically driven from a central power station, the cost need not exceed 8½ cents per million gallons raised one foot high, whereas in 1896 it averaged 27 cents with the present plants. The intermittent service has increased the cost per million gallons pumped, but in the future as ground water is given preference over surface water the economy will further increase with steadiness in operation.

A portion of the Brooklyn water is pumped and repumped four times:

1st. From the driven wells a total lift averaging 30 feet into the aqueduct leading to Millburn at a cost of about 27 cents per million gallons 1 foot high.

2d. By the pumps at Millburn it is lifted about 50 feet at a cost of 6½ cents to flow through the 48-inch pipes to Ridgewood.

3d. It is all lifted about 175 feet by the Ridgewood pumps at a cost of about 5 cents.

4th. About 9,000,000 gallons per day are lifted an average of 94 feet to the high service reservoir and tower at Mount Prospect, at a cost of about 11 cents per million gallons 1 foot high.

While a portion may thus be lifted four times, nearly half of the whole is only lifted once, namely, by the pumps at Ridgewood.

The Commission has estimated that a new system of pumping the ground water at the nine stations between Spring creek and Massapequa by electrically driven pumps, as described above, and having an aggregate capacity of 113,000,000 gallons daily can be provided for \$332,000, while a first installment of pumps capable of delivering 72,000,000 gallons daily, but with pumping stations of full size, would cost \$282,000.

The estimated saving in fuel, supplies and other expenses in pumping an average of 46,000,000 gallons per day against a total head averaging 30 feet, as compared with the cost at the rates actually incurred in the year 1896, would be about \$96,000 per year, or about 30 per cent. per annum on the proposed expenditure.

The power plant at Millburn and the pumping plants at Merrick, Wantagh and Massapequa could be erected ready for use within one year from signing of contract and the remaining stations could all be ready for operation in six months more.

#### Pumping Plant for the Wantagh Infiltration Gallery.

It was noted that under the contract recently made for this work the pumping plant to be provided by the contractor was designed for temporary use, or for a year pending the test of capacity and efficiency of the gallery system, and that it was of the same uneconomical class as the existing pumps, with the pumping station a frame building of temporary character. Therefore, it was recommended by this Commission that the specifications be so changed as to call for the latest design in centrifugal pumps of high efficiency, with provision for an electric motor, to be attached at any future time as a substitute for the steam engine. It was further pointed out that by the addition of condensers to the temporary engines about 25 per cent. of the coal could be saved, and that the permanent fireproof pumping station might as well be built now as at a later date, thus saving the cost of the temporary wooden structure.

#### Gravesend and New Utrecht Pumping Plants.

The advantage of consolidating these plants was mentioned by Mr. de Varona in his quarterly report for September 30, 1902, and an appropriation of \$100,000 was made later in that year for this work. A draft of specifications was submitted to this Commission in July, 1903, and returned in August with a recommendation for a triple expansion crank and flywheel engine capable of highest economy for daily use, with provision of a cheaper and simpler pump in the same station for emergencies. The cost of the latter would be about the same as for moving the present compound direct acting engine from the present station to the new station, while this triple expansion auxiliary would take only about half the fuel for pumping the same quantity of water.

The average pumpage at this station is taken at 6,000,000 gallons daily, and by centralizing this pumping for New Utrecht and Gravesend, and doing it with a new engine of the best class, it is estimated the annual cost for coal, labor and supplies need be only about \$16,000 per year, instead of the cost of about \$27,764 in 1902, for pumping an average of 4,300,000 gallons. The change and consolidation will thus permit pumping about 35 per cent. more water, while expending \$11,700 less per year.

#### Millburn Pumping Station.

This contains engines of a total nominal daily capacity of from 75,000,000 to 80,000,000 gallons, and an average of about 45,000,000 gallons daily has been pumped during the past year under an average head of about 50 feet, at an average cost of 6½ cents per million gallons one foot high. By using the high duty engines installed during the past year to the greatest extent practicable, it is expected that the cost per million gallons at this station can be reduced 20 per cent. as compared with previous years.

This Commission has suggested that a further saving could be made by providing more efficient means for furnishing dry steam to the engines and for heating the feed water.

In general this station was found to be in a satisfactory condition and with an excellent prospect of making a favorable record during the coming year by means of its new engines.

#### Ridgewood Pumping Station.

The old station contains pumps having an aggregate nominal capacity of 90,000,000 gallons daily, and the new station contains pumps of 57,500,000 gallons. All deliver into the Ridgewood Reservoir at an elevation of 170 feet above the tide. The expense of pumping and for repairs at these stations appears unduly large in comparison with the best examples found in other cities. The cost of boiler repairs also appears to have been excessive, and was found in such notable contrast to the low cost of repairs at the Millburn Station on same type boiler, that explanation was looked for in the quality of boiler feed water used.

The Ridgewood water receives a considerable percentage of chlorine and other deleterious matter from certain of the driven wells west of Millburn, which lie so near the seashore that brackish water flows in when they are heavily drawn upon. If the resulting excessive corrosion may be, as appears probable, mainly attributed to this inflow, it furnishes most striking evidence that additional expense may be justified for securing a pure, soft water when balancing one source against another, or in seeking additional water east of Millburn to replace that from the objectionable wells. Inasmuch as a 48-inch main direct from Millburn brings the same kind of water which acts so favorably in the Millburn boilers, into the Ridgewood Station, it is recommended that this be used exclusively for feeding its steam boilers.

The cost per million gallons of pumping at Ridgewood was reduced about 28 per cent. in 1899, in comparison with the years preceding, by the introduction of modern engines that replaced some of the old beam engines, but further economies can be readily attained. The cost of pumping appears to have been steadily increasing for three years past at the new Ridgewood Station, having been \$0.066 in 1899, \$0.076 in 1900, and \$0.080 in 1901, per million gallons one foot high. By adding two new triple expansion engines each of 20,000,000 gallons nominal daily capacity and substituting these for four of the old vertical compound engines now in daily use at the so-called New Ridgewood Station, and by sundry other economies at Ridgewood, it appears possible to reduce the average cost to \$0.045 per million gallons one foot high, including interest and sinking fund charges, or from the present cost of about \$173,000 per year down to about \$110,000 per year, thus saving about \$63,000 annually.

It is estimated that these two new high duty low service engines would cost complete with foundations and all accessories, \$355,000.

#### Proposed Consolidation of Mount Prospect Pumping Station with Ridgewood Station.

The two old beam engines of 9,000,000 gallons combined capacity daily and 70 feet lift, now used on the high service reservoir, are not economical and cannot be made so.

The two engines of 8,000,000 gallons combined capacity daily and 162 feet lift, on the extra high or "tower service," are doing as well as can be expected for direct acting engines of this type.

The Mount Prospect station as a whole is uneconomical and its pumping engines should be replaced by engines of the best modern type or consolidated with the Ridgewood plant. The latter plan appears to be the better arrangement. Mr. de Varona, in his report for 1902, estimates that 12,000,000 gallons daily will soon be required for this service, and estimated that a large annual saving in cost of operation could be made by either new pumps at Mount Prospect or consolidation at Ridgewood, with preference for the latter.

From the studies of the Commission it appears that a more favorable arrangement can be made than that proposed in the report of 1902, and that the best plan will be to utilize the present New Ridgewood Station for the accommodation of this future high service plant, putting in two new engines of the most economical type each of 15,000,000 gallons daily capacity to supersede the Mount Prospect Station, and gradually to replace the present five vertical compound low service engines each of 10,000,000 capacity by new and more economical engines of the vertical triple expansion crank and flywheel type, each of 20,000,000 gallons daily capacity. Two of these new engines could pump the 40,000,000 gallons daily of low service water now

pumped at this station and, as already stated, save about \$63,000 per year in the cost of the Ridgewood low service pumping. Adding to this the yearly saving in operating cost by pumping the Mount Prospect high service water by the proposed substitution of two new and economical engines located at Ridgewood, which was estimated by Mr. de Varona at \$40,610 per year, it appears that about \$103,000 per year can be saved in the expense of pumping the water for the high and low service supplies.

It is estimated that the cost of the Mount Prospect substitution should not exceed \$360,000, which added to the \$355,000 estimated for the changes in the Ridgewood low service pumps, gives a total estimated expenditure of \$715,000.

The saving as estimated above would pay about 14½ per cent. annual interest on this expenditure, and by working out the details carefully and with an efficient operation of the plant equal to that which can to-day be found in several large municipal plants, a further large saving can be made in cost of labor, oil, supplies and ordinary repairs.

#### Proposed Cross River Reservoir.

Early in the year the Commissioner of Water Supply, Gas and Electricity requested this Commission to examine plans for an impounding reservoir proposed to be built in the Croton watershed at Cross river, and to report its opinion upon the advisability of beginning the construction immediately.

On consideration of all the circumstances it was found that while this reservoir may at some future time be useful as an adjunct to the Croton system it does not appear to the Commission advisable to undertake its construction in the near future.

It would require several years to construct and therefore could not be in use much sooner than the large new supply proposed, and with this large supply once in use there would be no necessity for the Cross river reservoir for many years. It therefore appears better to devote the sum required for this reservoir to the new supply. Moreover the water from Cross river soon will be stored in the large reservoir formed by the new Croton dam.

#### The Hudson River and Lake George.

The waters of the Upper Hudson, meaning those secured from the Adirondack portion of the Hudson River watershed lying above Hadley, at the junction of the Sacandaga and the Hudson, have frequently been considered as possible sources of future water supply for The City of New York. The area of the Adirondack watershed available for this purpose is about 2,650 square miles. If the yield of this area be assumed at 750,000 gallons per square mile per day, the total available supply from this source would be about 2,000,000,000 gallons daily.

After making all necessary deductions for feeding the Champlain canal and for industrial purposes other than water power, it is apparent that a quantity largely in excess of 500,000,000 gallons daily could be taken for the supply of The City of New York. In this plan it would be necessary to convey the water by aqueduct from some point in the drainage area above Hadley to New York City, a distance of about 185 miles. The high cost of this project prohibits its execution.

If the water of the Hudson river is to be used for an additional supply for The City of New York, it would be much more economical and equally satisfactory from a sanitary point of view to take it from some point near Hyde Park, raise it by pumping to a reservoir and filter site at a suitable elevation on the high ground east of the river, filter it and conduct it to New York through an aqueduct of the required capacity. The efficiency with which it is feasible to operate filters at the present time would make the quality of the water entirely satisfactory. This constitutes by far the most practicable and economical plan of taking water from the Hudson river for purposes of additional supply. Indeed under this plan the waters of the Mohawk river and its tributaries are also equally available with those of the upper Hudson, as well as those of the other tributaries above the intake.

At the inception of the work of this Commission this plan of additional supply appeared to offer material advantages, and it was seriously studied, but as investigations progressed it was found that the high level gravity supply recommended was preferable.

When in the future it becomes necessary to resort to the Hudson river for a source of additional supply, storage reservoirs must be built in the Adirondacks to impound flood waters, to be released during the dry portion of the year as compensation for the amount drawn out for the City's supply. If this were not done the diminished flow in the river would induce a further up-flow of the diluted sea water under tidal influence.

The lowest discharge of the Hudson river at Poughkeepsie is about 1,500,000,000 gallons per day, while the ordinary minimum flow probably varies between that amount and 2,000,000,000 gallons per day. The abstraction of 500,000,000 gallons per day by pumping from the low water discharge of the river would, therefore, materially increase the up-flow of the salt water which it would be necessary to neutralize by a compensating release from the fresh water storage in the Adirondacks.

It has not been possible for the Commission to make surveys, examinations and estimates to determine quantitatively the elements of this problem of the Adirondack storage and pumping from the river, but it may be safely stated that the Adirondack portion of the watershed of the Hudson river, including the drainage areas of the Sacandaga river, Schroon river and the Hudson above Hadley afford sites for storage reservoirs having an aggregate capacity of upwards of 300,000,000,000 gallons. This amount of storage would be sufficient to add more than 2,500,000,000 gallons per day to the flow of the Hudson at Poughkeepsie in dry seasons. Under this system of compensation it would be feasible to keep the extreme point of upflow of dilute sea water probably below Poughkeepsie.

In the distant future, when the capacities of the gravity water supplies recommended by the Commission for first development are exhausted, it will probably be advisable to resort to pumping and filtering the Hudson river water in accordance with this outline plan. The availability and advantages of the recommended supplies are so great, however, that the Commission considered it advisable to direct its chief efforts toward completing plans for this development rather than diverting more of its funds and forces to securing details of the Hudson river plan, which will be needed only after a long period of years. The Commission, therefore, has no recommendation to make regarding the pumping and filtration of the Hudson river water, but it desires to point out the great resources in reserve of that plan for the future supply of the City. Indeed, the combined capacity of the gravity supplies recommended and of the Hudson for remote development is so great that they may be considered as constituting a practically unlimited supply for the future.

Lake George has also been advocated, both alone and in combination with adjacent watersheds on the north for additional supply. Its elevation is too low for a satisfactory gravity supply, and its drainage area is only about 230 square miles. Its yield is consequently too small to justify the necessary cost of securing it.

#### Millburn Reservoir—Brooklyn Supply.

This reservoir was recommended in 1885 and built in 1893 for the storage of surface water. As tests have shown that it does not hold water it has not yet been used.

At the request of the Commissioner of Water Supply, Gas and Electricity, specifications for work intended to make this reservoir tight, at a cost estimated at about \$500,000, were reviewed. After full consideration, this Commission is of the opinion that the utility of the reservoir to the Brooklyn water supply system is not sufficient to justify any such expenditure.

Some investigations were therefore made to determine if it could be made water tight, at a much smaller expenditure, by the introduction of turbid water and silting up of the leaks. Numerous borings were made in the bed of the reservoir and samples of the so-called layer of puddle taken for mechanical analysis and tests made of its permeability. This material was found so improperly placed, of such irregular and insufficient thickness, and of such poor quality, that it has not been thought wise to attempt this experiment.

Inasmuch as the future development of the Long Island supply will be in the direction of ground water, rather than surface water, and as these ground waters require storage in covered reservoirs, there appears to be no sufficient reason to justify the expenditure of further large sums of money to make this reservoir tight. It is not equal for storage purposes to the natural storage capacity for ground water of the sandy substrata of the island.

The Commission is therefore of the opinion that, as better water in sufficient quantity can be obtained by the further developing of the ground water supplies of Long Island, or by connection with Manhattan, that the Millburn reservoir be abandoned for the purpose for which it was built.

#### Increase of Population of New York City.

The estimate of future population of a great city like New York is attended with some uncertainty, but it is usually made by adding a constant percentage to the population estimated at the end of each of a series of assumed consecutive short periods, such as ten years. This produces an increase in geometrical ratio which may be considered sufficiently accurate for at least two or three decades. In the present case the Commission has attempted only to ascertain the population of The City of New York in 1925 or 1930, as is shown in Appendix X. The statistics employed for this purpose are those found in the report of "New York City's Water Supply," by John R. Freeman, 1900, and those received from the Department of Health of the City in October of the current year. In 1890 the population of those communities now consolidated in The City of New York, was as follows:

Manhattan and The Bronx.	Brooklyn.	Queens.	Richmond.
1,612,559	840,857	86,502	51,805

In the year 1900 the population in the different boroughs of the consolidated City reached the following amounts:

Manhattan.	The Bronx.	Brooklyn.	Queens.	Richmond.
1,851,887	202,092	1,169,796	153,734	67,166

With the rates of growth exhibited during the past thirteen years it is estimated that the probable population of the five boroughs of the City will be about as follows in 1925:

Manhattan.	The Bronx.	Brooklyn.	Queens.	Richmond.
2,130,000	675,000	2,705,000	680,000	130,000

Under this approximate estimate the population of the entire City would be about 6,320,000 in 1925.

If there be assumed for purposes of estimate a consumption of 150 gallons per head of population per day at that time, the amounts consumed in the different boroughs would be:

Manhattan. (Gallons.)	The Bronx. (Gallons.)	Brooklyn. (Gallons.)	Queens. (Gallons.)	Richmond. (Gallons.)
319,500,000	101,250,000	405,750,000	102,000,000	19,500,000

The total of these estimated quantities for the entire City would be 948,000,000 gallons per day.

The increase in consumption per head of population with the lapse of time has been the subject of much study among civil engineers. It is a matter of practically universal observation that the use of water for legitimate purposes encourages a still greater use, but there are no data available at the present time on which quantitative conclusions may be based. The introduction and enforcement of regulations directed toward the reduction of waste and the use of other available means to accomplish that end may be depended upon to reduce the per capita consumption in The City of New York, as has been set forth in another place in this report; but it is impossible to state definitely what that reduction may be. The general experience in other cities where the increase of per capita daily consumption has been studied leads the Commission to believe that in the estimate for the future requirements of the City a less quantity than 150 gallons per head per day twenty-five years hence should not be taken. That amount therefore has been used in the computations on which the Commission's conclusions are based. Further considerations and data bearing upon this subject will be found in Appendix X.

#### The Feasibility of Developing a Temporary Supply.

The Commission gave careful consideration to the feasibility of finding some temporary additional supply at moderate cost pending the completion of the permanent additional supply, but was forced to the conclusion expressed in the progress report of September 17, 1903, viz., that "no possible quickly available and near source or anything that would be worth the trouble or expense of development as an interim supply to make good the present excess of consumption in Manhattan and The Bronx over the recorded actual yield of the present watersheds in a year of extreme drought."

#### SUMMARY OF COSTS.

The works recommended to be constructed first comprise a section of the Hill View reservoir of 600,000,000 gallons capacity, the main aqueduct of 500,000,000 gallons daily capacity from that reservoir to Stormville reservoir, a section of the Stormville filters of 50,000,000 gallons daily capacity, the twin aqueduct, one channel of 400,000,000 gallons, and the other of 250,000,000 gallons daily capacity from the Stormville reservoir to the Billings reservoir and these two reservoirs. This construction will afford an additional supply of 60,000,000 gallons per day. Concurrently with the preceding construction, the aqueduct of 400,000,000 gallons daily capacity should be built from the Billings reservoir to the Ashokan reservoir, and at the same time the latter reservoir should also be under construction.

It is estimated that the first part of this work, i. e., extending from Hill View reservoir to Billings reservoir, may be built under efficient management within four to five years, and that the second part of the construction, extending from Billings reservoir to the Ashokan reservoir, may be completed within the same period, if the labor market affords sufficient force and the money is provided.

The summary of costs of this construction is as follows:

#### Reservoirs—

Hill View covered reservoir, first section, of 600,000,000 gallons capacity.	\$9,059,000 00
Stormville filter plant, first installation, of 50,000,000 gallons daily capacity.	3,581,000 00
Stormville reservoir, ten thousand million gallons capacity.	2,503,000 00
Billings reservoir, six thousand eight hundred million gallons' capacity.	1,806,000 00
Ashokan reservoir, sixty-six thousand five hundred million gallons capacity.	11,734,000 00
	\$28,683,000 00

#### Total.

High Level Aqueducts—	
From Hill View to Stormville filters.	\$18,755,000 00
From Stormville to Billings, twin aqueduct.	3,584,000 00
From Billings to Ashokan, including Hudson river crossing.	9,076,000 00
	31,415,000 00

#### Total cost of construction.

Total cost of construction.	\$60,098,000 00
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These estimated costs include actual contract and all other expenditures, except those for damages to water rights. These works will afford an additional supply of nearly 320,000,000 gallons daily.

It is estimated that the complete construction of reservoirs, filters and aqueducts for the full additional supply of 500,000,000 gallons per day may be required by 1925. The costs of the remaining construction in excess of that already provided for will be as follows:

#### Reservoirs—

Hill View reservoir completed to two thousand and thirty million gallons in 1925.	\$13,168 00
Stormville filters completed to five hundred million gallons daily capacity in 1925.	14,646 00
Hibernia reservoir, thirty thousand five hundred million gallons' capacity.	9,308,000 00
Silvernails reservoir, seventeen thousand two hundred million gallons' capacity.	5,530,000 00
	\$42,652 00

#### Total.

Aqueducts—	
Additional cost for completed aqueduct between Hill View and Stormville.....	\$1,510,000 00
Additional cost for completed aqueduct between Billings and Ashokan.....	4,369,000 00
Aqueduct from Billings reservoir to Hibernia reservoir, three hundred million gallons daily capacity.....	1,573,000 00
Aqueduct from Hibernia to Silvernails, two hundred and twenty million gallons daily capacity.....	1,276,000 00
	8,728,000 00
Total cost of additional construction is.....	\$51,380,000 00

These additional costs, like those covering the first portions of the work to be constructed, include all expenditures such as those for land, clearing reservoir sites and other similar costs, except water damages along the stream from which the additional supply is taken.

The total cost of the entire works required to deliver the additional high service supply of 500,000,000 gallons per day will be the sum of the two preceding totals:

Total cost of entire work..... \$111,478,000 00

If instead of developing the Jansen kill it should be considered preferable to take the soft waters of Rondout creek, the preceding estimates of cost would be modified to the extent of substituting the expenditures necessary to secure the Rondout water for those required to secure the Jansen kill water. The Commission believes that the latter procedure will be found to be preferable, but the impossibility of completing Rondout surveys does not permit accurate estimates to be made for securing the Rondout water.

#### Damages to Water Rights.

The services of Messrs. Dean & Main, of Boston, were secured for the Commission to inspect and report upon the water rights along Fishkill and Wappinger creeks and the Jansen kill, with a view to making an approximate estimate of the damages to those rights which would be caused by the proposed diversion of water for the additional supply of The City of New York. Such an estimate must necessarily be approximate only and subject to revision. The entire damage on Fishkill and Wappinger creeks was estimated not to exceed about \$1,250,000, and it may fall below \$1,000,000, this sum being about equally divided between the two streams.

The entire damage to water rights on the Jansen kill resulting from proposed diversion of water for the City's use is small and may run from about \$50,000 to \$100,000.

No detailed approximate estimate was made of damages which might result to water rights on Esopus creek, as both funds and time were lacking, but informal estimates were made by members of the engineering force of the Commission. It is believed that these damages will not exceed \$400,000 to \$450,000 on this stream.

Further examinations of this character must be made in detail before the final estimates for damages to water rights can be reached for the streams on either side of the Hudson.

#### RECAPITULATION.

The Commission has endeavored to make its investigations comprehensive, embracing a study of the present supply and of practicable sources of future supply not excluded by the instructions of the Corporation Counsel as to interstate waters.

The general sanitary conditions of the water at present supplied to all boroughs is found to be not entirely satisfactory, although the typhoid death rate of New York and Brooklyn is lower than in most large American cities. The supply in general is found to be carefully safeguarded from the standpoint of health, although occasionally turbid and rarely malodorous.

It is recommended that works be immediately begun for the filtration of the Croton supply and that all the new supplies be filtered. It is also recommended that the reservoirs in Central Park be cleaned and that they be covered as soon as the Croton supply is filtered.

The waste of water has been investigated and found largely due to defective plumbing and fixtures. The leakage from street mains is found to be less than heretofore supposed. This problem of the amount of distribution of the water waste is an extremely difficult one, and it is recommended that these investigations be continued and extended by permanently districting the City for this purpose and ascertaining the inflow and outflow for each district, and that the cause of the large night flow be more fully investigated.

The Commission recommends further, for the prevention of waste, that the house to house inspection be continued and extended, that the rate of consumption in representative buildings be studied, that more stringent plumbing regulations be enforced and that meters be more generally applied. It is strongly of the opinion that, notwithstanding the greatest possible reduction of waste, a large additional supply of water is imperative.

It is found that all boroughs of The City of New York are in need of an increased supply of water. The present supply is already drawn upon to an extent that might lead to a dangerous shortage in a year of drought.

A study of the growth in population and the increase in per capita use of water causes the Commission to recommend that works be immediately begun on an additional supply capable of gradual development, first of about 60,000,000 gallons per day, but capable of ultimate development to 500,000,000 gallons per day, the principal aqueduct being built of the full capacity at first.

The sources recommended for immediate development are the upper Fishkill and the Esopus creeks, the latter to be by means of a much larger dam than heretofore proposed, creating a storage reservoir of nearly 70,000,000,000 gallons capacity. All these new works are to be at an elevation such that the water can be delivered by gravity at a large terminal reservoir near the City limits at an elevation of 295 feet above tide.

The upper Fishkill and the Esopus creeks can supply more than 300,000,000 gallons per day. The aqueducts are planned so that they can in future years be readily supplemented from the head waters of the Rondout and Wappinger creeks and the Jansen kill.

The least time required for building the new work, limited by the long tunnels through the mountains east of Peekskill, is estimated at about five years, and as soon as the aqueduct from Billings into the Croton watershed is completed 60,000,000 gallons of water daily can be added to the Croton supply and brought into the City through the Old Croton Aqueduct.

For Brooklyn and Queens an immediate development of the ground water sources of Queens and Nassau counties is recommended, and that all surface supplies be filtered; also that ultimately these Long Island sources be supplemented by a branch conduit from the proposed 500,000,000-gallon aqueduct from the north of Manhattan.

For Richmond the Commission has approved of a ten-year contract with a private company for the immediate introduction of filtered water from New Jersey.

The high pressure from the proposed New Aqueduct will eliminate the cost of pumping the high service supply for Manhattan and The Bronx, and will afford a supply for special fire mains, thus affording much better protection against fire than any salt water fire system.

The important pumping stations of the several boroughs have been examined and their condition reported. Recommendations are made which, if adopted, will annually save large sums of money.

An additional supply of about 60,000,000 gallons daily can be secured from the Fishkill watershed within five years from the time of beginning the work at a cost of about \$39,000,000. An additional supply of nearly 320,000,000 gallons daily may be secured from the watersheds of the Fishkill and Esopus creeks for a further expenditure of about \$21,000,000, making a total of about \$60,000,000. The latter construction may be completed to such an extent as to draw on the Esopus water within the same period of about five years.

The entire additional supply of 500,000,000 gallons per day can be secured at a cost of about \$99,000,000. This final construction need not be completed before 1925.

#### Acknowledgments.

The Commission desires to express its hearty appreciation of the professional skill, sound judgment, zeal and energy of the Department Engineers in the prosecution of the various fields of work assigned to them; and it also desires to express its appreciation of the industry and thoroughness displayed by the field and office forces in the discharge of their duties throughout the work of the Commission. It is probably sel-

dom that such an unprecedentedly large amount of work has been done so satisfactorily in such a limited time, and the Commission takes pleasure in expressing its unqualified commendation of the manner in which its forces have performed their duties.

Respectfully presented,  
WM. H. BURR,  
RUDOLPH HERING.  
JOHN R. FREEMAN.

The Board proceeded to the consideration of the bids for the New York Library book stack work.

The Secretary presented the following reports of the Engineer of the Department of Finance relative to the bids for the same:

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
November 23, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—The Library Bureau, by its President, in communication under date of November 19, 1903, to the Board of Estimate and Apportionment, in relation to the bids opened for the Public Library by the Park Department on October 29, 1903, states:

Bids were opened as follows:

Item 1—For all the work in the main stack room and the work in the miscellaneous room, as shown on contract drawings, the sum of.

Item 2—For additional stack work or wall shelving of same construction as main stacks, not including the ends, complete in place, per cubic foot.

Item 3—For cast-iron work for ends for duct, register and conveyor enclosures, types B and C, complete in place, per pound.

Item 4—For deck floors complete in place with framing and strings, type B, per square foot.

Item 5—For deck floors complete in place with framing and strings, type C, per square foot.

Name.	Main Bid.	Items.	Items.	Items.	Items.
Van Dorn Iron Works.....	\$681,000 00	.....	.....	.....	.....
Van Dorn Iron Works.....	687,000 00	.....	.....	.....	.....
Van Dorn Iron Works.....	689,000 00	\$0 60	\$0 20	\$5 20	\$6 00
Library Bureau.....	730,240 00	80	09 1/2	2 00	2 25
Snead Iron Works.....	824,912 00	1 20	11	4 50	4 50
A. M. C. Art Metal Construction Company.....	1,314,617 00	2 50	15	10 00	12 00

Preference was expressed for the Snead Company bid.

All bids were under the same specifications, except that bidders submitted samples of proposed construction of shelves and shelf supports, which latter feature constituted a small fraction of the work.

The preference expressed by the architects and Library Committee was based on the use of the cast-iron end and intermediate shelf supports offered by the Snead Company, as opposed to the steel end and intermediates tendered by the Library Bureau.

In all other respects the same construction and finish may be demanded by the architects from either bidder, under the terms of the contract and specifications.

Without extra cost to the City the Library Bureau will agree to substitute cast-iron shelf supports as a substituted detail of construction, thereby saving the City \$94,672 on the original installation and 50 per cent. of the cost per cubic foot on additional installation.

The shelf shown with the Snead sample is what is known as the "gridiron." A similar shelf is offered by the Library Bureau under its bid and in its accompanying specifications delivered to the architects.

The question of steel or cast-iron supports, therefore, appears to be the only question involved, and the Library Bureau offers the cast-iron at the same price as steel.

I would report:

As stated by the President of the Library Bureau, the form of proposals given to the bidders was under the same specifications, except that the bidders were to submit samples of the proposed construction of shelves and shelf supports.

The sample or model as submitted by the Snead & Co. Iron Works is a cast-iron upright for the end and intermediate shelf supports, and the shelves are what is known as the "gridiron shelf," that is, it is made up of inverted steel troughs.

The upright shelf supports in the Library model are steel cut to form support for the shelves, which are steel plates.

I consider the model as submitted by the Snead & Co. Iron Works to be the best for the purpose as to construction, general arrangement and much more desirable for the main stack room.

The proposition now submitted by the Library Bureau as explained to me by its representatives, the President, Vice-President and Attorney for the company, is that the Library Bureau will construct and erect the stack work similar to the work as shown by the model submitted by the Snead & Co. Iron Works for the same amount as bid for the work as per models submitted by them.

Conceding the fact that the Library Bureau are as capable and as reliable to do as good work as the Snead & Co. Iron Works, pursuant to the provisions of section 7 of the proposal for bids or estimates, "permission will not be given for the withdrawal of any bid," I do not see how the Board of Estimate and Apportionment can accept the proposition of the Library Bureau as set forth in its communication of November 19, 1903.

In my opinion the question before the Board of Estimate and Apportionment now is what bid shall be accepted, or shall all the bids be rejected. As set forth in section 2, chapter 556 of the Laws of 1897, the Board of Estimate and Apportionment "may select such bid or bids, proposal or proposals, acceptance of which will in their judgment best secure the efficient performance of the work, or they may reject any or all of said bids and direct a readvertisement as herein above provided."

But as the acceptance of the Library Bureau's proposition is purely a legal question, it might be well to submit the matter to the Corporation Counsel for his advice.

Respectfully,  
EUG. E. MCLEAN, Engineer.

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
November 24, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—Hon. William R. Willcox, Commissioner of Parks, boroughs of Manhattan and Richmond, in communication under date of November 12, 1903, transmits to the Board of Estimate and Apportionment for the consideration of the Board, pursuant to the provisions of chapter 556, Laws of 1897, bids or proposals (four in number) which were received by the Park Board on October 29, 1903, after due advertisement, as required by the law cited for the erection and completion of the library stack work in the New York Public Library, Astor, Lenox and Tilden Foundations. I would report that the attached memoranda of bids received are in total as follows:

Art Metal Construction Company .....	\$1,377,887 00
Library Bureau .....	754,915 00
The Snead & Co. Iron Works .....	856,187 00
The Van Dorn Iron Works, Bid A.....	716,650 00
The Van Dorn Iron Works, Bid B.....	708,650 00
The Van Dorn Iron Works, Bid C.....	714,650 00

It will be noted that the alternative bid (B), \$708,650, submitted by the Van Dorn Iron Works, is the lowest, but from a careful examination of all the models accompanying the bids, I consider the models as submitted by the Snead & Co. Iron Works to be the best for the purpose, as to construction and general arrangement, and much more desirable than the other styles for the main stack room work. Pursuant to section 2, chapter 556 of the Laws of 1897, the Board of Estimate and Apportionment "may select such bid or bids, proposal or proposals, acceptance of which will, in their

judgment, best secure the efficient performance of the work, or they may reject any or all of said bids and direct a readvertisement as herein above provided."

The Architects, Messrs. Carrere & Hastings, in a very concise and decisive report to the Park Board, under date of November 11, 1903, recommend that the bid of \$856,187, submitted by the Snead & Co. Iron Works, be accepted, and that the contract be made with them for the work. The Board of Trustees of the New York Public Library, Astor, Lenox and Tilden Foundations, at a meeting held November 11, 1903, approved of the plans and models for the stacks and book shelves furnished by the Snead & Co. Iron Works, and consider them to be, on the whole, preferable for the purpose of the New York Public Library Building to those submitted by other parties, and recommend their acceptance.

I agree with the views expressed by the Architects, but in view of the communication of the Library Bureau and the protest of the Van Dorn Iron Works, I would recommend that all the papers be referred to the Corporation Counsel for advice as to what action can be taken by the Board of Estimate and Apportionment.

I would add that the forms of contract, specifications and bond have not been approved by the Board of Estimate and Apportionment, as required, pursuant to section 2 of chapter 556 of the Laws of 1897, viz.:

"The said Department of Public Parks shall prepare and submit to the Board of Estimate and Apportionment forms of contracts, specifications and bonds for the

faithful performance of the work and the furnishing of materials required, from time to time, to be approved by the Corporation Counsel of The City of New York as to form. When such contracts and specifications and the form of bond shall have been approved by the Board of Estimate and Apportionment, the Commissioners of Public Parks shall advertise for sealed bids or proposals for doing the work and furnishing the materials, as called for by the contract."

Respectfully,  
EUG. E. McLEAN, Engineer.

P. S.—By opinion of the Corporation Counsel, dated December 3, 1903, the irregularity of the Park Department in failing to submit the plans and specifications to the Board of Estimate and Apportionment for its approval prior to an advertisement, may be removed by the Board approving the form of contract and specification and bond and awarding the contract to the bidder whom it may select, which will amount to a ratification of the proceedings thus far had in the matter of the contract, and cure the irregularity referred to in the above report. The plans and specifications have been drawn and made with care, and I think they may be properly approved by the Board.

EUG. E. McLEAN, Engineer.

December 7, 1903.

Table of Bids for Work and Materials for Erection and Completion of the Library Stack Work in the New York Public Library, Astor, Lenox and Tilden Foundations, Fifth Avenue, Fortieth and Forty-second Streets. Opened October 29, 1903.

Items and Quantities.	Art Metal Construc- tion Company.	Library Bureau.	The Snead & Co. Iron Works.	The Van Dorn Iron Works.		
				A.	B.	C.
1. For all of the work in the main stack room and the work in miscellaneous rooms; lump sum	\$1,314,637 00	\$730,240 00	\$824,912 00	\$689,000 00	\$681,000 00	\$687,000 00
2. For additional stack work or wall shelving; 10,000 cubic feet	25,000 00	8,000 00	12,000 00	6,000 00	6,000 00	6,000 00
3. For cast-iron work for ends for duct and conveyor, inclusive. Type B or C; 10,000 pounds	1,500 00	950 00	1,100 00	2,000 00	2,000 00	2,000 00
4. For deck floors, complete in place, with framing and strings. Type B; 500 square feet	5,000 00	1,000 00	2,250 00	2,600 00	2,600 00	2,600 00
5. For deck floors, complete in place, with framing and strings. Type C; 500 square feet	6,000 00	1,125 00	2,250 00	3,000 00	3,000 00	3,000 00
6. For gallery rail, complete in place. Type B; 200 linear feet	2,500 00	1,700 00	2,250 00	1,800 00	1,800 00	1,800 00
7. For gallery rail, complete in place. Type C; 200 linear feet	11,000 00	5,900 00	5,200 00	6,000 00	6,000 00	6,000 00
8. For stairs and rail, complete in place. Type B; 5 flights	3,250 00	2,000 00	2,225 00	2,250 00	2,250 00	2,250 00
9. For stairs and rail, complete in place. Type C; 5 flights	9,000 00	4,000 00	4,000 00	4,000 00	4,000 00	4,000 00
Total	\$1,377,877 00	\$754,915 00	\$856,187 00	\$716,650 00	\$708,650 00	\$714,650 00

CITY OF NEW YORK—DEPARTMENT OF PARKS,  
ARSENAL, CENTRAL PARK,  
December 5, 1903.

To the Board of Estimate and Apportionment, The City of New York:

GENTLEMEN—I beg to transmit herewith copies of the following documents:

1. Letter from Messrs. Carrere & Hastings, calling attention to the fact that the specifications, etc., in the contract for stack work in the New York Public Library Building had not been approved by your Board, as required by law.

2. Letter to the Corporation Counsel, asking if the matter could be cured by a resolution to be adopted by your Board at this time.

3. Copy of an opinion of the Corporation Counsel, stating that the oversight can be cured by a resolution to be adopted by your Board at the time of letting the contract.

The matter of awarding the contract for the stack work in the New York Public Library Building is now before your Board for action, as required by law. I now beg to request that your Honorable Board will pass a resolution approving of the specifications and contract, as recommended by the Corporation Counsel.

Respectfully,

W. R. WILLCOX,  
Commissioner of Parks, Boroughs of Manhattan and Richmond.

Form of contract and specifications is also inclosed.

LAW DEPARTMENT—OFFICE OF THE CORPORATION COUNSEL,  
NEW YORK, December 3, 1903.

Hon. WILLIAM R. WILLCOX, Commissioner of Parks, Boroughs of Manhattan and Richmond:

SIR—I am in receipt of your communication of November 25, 1903, in regard to a contract for the stack work of the New York Public Library Building. It seems that a form of contract, specifications and bond for the stack work was prepared by the Department of Parks, and bids therefor were advertised without submitting the form to and obtaining the approval of the Board of Estimate and Apportionment. The bids submitted in answer to the advertisement are now before the Board of Estimate and Apportionment for award, and I am asked to advise you whether the approval of the Board of Estimate and Apportionment of the form of contract, specifications and bond at the present time would remedy the omission of the Park Department to secure the Board's approval thereof before advertising for bids.

The construction of a public building to be occupied by the New York Public Library was authorized by chapter 556 of the Laws of 1897. Section 2 made it the duty of the Department of Parks to prepare and submit to the Board of Estimate and Apportionment forms of contracts, specifications and bonds for the faithful performance of the work and the furnishing of materials required, from time to time, which forms were to be approved by the Corporation Counsel as to form.

"When such contracts and specifications, and the form of bond, shall have been approved by the Board of Estimate and Apportionment, the Commissioners of Public Parks shall advertise for sealed bids or proposals for doing the work and furnishing the materials, as called for by the contract. \* \* \* The contracts shall be several, and cover such portion or portions of the work respectively as the said Board of Estimate and Apportionment shall decide. The bids shall be opened by said Commissioners, and shall be submitted to the Board of Estimate and Apportionment. Said Board may select such bid or bids, proposal or proposals, the acceptance of which will, in their judgment, best secure the efficient performance of the work, or they may reject any or all of said bids and direct a readvertisement, as hereinabove provided. \* \* \*"

I am of opinion that the Board of Estimate and Apportionment having had the power originally to approve the form of contract, specifications and bond in accordance with which the stack work of the building was to be constructed, have power to cure the irregularity of the Park Department in failing to submit the same for its approval prior to advertisement, and that a resolution of the Board approving the form of contract, specifications and bond and awarding the contract to the bidder whom it may select, will amount to a ratification of the proceedings thus far had in the matter of the contract and cure the irregularity referred to. In my opinion the provisions of section 2, of chapter 556 of the Laws of 1897, so far as they prescribe the mode in accordance with which contracts for the erection of the building, or any part thereof, are to be awarded, are directory, and while they must be followed in order to make a valid contract, a departure from the precise order of the various steps may be a mere irregularity which may be cured by subsequent action by the Board of Estimate and Apportionment.

Peterson vs. The Mayor of New York, 72 N. Y. 449;  
Moore et al. vs. City of Albany, 98 N. Y. 396;

Marsh vs. Fulton County, 10 Wallace 676.

Respectfully yours,  
(Signed) G. L. RIVES, Corporation Counsel.

November 25, 1903.

Hon. GEORGE L. RIVES, Corporation Counsel:

DEAR SIR—I am informed by the architects for the New York Public Library Building that Mr. McLean, the Chief Engineer of the Department of Finance, has been unable to find any record of the submission to and approval by the Board of Estimate and Apportionment, of the form of contract, specifications and bond for the stack work of the Library Building, as required by section 2, chapter 556 of the Laws of 1897.

In view of the possibility that this informality may result in the rejection of all of the bids, I beg to request that you will inform me what, in your opinion, would be the effect of such an omission. Please also state whether the approval of the Board at this time, or at the time of awarding the contract on the bids already received, would remedy such a defect.

The architects report that it would be extremely unfortunate to have the bids now under consideration rejected and the work readvertised, as it would produce a class of competition for the work that would be undesirable, many persons bidding who have no knowledge of the complications of stack work, and no adequate equipment for its production. They also report that the bids already received represent practically all of the stack work productions available, and that to throw open the matter for new bidding would put all of the present bidders at great disadvantage.

As the awarding of the contract is now before the Board of Estimate for consideration, may I request an opinion upon the subject at the earliest moment possible.

Very truly yours,  
WM. R. WILLCOX, Commissioner.

RE NEW YORK PUBLIC LIBRARY.

CARRERE & HASTINGS,  
No. 28 EAST FORTY-FIRST STREET.

WILLIAM R. WILLCOX, Esq., Park Commissioner, New York:

DEAR SIR—The Comptroller's Engineer, Mr. McLean, has, in examining the bids for the New York Public Library stack work been unable to find any record of the submission to and approval of the form of contract, specifications and form of bond for this stack work by the Board of Estimate and Apportionment, as required by section 2 of chapter 556 of the Laws of 1897, under which Legislative act the library work is being carried on. In view of the possibility that this informality may result in the rejection of all of the bids, we request that an opinion be obtained from the Corporation Counsel as to the effect that the lack of such approval by the Board of Estimate and Apportionment may have upon the legality of the contract, and also whether the approval by the Board of Estimate and Apportionment at this time or at the time of the awarding of the contract on the bids now received would cure this defect.

It would be extremely unfortunate to have the bids now under consideration thrown out and the work readvertised, as this would certainly produce a class of competition for the work which would be most unfortunate and would undoubtedly result in bidding by many parties who have no knowledge of the complications of stack work and no adequate equipment for producing such work. The bids already received represent practically all of the stack work productions available, and the throwing open of the matter for new bidding would put all of these present bidders at great disadvantage. We therefore hope that the present seeming informality will not affect the question, but that we may be able to have the contract awarded on the bids now under consideration. As the matter is ready for approval by the Board of Estimate and Apportionment, it seems desirable to have an opinion from the Corporation Counsel as early as possible.

Yours respectfully,  
CARRERE & HASTINGS.

The President of the Borough of The Bronx appeared and took his place in the Board.

Dr. Billings, of the New York Public Library, appeared and made a statement favorable to the bid of the Snead & Co. Iron Works.

Mr. John N. Carrere, of the firm of Carrere & Hastings, Architects of the New York Public Library, also spoke in favor of the bid of the Snead & Co. Iron Works.

Mr. F. Kingsbury Curtis appeared on behalf of the Library Bureau.

Mr. Charles D. Thompson appeared on behalf of the Snead & Co. Iron Works.

Mr. H. A. Rock appeared on behalf of the Van Dorn Iron Works Company.

The President of the Borough of Brooklyn moved that all bids be re-advertised for, which motion was lost by the following vote:

Affirmative—President, Board of Aldermen, Presidents of the Boroughs of Brooklyn and Bronx—6.

Negative—Mayor, Presidents of the Boroughs of Manhattan, Queens and Richmond—7.

The Comptroller did not vote.

A resolution was presented approving of the award of the contract to Messrs. Snead & Co. Iron Works, which was lost by the following vote:

Affirmative—Mayor, Comptroller, Presidents of the Boroughs of Manhattan, Queens and Richmond—10.

Negative—President, Board of Aldermen, Presidents of the Boroughs of Brooklyn and The Bronx—6.

Note—12 votes being necessary under the provisions of the Charter to pass an original resolution.

The Mayor presented the following resolutions:

Resolved, That owing to the fact that the proceedings appear to be irregular the specifications be disapproved.

Which resolution was adopted by the following vote:

Affirmative—The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx and Richmond—15.

Negative—President Borough of Queens—1.

Resolved, That in view of the failure to submit the specifications to this Board before advertisement, the bids be rejected and new competition called for.

Affirmative—The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx and Richmond—15.

Negative—President Borough of Queens—1.

The Secretary presented the following communications from the District Attorney of New York County, requesting an issue of Revenue Bonds to the amount of \$20,000:

DISTRICT ATTORNEY'S OFFICE,  
COUNTY OF NEW YORK,  
December 15, 1903.

To the Honorable the Board of Estimate and Apportionment of The City of New York,  
New York City:

GENTLEMEN—In pursuance to the provisions of section 1542 of the amended Greater New York Charter I hereby certify that the public interest demands, for the proper conduct of the following actions, which are of exceptional difficulty, that an additional appropriation be made, and I respectfully request that your Honorable Board authorize the Comptroller to issue Special Revenue Bonds to the amount of twenty thousand dollars to provide the necessary means therefor:

"People vs. Richard C. Flower, Richard A. Canfield, David Bucklin, Darius W. Ettinger, Tomaso Petto, Thomas J. Diamond, Daniel J. Kennedy, William Hooper Young, Thomas Tobin, Alexander McEnerney, Albert J. Adams, Harry Rose, George E. Mills, Juliette Larsen, John R. Kingsley, Nellie Fletcher, Joseph Trapani and William Leonard."

In view of the fact that exceptional expenses have been incurred in the conduct of the said cases, and that the appropriation of \$50,000 annually granted for "Supplies and Contingencies, Including Arrearages," has been insufficient to meet the ordinary expenses of this Department, as stated in my Departmental Estimate, wherein I called the attention of your Honorable Board to the fact that it was absolutely essential that the sum of \$75,000 should be appropriated for "Supplies and Contingencies for 1903, Including Arrearages."

As an offset to the \$50,000 allowed for contingent expenses for the year 1903, it is proper for me to inform your Honorable Board that during the past eleven months under my administration of this Department I have collected on forfeited recognizances and turned over to the City Chamberlain the sum of \$51,545.61, which amount is the largest which has ever been collected under any administration.

I therefore respectfully request that your Honorable Board authorize the issuance of the said Special Revenue Bonds at your earliest convenience.

Very truly yours,

WM. TRAVERS JEROME, District Attorney.

Hon. SETH LOW, Chairman, Board of Estimate and Apportionment, New York City.

The following resolution was offered:

Resolved, That, pursuant to the provisions of section 1542 of the Greater New York Charter, the Board of Estimate and Apportionment hereby appropriates the sum of fifteen thousand dollars (\$15,000), for the payment of all the necessary expenses for the proper conduct of the following criminal actions, as requested in the communication of the District Attorney, dated December 15, 1903, viz.:

The people vs. Richard C. Flower, Richard A. Canfield, David Bucklin, Darius W. Ettinger, Tomaso Petto, Thomas J. Diamond, Albert J. Adams, George E. Mills, —and that for the purpose of providing means for the payment thereof, the Comptroller is hereby authorized to issue Special Revenue Bonds of The City of New York to the amount of fifteen thousand dollars (\$15,000), redeemable from the tax levy of the year succeeding the year of their issue.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Secretary presented the following communication from the President of the Borough of Queens, requesting an issue of Special Revenue Bonds to the amount of \$3,500 for the completion of the Topographical Map and various other maps of the Borough of Queens:

CITY OF NEW YORK,  
OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS,  
LONG ISLAND CITY, December 15, 1903.

J. W. STEVENSON, Esq., Secretary, Board of Estimate and Apportionment:

DEAR SIR—Herewith I forward you resolution authorizing the issue of Special Revenue Bonds of The City of New York for the purpose of continuing the present force of the Topographical Bureau of the Borough of Queens until the end of the present year, which kindly have placed on the Calendar for the next meeting of the Board of Estimate and Apportionment, and oblige,

Yours respectfully,

GEO. S. JERVIS, Secretary to the President.

The following resolution was offered:

Resolved, That the Board of Estimate and Apportionment hereby approves of and concurs in the resolution of the Board of Aldermen, adopted July 14, 1903, and approved by the Mayor July 28, 1903, in relation to an appropriation for the completion of the Topographical Map and various other maps of the Borough of Queens, and to properly monument the streets, roads and highways as designated thereon, under the direction of the President of the Borough of Queens, and that for the purpose of providing means therefor the Comptroller be and is hereby authorized, pursuant to the provisions of Sub-division 8 of section 188 of the Greater New York Charter, to issue Special Revenue Bonds of The City of New York, to the amount of three thousand five hundred dollars (\$3,500), redeemable from the tax levy of the year succeeding the year of their issue.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Secretary presented a resolution of the Board of Aldermen authorizing the Mayor to appoint a Commission consisting of the present Borough Presidents and such additional persons as he shall determine, to serve without compensation, for the purpose of preparing plans for the beautifying and development of the City, and authorizing the issue of \$15,000 Special Revenue Bonds to pay the expenses of said Commission.

Laid over.

The Secretary presented the following communication from the Assistant Secretary to the Mayor, relative to a transfer of \$792.38 to "Salaries and Contingencies—Mayor's Office":

CITY OF NEW YORK, OFFICE OF THE MAYOR,  
December 17, 1903.

JAMES W. STEVENSON, Esq., Secretary, Board of Estimate and Apportionment:

DEAR SIR—The Mayor directs me to ask that you prepare and present to the Board of Estimate and Apportionment, at its next meeting, a proper resolution directing the transfer of \$792.38 from the appropriation entitled "Salaries—Bureau of Licenses" to the appropriation entitled "Salaries and Contingencies—Mayor's Office."

Very truly yours,

WILLIAM J. MORAN, Assistant Secretary.

The following resolution was offered:

Resolved, That the sum of seven hundred and ninety-two dollars and thirty-eight cents (\$792.38) be and the same is hereby transferred from the appropriation made to the Mayoralty for the year 1903, entitled "Bureau of Licenses—Mayor's Office—Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the Mayoralty for 1903, entitled "Salaries and Contingencies—Mayor's Office," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Secretary presented the following communication from the Commissioner of Public Works of the Borough of Brooklyn, requesting the transfer of \$1,000 to "Bureau of Highways—Labor, Maintenance and Supplies":

CITY OF NEW YORK—BOROUGH OF BROOKLYN,  
OFFICE OF THE COMMISSIONER OF PUBLIC WORKS, BOROUGH HALL,  
December 17, 1903.

Hon. J. W. STEVENSON, Secretary, Board of Estimate and Apportionment, New York City, N. Y.:

DEAR SIR—Will you please request the Board at the next meeting to make the following transfers:

From account Contracts at Public Letting—Bureau of Sewers, Office of President, Borough of Brooklyn ..... \$1,000 00  
To the account Labor, Maintenance and Supplies—Bureau of Highways, Office of President, Borough of Brooklyn ..... 1,000 00  
=====

Very truly yours,

WILLIAM C. REDFIELD, Commissioner of Public Works.

The following resolution was offered:

Resolved, That the sum of one thousand dollars (\$1,000) be and the same is hereby transferred from the appropriation made to the President of the Borough of Brooklyn for the year 1903, entitled "Bureau of Sewers—Sewers, Repairing and Cleaning, Contracts at Public Letting," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said President of the Borough of Brooklyn for 1903 entitled "Bureau of Highways—Labor, Maintenance and Supplies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Board took a recess until 2.30 p. m.

The Board reconvened in open session.

Present—Seth Low, Mayor; Edward M. Grout, Comptroller; Charles V. Fornes, President, Board of Aldermen; Jacob A. Cantor, President, Borough of Manhattan; Louis F. Haffen, President, Borough of The Bronx; J. Edward Swanstrom, President, Borough of Brooklyn; Joseph Cassidy, President, Borough of Queens; George Cromwell, President, Borough of Richmond.

Hon. Seth Low, Mayor, presiding.

The Secretary presented memorandum showing cost of the first fifty sites for Carnegie libraries, and the following communication from the Agent for acquisition of library sites:

December 1, 1903.

Hon. EDWARD M. GROUT, Comptroller of The City of New York:

DEAR SIR—I have to request that the Board of Estimate and Apportionment take up the subject of library sites, to be procured under the contracts with the City relative to the Andrew Carnegie gift, in order that certain sites, in localities previously approved by the Board, as recommended by the Trustees and now ready for purchase, may be acquired.

It is desirable that sites which are now ready should be acted upon by the Board before December 31, 1903. These sites aggregate in cost \$213,000, which will make the total amount expended for library sites, \$918,450. Including these, the City will then have acquired sites as follows:

Manhattan	13
Bronx	3
Richmond	3
Brooklyn	11
Queens	6
Total	36

There will then be left to be considered by the new Board the acquisition of forty-two sites, which will aggregate in cost about \$1,000,000, making the total expenditure for this purpose under \$2,000,000.

It will be necessary to provide about \$150,000 for the payment of sites already authorized to be acquired, under condemnation proceedings, and if the Board approves of the purchase of the sites presented for consideration it will have to provide for an additional expenditure of \$213,000.

I have therefore to request that the Board of Estimate and Apportionment authorize the purchase of sites recommended to be purchased as indicated in Table 2, hereto annexed, and that the Board also authorize the issuance of bonds to the amount of \$375,000 to meet the cost of these sites and the cost of the sites now under condemnation proceedings.

In the memorandum inclosed herewith, in Table 1, I present a statement of the cost of sites procured to date, and I beg that you will call to the attention of the Board that work is progressing on all of the sites acquired to date.

On two sites buildings are already open to the public.

On seven sites buildings are nearing completion.

On nine sites building operations are progressing.

On eleven sites plans are made and contracts about to be let.

It is necessary for the proper carrying on of the work that sites should be acquired continuously, and it is desirable that the architects should begin work on the seven sites now ready to be purchased, referred to in Table 2.

Respectfully submitted,

ALANSON T. BRIGGS,  
Agent for Acquisition of Carnegie Library Sites.

The Secretary presented the following report of the Appraiser of Real Estate, Department of Finance, relative to certain sites for Carnegie libraries:

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
December 17, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—In the matter of the selection of a Carnegie Library site in the Borough of Manhattan, the one known as Carnegie Library Site No. 3, Amsterdam avenue, near Eighty-fifth street, which is put down in Mr. Briggs' report at an estimated cost of \$45,000, I have to report as follows:

This site is located in the middle of the block on Amsterdam avenue, on the west side, between Eighty-fourth and Eighty-fifth streets, known as Lots Nos. 32 and 33, section 4, Block 1232, on the Land Map of the County of New York. The

lots are 25 feet 6 inches by 100 feet each, and are vacant. The assessed valuation is \$17,000 each, in the name of B. H. M. Rothschild. The whole block front, 204 feet 4 inches by 100 feet, is vacant, and is assessed at \$151,000. The fair market value of these two lots is \$19,000 each, or a total of \$38,000.

No. 209-211 West Twenty-third Street.

These are Lots Nos. 38 and 39 on Twenty-third street, and 50 and 51 on Twenty-fourth street, in section 3, Block 773, on the Land Map of the County of New York. Lots Nos. 38 and 51 of plot 18 feet 9 inches by 107 feet 6 inches are owned by the Young Men's Christian Association. Lot No. 38 in Twenty-third street, 18 feet 9 inches by 98 feet 9 inches, is a 4-story brick dwelling 18 feet 9 inches by 60 feet, and is assessed at \$25,000. I am informed that this property is offered to the City for \$26,000, which price is fair and reasonable.

The property adjoining on the east is 20 feet by 49 feet 4 inches, being all of Lot No. 39, the rear 20 feet of Lot No. 41 fronting on Seventh avenue with an old three-story store and dwelling 20 feet by 45 feet. The front 24 feet 8½ inches of this plot is assessed at \$12,000, and the rear is assessed as a part of Lot No. 41 and therefore cannot be given exactly.

Lot No. 50, abutting this property and fronting on Twenty-fourth street, is 20 feet by 148 feet 11½ inches, with a four-story and basement brick dwelling 20 feet by 55 feet, assessed at \$22,000, in the name of Fred Moller.

Lot No. 51 is not to be taken by the City. I understand from Mr. Briggs that there is to be a combination of sales of the three localities in order that the City may be enabled to acquire the Twenty-third street front for library purposes. The fair market value of these properties is as follows:

No. 209 West Twenty-third Street.

Land	\$15,000 00
Buildings	5,000 00
<hr/>	
Land	\$19,000 00
Buildings	7,000 00
<hr/>	
Land	\$18,000 00
Building	7,000 00
<hr/>	
Total for the plot	\$71,000 00

Nos. 66-68 Leroy Street.

Regarding these premises adjoining St. John's Park I have the honor to report as follows:

This is Lot No. 18, Section 2, Block 582, on the land map of the County of New York, fronting 41 feet 6 inches on Leroy street and 112 feet 4 inches on the easterly line of the Park, 95 feet 10 inches on the east side, and has an irregular rear line. The plot contains upwards of two full City lots; has an old five-story brick cold water tenement fronting 44 feet 6 inches on the street and having an average depth of about 80 feet. The building is old and in bad repair, and is occupied by the poorer class of tenants. It produces a rent of about \$3,000 a year. The value of the buildings has partly gone into the value of the ground. The property is assessed at \$29,000, in the name of J. W. Dentillon, but I am informed that it belongs to an estate represented by Mr. Hamilton Odell. The fair market value of the land is \$30,000; building, \$15,000; total, \$45,000.

The plot is desirable for library purposes, as it immediately adjoins the park on the west side, thus giving light and air space in addition to the frontage on the street.

In the matter of the two Brooklyn sites, the one selected by the Carnegie Library Committee, located on the corner of Lewis avenue and Macon street, has been presented to the City at the price of \$29,500 for 140 feet front by approximately 90 feet deep. As the Board of Estimate and Apportionment have heretofore rejected sites exceeding an area of 100 feet by 100 feet, I presume that the same thing will be applied to this site, and that the City will only deal with the plot fronting 100 feet on Lewis avenue by 90 feet on Macon street. Allowing a proper deduction for the value of the 40 feet by 100 feet, with an old frame house thereon, I am of the opinion that \$22,000 is full market value for this site.

I desire to call your attention to the report made by me under date of July 14, 1903, in the matter of this site, and desire to say that Mr. Howard C. Conrady has offered to the City a piece of property located on the southeast corner of Stuyvesant avenue and Bainbridge street, for the sum of \$10,000. The owner, Mr. Prosser, is willing to take that amount if a library is located thereon. This site is directly opposite the property which has heretofore been authorized to be acquired by the Board of Estimate and Apportionment for park purposes. It is true it is directly across the district from the district laid out by the Carnegie Library Committee of Brooklyn, within which area a site has been selected, but I am of the opinion, personally, that one site is as good as the other, as far as the benefits to be derived, to the residents of the neighborhood by the location of a library, is concerned.

Sixth Avenue and Seventh Street.

The Carnegie Library Committee has selected a site for a Carnegie Library at this point, being 100 feet by 107 to 102 1-2 feet. The full market value of the plot does not exceed \$17,500, and I understand that it can be purchased at \$18,000. There has been an objection raised by the residents of the Twenty-second Ward in regards to the location of a library on Seventh street, they believing that the site should be located on the corner of Ninth street and Sixth avenue. The matter of the selection of the location was left for the Comptroller and the President of the Borough of Brooklyn to decide. The Sixth avenue and Ninth street site can be purchased by the City at its market price, and the owner of the plot adjoining is willing to so restrict his property on the corner of Eighth street and Sixth avenue, as to what building shall be erected thereon and the distance it shall be set back from the street, which would be almost equivalent to a gift of the property, for by so doing it would injure the value of the plot.

I desire to call the attention of the Board of Estimate and Apportionment to the fact that the library sites heretofore selected have been not less than 100 by 100 feet in dimension, and in a majority of cases have exceeded that amount.

I understand that Brooklyn is to be allotted ten additional sites in addition to the ones already purchased. I think if the Library Committee of the Borough of Brooklyn would adopt the rule of the Library Committee of the Borough of Manhattan and purchase smaller sites and erect smaller buildings, thus enabling them to have twenty sites instead of ten, they could more effectually cover the city and benefit the future growth of the population than they do now by acquiring large sites and building large buildings.

Respectfully submitted for approval,

MORTIMER J. BROWN,  
Appraiser of Real Estate in Charge of Bureau.

The following were offered:

Whereas, The Board of Estimate and Apportionment, by resolution adopted April 24, 1903, approved of the general location in Amsterdam avenue, between Eighty-fourth and Eighty-fifth streets, in the Borough of Manhattan, for a Carnegie Library Building; and

Whereas, The Trustees of the New York Public Library, Astor, Lenox and Tilden Foundations, have recommended and approved of a site for a Carnegie Library Building described herein; therefore be it

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Manhattan, bounded and described as follows:

Beginning at a point on the westerly side of Amsterdam avenue 76 feet 8 inches north from the northwesterly corner of Amsterdam avenue and Eighty-fourth street; running thence westerly and parallel with Eighty-fourth street 100 feet; running thence northerly and parallel with Amsterdam avenue 51 feet; running thence easterly and parallel with Eighty-fourth street 100 feet to the westerly side of Amster-

dam avenue, and running thence along the westerly side of Amsterdam avenue 51 feet to the point or place of beginning, together with all the right, title and interest of the owners of said premises of, in and to the street in front of said premises to the centre thereof,

—and hereby authorizes the Comptroller of The City of New York to enter into contracts for the purchase of said described premises at a price not exceeding forty-five thousand dollars, said contracts to be subject to the approval of the Corporation Counsel as to form.

Which were adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The following were offered:

Whereas, The Board of Estimate and Apportionment by resolution adopted April 24, 1903, approved of the general location in the vicinity of Seventh avenue and Twenty-third street, in the Borough of Manhattan, for a Carnegie Library Building; and

Whereas, The Trustees of the New York Public Library, Astor, Lenox and Tilden Foundations, have recommended and approved of a site for a Carnegie Library Building described herein, therefore be it

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Manhattan, bounded and described as follows:

Beginning at a point on the northerly side of Twenty-third street, 80 feet west from the northwesterly corner of Seventh avenue and Twenty-third street; running thence northerly and parallel with Seventh avenue, 98 feet 9 inches to the centre line of the block; running thence westerly along the centre line of the block and parallel with Twenty-third street 38 feet 9 inches; running thence southerly and parallel with Seventh avenue 98 feet 9 inches to the northerly side of Twenty-third street, and running thence easterly along the northerly side of Twenty-third street 38 feet 9 inches to the point or place of beginning, together with all the right, title and interest of the owners of said premises of, in and to the street in front of said premises to the centre thereof,

—and hereby authorizes the Comptroller of the City of New York to enter into contracts for the purchase of said described premises at a price not exceeding seventy thousand dollars, said contracts to be subject to the approval of the Corporation Counsel as to form.

Which were adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The following were offered:

Whereas, The Trustees of the New York Public Library, Astor, Lenox and Tilden Foundations, have recommended and approved of a site for a Carnegie Library building as described herein; therefore be it

Resolved, That the Board of Estimate and Apportionment hereby approves of the general location of Hudson Park (formerly St. John's Park), in the Borough of Manhattan, for a Carnegie Library building; and

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Manhattan, bounded and described as follows:

Beginning at a point on the southerly side of Leroy street, adjoining land owned by The City of New York and used and known as Hudson or St. John's Park; running thence easterly along the southerly line of Leroy street forty-four (44) feet six (6) inches; running thence in a southerly direction ninety-five (95) feet ten (10) inches; running thence westerly twenty-five (25) feet three (3) inches; running thence southerly sixteen (16) feet ten (10) inches; running thence westerly twenty-five (25) feet three (3) inches; running thence southwesterly seventeen (17) feet three (3) inches; running thence northwesterly twenty (20) feet to the easterly line of land owned by The City of New York and known as Hudson or St. John's Park; running thence along said park land one hundred and twelve (112) feet four (4) inches to the southerly side of Leroy street, to the point or place of beginning, said property being known as Nos. sixty-six (66) and sixty-eight (68) Leroy street; together with all the right, title and interest of the owners of said premises of, in and to the street in front of said premises to the centre thereof,

—and hereby authorizes the Comptroller of The City of New York to enter into contracts for the purchase of said described premises at a price not exceeding forty-five thousand dollars (\$45,000), said contracts to be subject to the approval of the Corporation Counsel as to form.

Which were adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Mayor offered the following resolution:

Resolved, That the Corporation Counsel be and he hereby is requested to discontinue the condemnation proceedings for the acquisition of property known as Nos. 222, 224 and 226 East Twenty-third street, in the Borough of Manhattan, as a site for a Carnegie Library.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Comptroller presented the following communication from the Appraiser of Real Estate in reference to the acceptance of a deed containing restrictions upon property located in Richmond Hill, Borough of Queens, the location of which site and the acquisition thereof at private sale was heretofore approved by this Board at a meeting held July 29, 1903:

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,

November 23, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—The Board of Estimate and Apportionment on July 29, 1903, adopted a resolution authorizing the purchase of property in Richmond Hill, in the Borough of Queens, as a site for a Carnegie library building.

It has been found that there exist certain covenants and restrictions against nuisances which the owner of the premises proposes to insert in the deed to the City, together with a condition that the said premises shall be used for the purposes of a public library and suitable grounds therefor and approaches thereto. The covenants and restrictions do not affect the use of the lands for library purposes, and I would therefore respectfully recommend that the resolution of the Board of Estimate and Apportionment, adopted July 29, 1903, be amended to read as follows:

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie library, located at Richmond Hill, in the Borough of Queens, bounded and described as follows:

All that plot of ground bounded by Hillside avenue, Lefferts avenue, Railroad avenue and Church street, lying 224.97 feet on Hillside avenue, 339.10 feet on Lefferts avenue, 296.10 feet on Railroad avenue and 22.15 feet on Church street, together with all the right, title and interest of the owners of said premises of, in and to the streets in front of said premises to the centre thereof, —and hereby authorizes the Comptroller of The City of New York to enter into contracts for the purchase of said described premises at a price not exceeding \$12,000, said contracts to be subject to the approval of the Corporation Counsel as to form. The deed of said premises may convey the same, subject to the following restrictions and covenants: That there shall not at any time hereafter be erected or permitted to be erected on any part of the land conveyed, any slaughter house, smithshop, forge, furnace, steam engine, brass foundry, nail or other iron foundry, or any manufactory of gunpowder, glue, varnish, vitriol, ink or turpentine, or for the tanning, dressing or preparing of hides, skins or leather, or any ale house, brewery, distillery, or other place for the manufacture or compounding of intoxicating liquors, wine, beer, ale or spirits, or for selling or dispensing the same in any form or carrying on any other noxious, dangerous or offensive trade or business, or any building of the character or description known as a tenement house; and that there shall not at any time be erected on said premises or permitted to be erected thereon any dwelling nearer than twenty feet to the line of any street, road or park, or without written consent of the vendors, any barn, stable or other outhouse nearer than forty feet to the line of the street or roads; these covenants to run with the land intended to be affected thereby, and shall inure to the benefit of the vendors and each of them, and of their grantees, and may be enforced by any of them by action, injunction or otherwise; and the deed of said premises may also contain the following condition: That the said premises shall be used for the purposes of a public library and of suitable grounds therefor and approaches thereto."

Respectfully submitted for approval,

MORTIMER J. BROWN,  
Appraiser of Real Estate in Charge of Bureau.

The following were offered:

Whereas, By resolution, dated July 29, 1903, the Board of Estimate and Apportionment adopted the following resolution:

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located at Richmond Hill, in the Borough of Queens, bounded and described as follows:

All that plot of ground bounded by Hillside avenue, Lefferts avenue, Railroad avenue and Church street, lying 224.97 feet on Hillside avenue, 339.10 feet on Lefferts avenue, 296.10 feet on Railroad avenue and 22.15 feet on Church street, together with all the right, title and interest of the owners of said premises of, in and to the streets in front of said premises to the centre thereof, —and hereby authorizes the Comptroller of The City of New York to enter into contracts for the purchase of said described premises, at a price not exceeding \$12,000, said contracts to be subject to the approval of the Corporation Counsel as to form; and

Whereas, The owner of the property wishes to convey the property, subject to certain restrictions and covenants against nuisances and also subject to a condition in the terms following, all of which does not affect the use of the property for library purposes; therefore be it

Resolved, That the resolution of the Board of Estimate and Apportionment adopted July 29, 1903, referred to above, be amended to read as follows:

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located at Richmond Hill, in the Borough of Queens, bounded and described as follows:

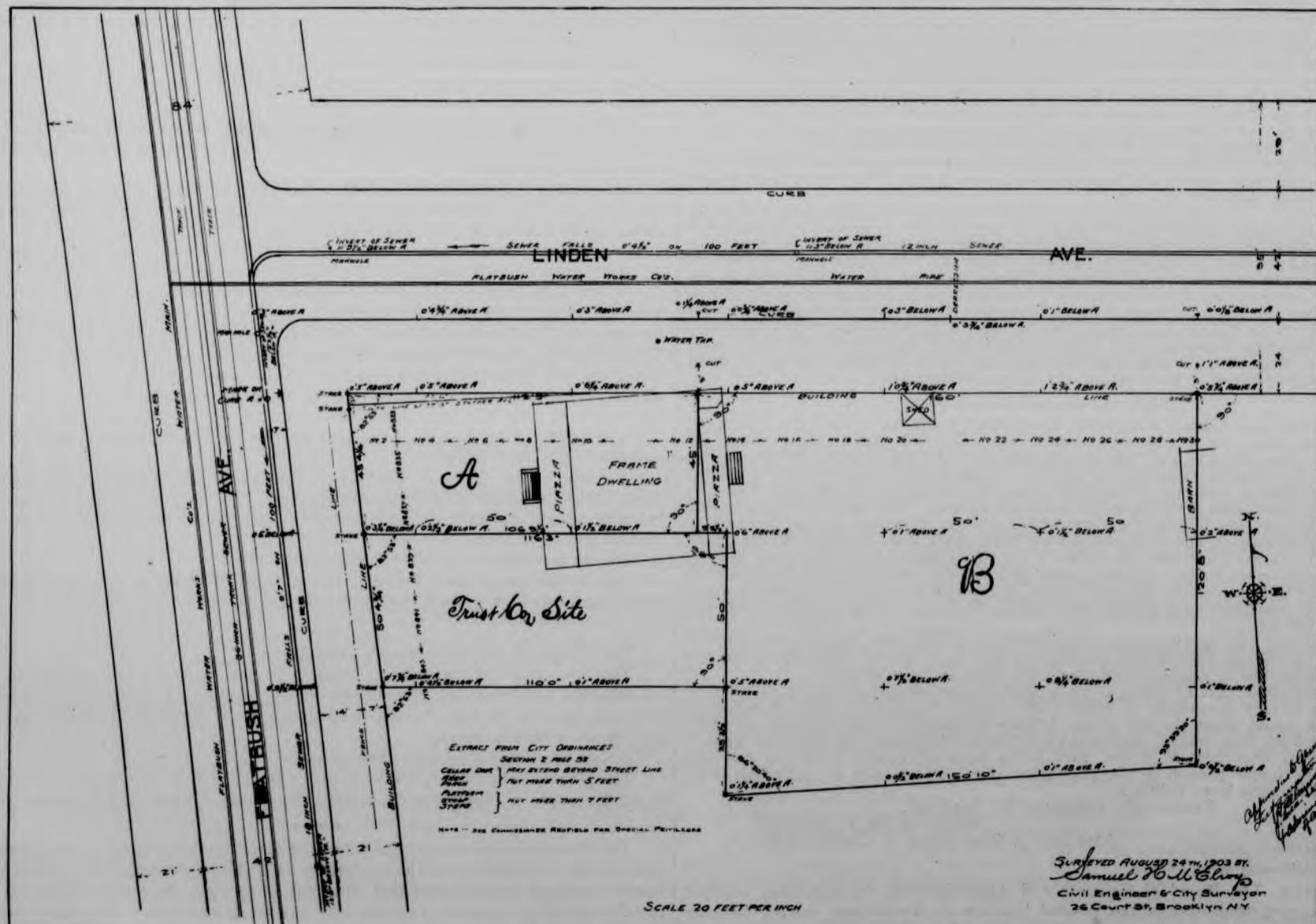
All that plot of ground bounded by Hillside avenue, Lefferts avenue, Railroad avenue and Church street, lying 224.97 feet on Hillside avenue, 339.10 feet on Lefferts avenue, 296.10 feet on Railroad avenue and 22.15 feet on Church street, together with all the right, title and interest of the owners of said premises of, in and to the streets in front of said premises to the centre thereof,

—and hereby authorizes the Comptroller of The City of New York to enter into contracts for the purchase of said described premises, at a price not exceeding \$12,000, said contracts to be subject to the approval of the Corporation Counsel as to form. The deed of said premises may convey the same, subject to the following restrictions and covenants: That there shall not at any time hereafter be erected or permitted to be erected on any part of the land conveyed any slaughter house, smithshop, forge, furnace, steam engine, brass foundry, nail or other iron foundry, or any manufactory of gunpowder, glue, varnish, vitriol, ink or turpentine, or for the tanning, dressing or preparing of hides, skins or leather, or any ale house, brewery, distillery, or other place for the manufacture or compounding of intoxicating liquors, wine, beer, ale or spirits, or for selling or dispensing the same in any form, or carrying on any other noxious, dangerous or offensive trade or business, or any building of the character or description known as a tenement house, and that there shall not at any time be erected on said premises, or permitted to be erected thereon, any dwelling nearer than twenty feet to the line of any street, road or park, or without written consent of the vendors, any barn, stable, or other outhouse, nearer than forty feet to the line of the street or roads; these covenants to run with the land intended to be affected thereby, and shall inure to the benefit of the vendors, and each of them, and of their grantees, and may be enforced by any of them by action, injunction or otherwise.

Which were adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

The Secretary presented the following communication, relative to a site for a Carnegie Library in Flatbush:



CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
December 2, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—On July 29, 1903, the Board of Estimate and Apportionment adopted a resolution authorizing the purchase of property in Flatbush for a Carnegie Library site. It has been found that certain difficulties have been encountered in regard to the details of the transfer of this property. It is now proposed:

First—That the owner of the premises shall deed to The City of New York for a consideration of \$16,000, the amount previously agreed upon, property on Linden avenue, 112 feet 5 inches easterly from the corner of Flatbush avenue and Linden avenue, being about 160 feet on Linden avenue, and 120 feet in depth, indicated as Parcel B on the diagram annexed hereto, free and clear by a full covenant and warranty deed.

Second—That property on the southeast corner of Flatbush and Linden avenues, being 112 feet 5 inches on Linden avenue by 45 feet 4 1/4 inches on Flatbush avenue, shall be deeded to the City for a consideration of \$1 and other valuable considerations by a full covenant and warranty deed, subject, however, to the following covenants and restrictions which will then exist on the property:

“And in consideration of the premises, the party of the second part, for himself, his heirs and assigns, covenants, grants and agrees to and with the party of the first part (The Trust Company), its successors and assigns, as follows:

“First—That the said parcel of land (Parcel A) shall forever remain open and not be built upon.

“Second—That the party of the first part (The Trust Company) shall have the right to use the said land (Parcel A) last above referred to as an approach to the adjoining land on the south, owned by the party of the first part, so long as any

building standing on said land (adjoining Parcel A on the south) shall be wholly or partly used as a bank or trust company office, and not otherwise."

Respectfully submitted for approval,  
MORTIMER J. BROWN,  
Appraiser of Real Estate in Charge of Bureau.

This agreement, made the day of October, in the year one thousand nine hundred and three, between David A. Boddy, Daniel W. McWilliams, R. Ross Appleton and John W. Devoy, acting as a committee for the erection of Carnegie libraries in the Borough of Brooklyn, County of Kings, City and State of New York, pursuant to an agreement entered into by them with The City of New York on September eleventh, nineteen hundred and one, and as agents of Andrew Carnegie of The City of New York, parties of the first part, and the Flatbush Trust Company, a corporation organized and existing under and by virtue of the laws of the State of New York, party of the second part, witnesseth:

Whereas, By the above mentioned agreement between the parties of the first part hereto and The City of New York, The City of New York agreed to acquire title by gift, purchase or condemnation, to sites in the Borough of Brooklyn, for the purpose of the erection thereon of free branch public libraries, and the parties of the first part hereto, acting as agents for said Andrew Carnegie, agreed to erect thereon library buildings with the funds to be contributed by said Andrew Carnegie, as therein provided; and

Whereas, The City of New York, acting under and pursuant to chapter 580 of the Laws of New York of 1901, has acquired the title to certain property hereinafter described, that is to say:

All that certain lot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, in the City and State of New York, bounded and described as follows, that is to say: Beginning at a point on the easterly side of Flatbush avenue, as same is now laid out and opened, distant forty-five (45) feet four (4) inches and one-quarter (1/4) of an inch southerly from the corner formed by the intersection of the said easterly side of Flatbush avenue with the southerly side of Linden avenue, as same is laid down on Town Survey Commissioners' Map of Kings County; running thence easterly parallel with said Linden avenue one hundred and six (106) feet nine (9) inches and one-half (1/2) of an inch; thence northerly, at right angles to said Linden avenue, forty-five (45) feet, more or less, to land heretofore conveyed by Ann Stryker to Matthew Clarkson; thence westerly along said last mentioned land one hundred and twelve (112) feet, more or less, to said easterly side of Flatbush avenue forty-one (41) feet five (5) inches and one-quarter (1/4) of an inch to the point or place of beginning;

Together with all the right, title and interest of, in and to a strip of land known as Stryker avenue, lying in front of and adjoining said premises;

And together with all the right, title and interest of, in and to the avenues lying in front of and adjoining said premises, to the centres thereof respectively;

And also all those certain lots, pieces or parcels of land, situated in said county, bounded and described as follows: Beginning at a point on the southerly side of Linden avenue as laid down on the Town Survey Commissioners' Map of Kings County, distant one hundred and twelve (112) feet and five (5) inches easterly from the corner formed by the intersection of the said southerly side of Linden avenue with the easterly side of Flatbush avenue, as now laid out and opened; and running thence easterly along the said southerly side of Linden avenue one hundred and sixty (160) feet; thence southerly at right angles to Linden avenue one hundred and twenty (120) feet eight (8) inches to the northerly side of the land of Eliza A. Martense; thence westerly along the said northerly side of said land of Eliza A. Martense; thence westerly along the said northerly side of said land of Eliza A. Martense and along the northerly side of land of John D. Prince, Jr., one hundred and fifty (150) feet ten (10) inches; thence northerly again at right angles to Linden avenue eighty-five (85) feet three and one-half (3 1/2) inches; thence again westerly and parallel with Linden avenue nine (9) feet five and one-half (5 1/2) inches; thence again northerly and at right angles to Linden avenue forty-five (45) feet to the southerly side of Linden avenue aforesaid at the point or place of beginning, together with all the right, title and interest of the said Flatbush Trust Company of, in and to the said Linden avenue lying in front of and adjoining said above-described premises, to the centre line thereof,

Together with all the right, title and interest of the vendor of, in and to said Linden avenue, lying in front of and adjoining said last described premises, to the centre line thereof; and

Whereas, The party of the second part hereto is about to erect a building on property adjoining the property firstly above described, that is to say, on the plot of land—

Beginning at a point on the easterly side of Flatbush avenue, distant forty-five feet, four inches and one-quarter of an inch southerly from the southeasterly corner of Flatbush avenue and Linden avenue, and running thence easterly and parallel with Linden avenue, one hundred and sixteen feet three inches; thence southerly at right angles to Linden avenue one hundred and ten feet, more or less, to the easterly side of Flatbush avenue; and thence northerly along the easterly side of Flatbush avenue, fifty feet, more or less, to the point or place of beginning.

Now, therefore, in consideration of the promises and agreements hereinafter contained, the same parties hereto covenant and agree to and with each other as follows, that is to say:

First—The parties hereto of the first part covenant and agree that a Library Building shall be erected forthwith and with all reasonable speed on the parcel of land secondly above described.

Second—The party of the second part hereto covenants and agrees that it will forthwith and with all reasonable speed erect a building on the said plot of land thirdly above described, substantially in accordance with plans which have been approved before the delivery hereof by the Consulting Architect of the parties of the first part, and that such building shall be set back at least ten feet from the northerly and easterly lines of said plot thirdly above described.

Third—The parties of the first part hereto covenant and agree that the party of the second part hereto shall have the right, at its own expense, to lay out said plot of land firstly above described and the land in front thereof to Linden avenue substantially in accordance with plans which have been approved by the Consulting Architect above mentioned before the delivery thereof, and to maintain said land in a suitable manner, while the party of the second part shall occupy said land thirdly above described or any part thereof.

Fourth—The party of the second part hereto covenants and agrees that it will, at its own expense, lay out and maintain said land in the manner and for the time mentioned in said article numbered "Third".

Fifth—It is mutually understood, declared and agreed that the covenants and agreements on the part of the party of the second part hereto contained in the foregoing articles hereof numbered "Second" and "Fourth," are personal covenants and not real covenants, and that said covenants shall not bind or be deemed or construed to bind the assigns of the party of the second part hereto, or to run with or restrict or encumber the land thirdly above described, or any part thereof, in any manner, or prevent the addition to or extension or removal of the building therein agreed to be built, or prevent the erection of any other building or buildings of any kind on said land, or any part thereof, after the removal or destruction of such building so agreed to be built, or after the removal or destruction of any addition or extension thereto.

In witness whereof the parties hereto have hereunto set their hands and seals the day and year first above written.

The following were offered:

Whereas, The Board of Estimate and Apportionment by resolution adopted July 29, 1903, approved of a site for a Carnegie Library Building in Flatbush and authorized the purchase of the same, such resolution being as follows:

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Brooklyn, bounded and described as follows:

Parcel A—All that certain plot, piece or parcel of land, situate, lying and being in the Twenty-ninth Ward of the Borough of Brooklyn (formerly the Town of Flatbush), in the County of Kings, City and State of New York, and bounded and described as follows, to wit: Beginning at a point on the easterly side of Flatbush avenue as same is now laid out and opened, distant forty-five (45) feet four and one-

quarter (1 1/4) inches southerly from the corner formed by the intersection of the said easterly side of Flatbush avenue, with the southerly side of Linden avenue, as same is laid down on Town Survey Commissioner's Map of Kings County; running thence easterly parallel with said Linden avenue one hundred and six (106) feet nine and one-half (9 1/2) inches; thence northerly at right angles to said Linden avenue forty-five (45) feet more or less, to land heretofore conveyed by Ann Stryker to Matthew Clarkson; thence westerly along said last mentioned land one hundred and twelve (112) feet, more or less, to said easterly side of Flatbush avenue forty-one (41) feet five (5) inches and one-quarter (1/4) of an inch to the point or place of beginning, together with all the right, title and interest of the said Flatbush Trust Company of, in and to a strip of land known as Stryker avenue, lying in front of and adjoining said premises.

Parcel B—Beginning at a point on the southerly side of Linden avenue, as laid down on the Town Survey Commissioner's Map of Kings County, distant one hundred and twelve (112) feet five (5) inches easterly from the corner formed by the intersection of the said southerly side of Linden avenue with the easterly side of Flatbush avenue, as now laid out and opened; running thence easterly along the said southerly side of Linden avenue one hundred and sixty (160) feet; thence southerly at right angles to Linden avenue one hundred and twenty (120) feet eight (8) inches to the northerly side of the land of Eliza A. Martense; thence westerly along the said northerly side of said land of Eliza A. Martense; thence westerly along the said northerly side of said land of Eliza A. Martense and along the northerly side of land of John D. Prince, Jr., one hundred and fifty (150) feet ten (10) inches; thence northerly again at right angles to Linden avenue eighty-five (85) feet three and one-half (3 1/2) inches; thence again westerly and parallel with Linden avenue nine (9) feet five and one-half (5 1/2) inches; thence again northerly and at right angles to Linden avenue forty-five (45) feet to the southerly side of Linden avenue aforesaid at the point or place of beginning, together with all the right, title and interest of the said Flatbush Trust Company of, in and to the said Linden avenue lying in front of and adjoining said above-described premises, to the centre line thereof, —and hereby authorizes the Comptroller of The City of New York to enter into contract for the purchase of the above described premises at a price not exceeding sixteen thousand dollars (\$16,000), which agreement shall be subject to the approval of the Corporation Counsel as to form; and

Whereas, It has been found that certain restrictions exist on the property indicated in the resolution as Parcel A; therefore be it hereby

Resolved, That the resolution of the Board of Estimate and Apportionment adopted July 29, above referred to, be amended so as to read as follows:

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Brooklyn, bounded and described as follows:

Parcel B—Beginning at a point on the southerly side of Linden avenue, as laid down on the Town Survey Commissioners' Map of Kings County, distant one hundred and twelve (112) feet five (5) inches easterly from the corner formed by the intersection of the said southerly side of Linden avenue with the easterly side of Flatbush avenue, as now laid out and opened; running thence easterly along the said southerly side of Linden avenue one hundred and sixty (160) feet; thence southerly at right angles to Linden avenue one hundred and twenty (120) feet eight (8) inches to the northerly side of the land of Eliza A. Martense; thence westerly along the said northerly side of said land of Eliza A. Martense and along the northerly side of land of John D. Prince, Jr., one hundred and fifty (150) feet ten (10) inches; thence northerly again at right angles to Linden avenue eighty-five (85) feet three and one-half (3 1/2) inches; thence again westerly and parallel with Linden avenue nine (9) feet five and one-half (5 1/2) inches; thence again northerly and at right angles to Linden avenue forty-five (45) feet to the southerly side of Linden avenue aforesaid at the point or place of beginning, together with all the right, title and interest of the said Flatbush Trust Company of, in and to said Linden avenue, lying in front of and adjoining said above described premises, to the centre line thereof, —and hereby authorizes the Comptroller of The City of New York to enter into contract for the purchase of the above described premises at a price not exceeding sixteen thousand dollars (\$16,000) which agreement shall be subject to the approval of the Corporation Counsel as to form; and

Resolved, That the Board of Estimate and Apportionment hereby approves of the selection of a site for a Carnegie Library located in the Borough of Brooklyn an additional plot below described as an approach to the property on which the Library Building is to be located, bounded and described as follows:

Parcel A—All that certain lot, piece or parcel of land, situate, lying and being in the Borough of Brooklyn, County of Kings, in the City and State of New York, bounded and described as follows, that is to say: Beginning at a point on the easterly side of Flatbush avenue, as same is now laid out and opened, distant forty-five (45) feet four (4) inches and one-quarter (1/4) of an inch southerly from the corner formed by the intersection of the said easterly side of Flatbush avenue with the southerly side of Linden avenue, as same is laid down on Town Survey Commissioners' Map of Kings County; running thence easterly parallel with said Linden avenue one hundred and six (106) feet nine (9) inches and one-half (1/2) of an inch; thence northerly at right angles to said Linden avenue forty-five (45) feet, more or less, to land heretofore conveyed by Ann Stryker to Matthew Clarkson; thence westerly along said last mentioned land one hundred and twelve (112) feet more or less, to said easterly side of Flatbush avenue forty-one (41) feet five (5) inches and one-quarter (1/4) of an inch to the point or place of beginning, together with all the right, title and interest of the vendor in and to a strip of land known as Stryker avenue, lying in front of and adjoining said premises.

And together with all the rights, title and interest of the vendor of, in and to the avenues lying in front of and adjoining said premises, to the centres thereof respectively.

—and hereby authorizes the Comptroller of The City of New York to accept a deed of the above described premises as a gift to the City, subject, however, to the following described covenants running against the said land:

*Covenants, etc., in Deed to Brown.*

And in consideration of the premises the party of the second part, for himself, his heirs and assigns, covenants, grants and agrees to and with the party of the first part, its successors and assigns, as follows:

First—That the said parcel of land firstly above described and the land in front thereof to Linden avenue shall forever remain open and not be built upon.

Second—That the party of the first part shall have the right to use the said land, last above referred to, as an approach to the adjoining land of the party of the first

part while any building which shall at any time stand on said land shall be wholly or partly used as a bank or trust company office; and

Resolved, That the proposed agreement to be entered into between David A. Boody, Daniel W. McWilliams, R. Ross Appleton and John W. Devoy, acting as a committee under the agreement with The City of New York, dated September 11, 1901, and as agents of Andrew Carnegie and The Flatbush Trust Company, is approved by this Board, subject to the approval of the Corporation Counsel as to form.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond—16.

A hearing was had relative to the proposed purchase of the plant and property of the Manhattan Fire Alarm Telegraph Company.

The President of the Borough of The Bronx left the meeting.

Mr. John B. Pine appeared on behalf of the Manhattan Fire Alarm Telegraph Company.

Mr. J. Van Vechten Olcott, representing the Special Fire Alarm Electrical Signal Company, and Mr. John P. Faure, a taxpayer, appeared in opposition to the proposition.

The Secretary presented the following report of the Examiner in Charge of the Investigations Division, Department of Finance, relative thereto:

December 11, 1903.

Hon. EDWARD M. GROUT, Comptroller:

Sir—In regard to the proposed purchase by the City of the plant, property, etc., of the Manhattan Fire Alarm Company, investigation as to which was referred to this Division, I beg to report as follows:

On October 3, 1895, the Board of Fire Commissioners of the then City of New York granted the Manhattan Fire Alarm Company a license "to connect buildings and premises in this City with the fire alarm boxes of the Fire Alarm Telegraph System of this Department, through electrical wires and circuits of its own, running from such buildings and premises to the point of connection with the fire alarm boxes belonging to this Department, and by means of the Gamewell Auxiliary Fire Alarm System, upon application of the owners or agents of such buildings or premises to this Board." The license provided that such connections should be made and maintained under the supervision of the Fire Department, but without cost to the City; and further, that "the permission hereby granted is not to be construed as conferring an exclusive privilege, nor as conveying any vested rights, nor as in any manner diminishing or impairing the full and exclusive control of the Fire Alarm Telegraph System vested in the Board by law."

The said company thereupon entered upon the business of installing and maintaining its fire alarm boxes after the manner and under the terms set forth in said license, all of which it continued to do with a constantly increasing business up to the incoming of the present City administration, in January, 1902. The present Fire Commissioner early in that year refused to permit the further installation of boxes by said company, and thereafter, on the 21st of February, 1902, revoked said license for reasons to be hereafter noted. The company appealed to the Mayor, who, after two public hearings, held March 10 and 14, 1902, sustained the said action of the Commissioner in revoking said license, on July 30, 1903, but at the same time suggested that legislation should be asked authorizing the City to buy out the company, and to conduct the business on its own account; and further, that the status quo should meanwhile be maintained between the Fire Department and the company. The latter has accordingly since that time continued to maintain the boxes and service it had already installed as aforesaid, and the Legislature, by act of May 6, 1903, amending chapter 729 of the Charter, has authorized and empowered the Fire Commissioner "to extend the Fire Alarm Telegraph System whenever, in his judgment, it shall be deemed desirable, by the purchase, lease or license of the whole or a part or parts of the appliances, apparatus, franchises, rights, contracts or other property of any kind, of any fire alarm telegraph or fire alarm signal company now doing business in, or which may hereafter do business in, The City of New York, at a price to be agreed upon with the persons or corporation owning the same, and every such corporation is hereby authorized to sell, lease or license the same to the said City, provided such purchase, lease or license shall first be approved by the Board of Estimate and Apportionment." The amendment further provides that the Commissioner may fix and collect reasonable charges for the special fire alarm service to be rendered by the City; that the moneys collected shall be paid into the General Fund for Reduction of Taxation, and that the purchase, if made, shall be effected through the issue of Corporate Stock.

By letter of August 6, 1902, signed by the Mayor and the President of the Manhattan Company, Hon. James R. Sheffield and Phineas C. Lounsbury, Esq., were invited to act as arbitrators, and as such to ascertain and report "the fair value of the plant and equipment of the Manhattan Fire Alarm Company as a going concern, such valuation to include all property and rights of every kind which the company should transfer to the City, in order to give the City the complete control of its system, and to include also the expenses of the arbitration, if the purchase is consummated."

In their report, dated June 25, 1903, said arbitrators fix the value of the company's plant, property, etc., at the sum of \$280,000, and the expenses of arbitration at \$5,000. It is understood that the company is ready and willing to transfer its said property to the City and to accept in payment therefor the sum named by the arbitrators in their said report.

By letter of November 19, 1903, the Mayor submits the question of purchase to the Board of Estimate and Apportionment, expressing hope that the matter may be disposed of before the end of the year.

#### Auxiliary Fire Service Under Municipal Direction Considered.

There are many facts and circumstances calling for consideration in connection with the question whether this purchase should be made, contemplating, as it does, not only an extension of the service to be rendered by the Fire Department, but also the undertaking and carrying on by the City of a business hitherto conducted by private concerns or companies in competition with each other, the result of which would be either an eventual monopoly of the business by the City, or a continued exaction by it of charges arbitrarily adjusted and sufficiently high to allow and enable private concerns to do a profitable business, no matter how much lower the City could afford to render the service.

The fire alarm telegraph system of the City consists mainly of independent electric circuits extending from Fire Headquarters to different parts of the City, and furnished and connected with alarm boxes attached to street lampposts situated at intervals along the circuit lines. Any person discovering a fire at any point may proceed at once to the nearest box, open its door, pull down the "hook" on the inside, and thereby give notice at Headquarters that there is a fire in the vicinity of that particular box. Such would seem to be the extent of provision made by the City for communicating alarm of fire to Headquarters.

The fact that this general provision does not under all circumstances satisfy reasonable demand that in case of fire the most prompt and therefore direct means of communicating with Headquarters should be available, has long been recognized, and section 5 of chapter 742 of the Laws of 1871 required that "the proprietors of all manufactories, hotels, tenement houses \* \* \* shall provide such means for communicating alarms \* \* \* as said Commissioners \* \* \* shall prescribe." Such, with slight modifications, has since continued to be the law, which now appears in section 762 of the Charter, as follows:

"The owners and proprietors of all manufactories, hotels, tenement houses, apartment houses, office buildings, boarding and lodging houses, warehouses, stores and offices, theatres, and music halls, and the authorities or persons having charge of all hospitals and asylums and of the public schools and other public buildings, churches and other places where large numbers of persons are congregated for purposes of worship, instruction or amusement, shall provide such means of communicating alarms of fire, accident or danger, to the Police and Fire Departments, respectively, as the Fire Commissioner or Police Board may direct."

Owing to the fact that the City did not afford, at least for private use, the electric circuits necessary to the installation of "such means of communicating alarms" as its Fire Commissioners might under the law require owners and others to provide for buildings under their control, and to the further fact that the maintenance of such circuits by individual proprietors each for himself was practically out of the question, the business of such installation was early undertaken and has since been carried on by private concerns, which now furnish means for communicating fire alarms not only for proprietors whom the Fire Commissioners may direct to provide them, but also for all persons whose prudence moves them to take such precaution. There are now four such concerns doing business in the City.

#### COMPETING FIRE-ALARM SYSTEMS.

##### Their Establishment in This City.

One of these concerns, maintaining what is commonly known as the "Pearce System," has been in business some thirty years. It now has seven circuits running over wires leased from the telephone company, and connecting manual signal boxes placed in buildings directly with Fire Headquarters. In case of fire direct notice may be given at Headquarters of the location of the building in which it occurs by pulling the ring or hook on the inside of the signal box in that building. This would seem to be the only absolutely direct system in use here.

Another concern or company, commonly known as the "Automatic," has also been in business for many years. It maintains a central station or headquarters of its own, which is connected directly with Fire Headquarters by a circuit leased from a subway company. Extending from this central station are circuits also leased as aforesaid and running into the districts they serve. Under this system by a similar manipulation of a signal box in any building alarm of fire therein is communicated directly to the central station and thence transmitted to Fire Headquarters, together with notice of the location of the building from which the signal is given.

Another company, commonly known as the "Pneumatic," maintains a very similar, if not identical, system, having a central station of its own with circuits leased in the subway and manual signal boxes placed in the building it serves. Its alarms are also received first at the central station and transmitted thence to Fire Headquarters, there announcing the location of the fire.

The last two companies also furnish in connection with their circuits automatic alarm signal boxes, which are set in operation by the action of heat upon "thermostats" attached to the ceilings of rooms in buildings where this system is provided, this alarm being also sent first to a central station and thence to Fire Headquarters.

#### THE MANHATTAN AUXILIARY SYSTEM.

##### Its Efficiency Considered.

The only other concern with business established in this City is the Manhattan Fire Alarm Company, the manner and method of whose system, commonly known as the "Gamewell," have already been indicated. The only circuits maintained by this system are those connecting the manual signal boxes with the nearby street boxes. Manipulation of a signal box in any building causes the machinery of the street box with which it is connected to operate the same as if its "hook" had been pulled by hand, and, as in the case of such pulling of the hook, the Fire Headquarters is notified through the Department circuit that there is a fire in the vicinity of that particular street box. One of the evident advantages of this system over the others appears in the comparatively little expense required to maintain its circuits, its trunk lines consisting of the circuits of the fire alarm system of the City with which the Gamewell system is permitted to connect through street boxes without charge, while concerns operating other systems are obliged to lease and maintain their own trunk lines, as before stated. One of its disadvantages, when compared with other manual systems, is said to be its failure to indicate at Headquarters the exact location of the fire announced, and the necessity of sending some person from the fire to the street box in order that he may be there to notify the Firemen when they arrive just where the fire is to be found. Unless this precaution is taken valuable time may be lost in the endeavor by Firemen to locate the fire.

Notwithstanding such or any other disadvantage or defect of the Gamewell system, it would nevertheless seem to be the only one which the City could well contemplate adopting as an extension of its present fire alarm system. The Gamewell circuits, as already noted, are supplementary to, and constitute an extension of, the existing City circuits, of which there are now something more than seventy in the boroughs of Manhattan and The Bronx alone. Adoption by the City of any other system would seem to necessitate the maintenance of other trunk line circuits, as there seems to be a pretty general consensus of opinion that direct communication between house signal boxes and Headquarters through connection with existing City circuits cannot be permitted without danger of interference with efficient operation of the latter. As the Manhattan Company is said to have exclusive control throughout the entire City of patents covering appliances used in energizing street fire alarm boxes, adoption and operation of the Gamewell system by the City would seem to necessitate the purchase of some part at least of said Company's property.

#### Dual Responsibility in the Present Operation of the System.

Proposition to make the proposed purchase has arisen, of course, from the action of the Commissioner in revoking the license of the Manhattan Company. The Mayor, in his decision sustaining the action of the Commissioner, says:

"In the meanwhile, I am conscious that it is a serious matter to destroy an investment which has been built up upon faith of the City's license, however unwise it may have been to make such an investment on the basis of a license revocable in its terms. I am also aware that the device has a certain value for the protection of premises against loss by fire, which should not be disregarded. It has occurred to me that, under the circumstances, the City may properly consider the propriety of buying the company's plant and maintaining its present connections as a Department matter."

In a letter dated November 10, 1903, and addressed to the Mayor, the Fire Commissioner, after stating his reasons for having revoked the Manhattan Company's license, as well as for not having experienced any change of opinion in regard to the advisability of such revocation, adds:

"Were this system under the exclusive control of the Fire Department, I believe that such modifications could be made in it as, taken in connection with the daily supervision of it in all its ramifications by the regularly employed staff of the Department telegraph bureau, would, to a considerable degree, remove the difficulties that now exist."

"I understand from you that it is possible that these desirable objects can be accomplished by the purchase of the plant of the Manhattan Company at a reasonable price, and I do not hesitate to say and to recommend that it would be better for the City to do so than to continue the present quality of control of its highly important service with the attendant dangers which are inherent therein."

It may be well to note in this connection the grounds upon which the Commissioner objected to the continuance of the license revoked by him. In his said letter of November 10, he says:

"One of the principal objections to the system as now administered is that it creates a partnership between the Fire Department and a private corporation, from which arises a dual control and responsibility in connection with the fire alarm telegraph system of the City. This I am convinced is contrary to the public interests and should not be allowed to continue. By the nature of its business the Manhattan Company must be allowed the keys to the inner boxes of the City fire alarm system, within which boxes are the delicate mechanisms upon which the transmission of alarms depends. The company must be allowed access to these boxes at all hours, and as their mechanism is directly connected with the lines of the City, it follows that any defect in their system, any breaking of connections for any reason, or false alarms arising from any cause, are reflected in the Department telegraph system. \* \* \* It is, I know, apparent to you that the Commissioner, his subordinates and the officers of the Uniformed Force cannot be held fully responsible for results when a portion of the system upon which they depend for prompt notice of fires is beyond their daily supervision and control."

Much stress was also laid by the Commissioner upon the frequency of false alarms said to be due to operation of the Manhattan Company's system. That company, on the other hand, adduced much testimony tending to show that the Commissioner was in great measure misinformed as to the matters in issue, and that false alarms were seldom due to the company's system or to its management.

*Duty of the City Under the Provisions of Section 762 of the Charter.*

But aside from questions directly raised by the controversy between the Commissioner and the company, and in the main settled by the Mayor in favor of the Commissioner, there would seem to be question whether there is not that in section 762 of the Charter which points to and contemplates the City's making its own provision for some connection between its Fire Department and those "means of communicating alarms" which the Commissioner is by said section authorized to direct individuals to provide. It cannot be the intent of the law that the individual shall provide the circuit necessary to connect his building with Fire Headquarters. Who, then, shall provide it, if not the City? Is not the City bound in reason to make possible the doing of that which it commands to be done? The "means of communicating" which the individual is by the section required to provide must, in the nature of things, be such and such only as can be provided by him upon the premises under his control. Other means of effecting the communication contemplated include not only those at Fire Headquarters, but also such as may be necessary to connect them with private premises, and cannot be provided without the City's permission, nor would it seem to be within the province of the City to compel any one else to provide them. Some of the evils incident to permitting private persons to make a business of doing that which should be done by the City have been made manifest in the controversy under consideration. If this view be correct, the action of the Commissioner and the decision of the Mayor sustaining such action may well stand on the ground taken by the former that the license revoked created "a partnership between the Fire Department and a private corporation." The amendment to section 729, providing for purchase by the City, clears the way to dissolution of that partnership without depriving the public of the valuable service it renders, being in the nature of an enabling act empowering the City to do that which section 762 contemplates its doing.

In regard to the "charges for maintenance and equipment" which the Commissioner, in case of purchase and operation by the City, is "authorized to fix and collect," it should be noticed that they must be "reasonable," in view of which it may be questioned whether the suggestion made by the Mayor in his said letter to the Board of Estimate and Apportionment could be well carried out. The suggestion referred to appears in the second sentence of the following extract from the letter:

"I see no objection to the step except that the entry of the City upon this field may work to the disadvantage of other fire alarm companies now operating different systems at their own expense. Such competition may be reduced to a minimum by the City's maintaining a scale of fees sufficiently high to enable such companies to conduct their business without disadvantage."

Whether charges fixed with a view of maintaining such scale of fees would in law be deemed reasonable is perhaps a question not to be raised at this time, although it must, of course, be of interest to competing companies as well as to those who may have the charges to pay.

*Valuation of the Plant and Property of Manhattan Company, Tangible and Otherwise.*

The main question, and perhaps the only one that the Board of Estimate and Apportionment will care to consider, is what should the City pay for the plant, property, etc., of the Manhattan Company, in case the purchase is to be made. If the price to be set is the fair value of what the company's business would have been as a going concern, provided its license had not been revoked, that fixed by the Arbitrators at \$280,000 is, perhaps, not far out of the way. From the various schedules furnished the Arbitrators by the company, and subsequently verified by an Expert Accountant employed by the Arbitrators to examine the same in connection with the contracts and accounts of the company, which schedules present in detail a comprehensive view of the business from its inception, the Arbitrators arrived at the conclusion, expressed in their own words, as follows:

"Calculated on the basis of business done during the nine months prior to February 21, 1902, the net earnings were at the rate of \$31,324 per annum, to which should be added the profit on the above-mentioned rentals, amounting to \$2,807 on contracts which the company were not allowed to fill.

Upon these facts and figures we submit that, conservatively stated, the net earning capacity of the company has been found to be not less than \$28,000 per annum, with the probability that in the normal course of business this amount will steadily increase. If the net earning capacity which is the usually accepted test of the value of a manufacturing corporation be taken as the basis of computation, in the present instance it appears that the net earnings of the Manhattan Fire Alarm Company represent a capitalization of \$280,000, computed at ten (10) per cent. Accepting this as a conservative basis of estimate, we value the plant, equipment, contracts, licenses and franchises, comprising all the properties, which, taken together, make the Manhattan Fire Alarm Company a going concern, at the sum of \$280,000, exclusive of the expenses of the arbitration."

Question may arise, however, as to whether the accepted test of value in the case of a manufacturing corporation is fairly applicable in case of a business depending for its success and even for its bare continuance upon the uncertain tenure of a revocable license. There may be some force in the argument that the City being itself the purchaser should not take advantage of its power of revocation in order to cheapen the property, but the fact would seem to be not that the revocation was made with a view to purchase, but rather that proposal to purchase has been due in part to a commendable desire to protect the company from loss otherwise incident to the revocation. If such desire should be carried to the extent of saving the company from all such loss, it would then indeed seem but fair to the other fire alarm companies that the City should either fix its charges, as suggested by the Mayor, at rates enabling or permitting them to continue to do business at a reasonable profit, or that it should also purchase so much of their respective plants as may be intended or maintained for the particular business of furnishing manual fire alarm boxes and service. The business of furnishing automatic fire alarm boxes and service, in which the so-called "Automatic" companies are also engaged, might not be seriously injured by the City's monopoly of the manual fire alarm service. And these companies might moreover be able to continue to provide a manual service at a profit in connection with and as an adjunct of their automatic service.

The tangible property of the Manhattan Company consists mainly of something over 2,100 alarm boxes, together with the appliances and circuits proper to their connection, with some 500 street boxes, among which they are distributed. Between four and five hundred of said alarm boxes, with their accompanying circuits and appliances, are located in Brooklyn, where the company does business by virtue of a contract entered into by and between the former City of Brooklyn and the Home Electrical Company in 1892, to the rights of which company the Manhattan Company, through one mesne conveyance, succeeded in July, 1902. The cost of said 2,100 boxes with appliances and circuits has not been given, nor has there been any appraisement of this or any other particular property. There are also patents, licenses and contracts, the value of which might be hard to determine. These, together with the articles of incorporation, of the Manhattan and other companies having relation to the contracts and rights involved, have been, by the Corporation Counsel, pronounced regular down to date of examination.

Some idea of the extent to which the value fixed by the arbitrators might be regarded as license, privilege, or franchise value, may be gathered from the following facts and figures: The total amount of cash invested in "construction" up to June 1, 1902, counting interest, was \$202,176.28; the total "operating expenses" to same date were \$44,733.80, making a total expenditure of \$246,910.08. Of this amount, \$121,072.46 was supplied by "rentals," leaving \$125,837.46 of actual expenditure. Take from that a dividend amounting to \$5,845, and there remains \$119,992.62, the sum total of money put into, or in any manner expended upon the plant, leaving out of consideration the value of services rendered by the promoters and officers of the business and company, of which no account has been rendered, and the value put upon the license or privilege granted by the City, would appear to be at least the difference between \$119,992.62, the money actually expended, and \$280,000, or \$160,000 in round numbers. The fair value of the services of promoters and officers should of course be considered, but it would hardly amount to any such figures. Suppose it to be, for instance, \$60,000; would there not still remain \$100,000, which it is proposed that the City shall give to the Manhattan Company as payment for nothing else than the enforced surrender of a revocable license for which the company never paid anything?

Of course, it may be and probably is true that the company has exclusive control throughout this City of patents necessary to performance of the particular special manual alarm service which it is now proposed that the City shall undertake, and might decline to transfer such control to the City except upon the company's own terms, but it is evident also that the patents will have little value to the company without a license to operate the inventions they cover.

**CONCLUSIONS.***A Suggestion for Expert and Disinterested Inquiry as to the Most Efficient Method of Special Fire-alarm Service.*

Certain facts and conditions have been disclosed in this examination bearing upon the relative merits of the various fire alarm devices and systems now in use, which would seem to raise a question as to the advisability of the City purchasing and extending the Manhattan or Gamewell system without previous consideration of other systems. The subject of reduced fire insurance premiums charged to owners of property protected by special fire alarm apparatus, has been referred to in connection with the recommendations for the purchase of the Manhattan Auxiliary system, but it has been learned that a still greater reduction in insurance rates is usually allowed on risks where automatic fire alarm appliances and devices are installed.

This report has proceeded thus far on the supposition that the proposed service should be merely an extension of the present general fire alarm telegraph system, and that it would require no additional trunk or main lines. But when it is remembered that the special service proposed is to pay for itself through rental fees or charges of some kind, the thought occurs that the system adopted should be the best in all respects that can be provided. It is not possible that the City would be warranted in establishing a system combining automatic and manual devices with circuits separate and distinct from the present City lines? It would certainly seem prudent to have competent examination of the different available methods of rendering special fire alarm service by the City before deciding upon any. Proposal to adopt the Manhattan system has arisen from the Commissioner's action in revoking the license, and a desire to deal fairly by that company, but the question whether that system is the best that could be adopted by the City seems hardly to have been raised, much less decided. Because that system is already connected with the City boxes is perhaps no sufficient reason for its adoption by the City, if its purpose be to adopt the best system. It seems that an inquiry as to what system would prove most serviceable and satisfactory in the long run should be made by disinterested experts before taking any decisive steps in the matter under consideration.

Respectfully,  
(Signed) R. B. MCINTYRE,  
Examiner in Charge, Investigations Division.

The Mayor moved that the matter be referred back to the Comptroller to cause an expert examination to be made of the various systems and the purchase price of same, and to report to the next Board.

Which motion was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communications from the Board of Education relative to the transfer of \$40,900 to various appropriations in said Department:

*To the Board of Education:*

The Committee on Finance respectfully reports that the Committee on Supplies has requested that a transfer of \$37,000 be made from the Special School Fund for the current year and from the items contained therein entitled "Supplies," Boroughs of Brooklyn and Queens, which items are in excess of their requirements, to the item also contained within the Special School Fund for the same year entitled "Incidental Expenses, Board of Education," which item is insufficient for its purposes. In compliance with said request the following resolution is submitted for adoption:

Resolved, That the Board of Estimate and Apportionment be and it is hereby respectfully requested to transfer the sum of thirty-seven thousand dollars (\$37,000) from the Special School Fund for the current year and from the items contained therein entitled "Supplies," as follows:

Borough of Brooklyn.....	\$30,000 00
Borough of Queens.....	7,000 00
<b>Total.....</b>	<b>\$37,000 00</b>

—which items are in excess of their requirements, to the item also contained within the Special School Fund for the current year entitled "Incidental Expenses—Board of Education," which item is insufficient for its purposes.

A true copy of report and resolution adopted by the Board of Education on November 25, 1903.

A. EMERSON PALMER, Secretary, Board of Education.

*To the Board of Education:*

The Committee on Finance respectfully reports that the Committee on Buildings has requested that a transfer of \$4,500 be recommended from the item contained within the Special School Fund for the current year, entitled "Rents," which item is in excess of its requirements, to the item also contained within the Special School Fund for the same year, entitled "General Repairs," Borough of Manhattan, which item is insufficient for its purposes. In compliance with said request the following resolution is submitted for adoption:

Resolved, That the Board of Estimate and Apportionment be and it is hereby respectfully requested to transfer the sum of forty-five hundred dollars (\$4,500) from the Special School Fund for the current year and from the item contained therein entitled "Rents," as follows:

Borough of Manhattan.....	\$1,700 00
Borough of The Bronx.....	400 00
Borough of Brooklyn.....	300 00
Borough of Queens.....	1,500 00
Borough of Richmond.....	600 00
<b>Total.....</b>	<b>\$4,500 00</b>

—which items are in excess of their requirements, to the item also contained within the Special School Fund for the same year, entitled "General Repairs," Borough of Manhattan, which item is insufficient for its purposes.

A true copy of report and resolution adopted by the Board of Education on November 25, 1903.

A. EMERSON PALMER, Secretary, Board of Education.

The following resolution was offered:

Resolved, That the sum of forty thousand nine hundred dollars (\$40,900) be and the same is hereby transferred from the following appropriations made to the Department of Education for the year 1903, entitled and as follows:

"Special School Fund, Borough of Brooklyn—Supplies".....	\$30,000 00
"Special School Fund, Borough of Queens—Supplies".....	7,000 00
"Special School Fund, Borough of Manhattan—Rents".....	1,700 00
"Special School Fund, Borough of The Bronx—Rents".....	400 00
"Special School Fund, Borough of Brooklyn—Rents".....	300 00
"Special School Fund, Borough of Queens—Rents".....	1,500 00

**Total.....** \$40,900 00

—the same being in excess of the amounts required for the purposes thereof, to the following appropriations made to the said Department for 1903, as follows:

"Special School Fund, Board of Education—Incidental Expenses".....	\$37,000 00
"Special School Fund, Borough of Manhattan—General Repairs".....	3,900 00

**Total.....** \$40,900 00

—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Register of Kings County requesting the transfer of \$2,100 within the appropriations made to his office:

OFFICE OF THE KINGS COUNTY REGISTER,  
HALL OF RECORDS, BOROUGH OF BROOKLYN, NEW YORK CITY,  
December 11, 1903.

Honorable Board of Estimate and Apportionment, New York City:

GENTLEMEN—I respectfully request that the sum of eleven hundred dollars (\$1,100) be transferred to the appropriation "For the Compensation of Copyists and Recording Clerks," the said sum to be taken from the following accounts, viz.:

From the appropriation of salaries.....	\$500 00
From the appropriation of maps.....	500 00
From the appropriation of searches.....	100 00

Total..... \$1,100 00  
—and I further request that the sum of one thousand dollars (\$1,000) be transferred from some other available account and credited to the appropriation "For the Compensation of Copyists and Recording Clerks" in this office. The need of this additional sum is due to the enormous growth of the business of this office during the present year. The receipts up to December 1 of this year, exceeding by \$6,413.82 the entire receipts for the year 1902, and the number of papers recorded up to December 1 of this year exceed by 9,000 the entire number recorded for the year 1902.

Very respectfully,

JOHN K. NEAL, Register.

The following resolution was offered:

Resolved, That the sum of eleven hundred dollars (\$1,100) be and the same is hereby transferred from the appropriations made to the Register of Kings County for the year 1903, entitled and as follows:

Salaries—Register's Office.....	\$500 00
For recopying and certifying filed maps in office of the Register of Kings County .....	500 00
Searches .....	100 00

Total..... \$1,100 00  
—the same being in excess of the amounts required for the purposes thereof, to the appropriation made to said Register for the year 1903, entitled "Compensation of Copyists and Recording Clerks," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The following resolution was offered:

Resolved, That the sum of one thousand dollars (\$1,000) be and the same is hereby transferred from the appropriation made to Kings County for the year 1903, entitled "Fees and Expenses of Jurors in Kings County," the same being in excess of amount required for the purposes thereof, to the appropriation made to the Register of Kings County for the year 1903, entitled "Compensation of Copyists and Recording Clerks," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Commissioner of Correction, requesting the transfer of \$1,000 to "Salaries":

DEPARTMENT OF CORRECTION,  
COMMISSIONER'S OFFICE, NO. 148 EAST TWENTIETH STREET,  
NEW YORK, December 8, 1903.

Hon. SETH LOW, Mayor, and Chairman of the Board of Estimate and Apportionment:

DEAR SIR—I would respectfully request your Honorable Board to transfer the sum of one thousand dollars (\$1,000) from the appropriation made to the Department of Correction, entitled "Supplies and Contingencies," for which it is not required, to the appropriation entitled "Salaries," which is insufficient for the purposes thereof. Both of said appropriations are for the Borough of Manhattan, and for the year 1903.

Very respectfully yours,

THOMAS W. HYNES, Commissioner.

The following resolution was offered:

Resolved, That the sum of one thousand dollars (\$1,000) be and the same is hereby transferred from the appropriation made to the Department of Correction for the year 1903, entitled "Supplies and Contingencies," Borough of Manhattan, the same being in excess of the amount required for the purposes thereof, to the appropriation made to said Department for the year 1903, entitled Borough of Manhattan "Salaries," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the City Clerk, requesting the transfer of \$350 to "Salaries."

THE CITY OF NEW YORK,  
OFFICE OF THE CITY CLERK, CITY HALL,  
NEW YORK, December 8, 1903.

To the Honorable the Board of Estimate and Apportionment:

GENTLEMEN—Will you kindly transfer the sum of three hundred and fifty dollars (\$350) from the unexpended balance of appropriation for "Sealers and Inspectors of Weights and Measures, 1903," to the account of "The Board of Aldermen and City Clerk—Salaries, 1903," for the reason that the Board of Aldermen, having elected an additional Assistant Sergeant-at-Arms, the amount appropriated is insufficient.

Respectfully,  
P. J. SCULLY, City Clerk.

Approved: SETH LOW, Mayor.

The following resolution was offered:

Resolved, That the sum of three hundred and fifty dollars (\$350) be and the same is hereby transferred from the appropriation made for the year 1903, entitled "Inspectors and Sealers of Weights and Measures," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the Board of Aldermen and City Clerk for the year 1903, entitled "Salaries," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Board of Elections, transmitting resolutions relative to a transfer of \$25,000 to "Election Expenses":

BOARD OF ELECTIONS,  
GENERAL OFFICE, NO. 107 WEST FORTY-FIRST STREET,  
NEW YORK, December 8, 1903.

Hon. SETH LOW, Mayor, and Chairman of the Board of Estimate and Apportionment of The City of New York:

SIR—I herewith transmit for consideration and appropriate action thereon by the Board of Estimate and Apportionment the following preamble and resolution adopted by the Board of Elections of The City of New York at a meeting held December 2, 1903.

Respectfully,  
JOHN R. VOORHIS, President.

Whereas, The appropriation made by the Board of Estimate and Apportionment in the City Budget for the year 1903 to the account entitled "Election expenses" is insufficient for the payment of the increased expenditure caused by additional advertising in newspapers in the Borough of Manhattan, as required by the provisions of chapter 197, Laws of 1903; and

Whereas, The amount appropriated and set apart in said Budget for the year 1903 to the account entitled "For expenses made necessary by the Primary Election Law, chapter 179, Laws of 1898," is in excess of the amount required for the objects and purposes thereof; therefore be it

Resolved, That the Board of Elections of The City of New York hereby respectfully requests the Board of Estimate and Apportionment of said City to transfer the sum of twenty-five thousand dollars (\$25,000) from the appropriation made for the year 1903 from the account entitled "For expenses made necessary by the Primary Election Law, chapter 179, Laws of 1898," which fund is in excess of its requirements, to the account entitled "Election expenses," which fund is insufficient for its purposes.

The following resolution was offered:

Resolved, That the sum of twenty-five thousand dollars (\$25,000) be and the same is hereby transferred from the appropriation made to the Board of Elections for the year 1903 entitled "For expenses made necessary by the Primary Election Law, chapter 179, Laws of 1898," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said Board of Elections for the year 1903 entitled "Election Expenses," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the President of the Borough of Manhattan, requesting the transfer of \$2,000 to "General Administration—Supplies and Contingencies":

CITY OF NEW YORK,  
OFFICE OF THE PRESIDENT OF THE BOROUGH OF MANHATTAN,  
CITY HALL, December 7, 1903.

JAMES W. STEVENSON, Esq., Secretary to the Board of Estimate and Apportionment:

DEAR SIR—Request is herewith made to the Board of Estimate and Apportionment for the transfer of two thousand dollars (\$2,000) from the appropriation "Bureau of Buildings—Contingencies and Emergencies, 1903," to the appropriation entitled "Supplies and Contingencies—General Administration, 1903."

Yours respectfully,

JACOB A. CANTOR, President.

The following resolution was offered:

Resolved, That the sum of two thousand dollars (\$2,000) be and the same is hereby transferred from the appropriation made to the President of the Borough of Manhattan for the year 1903, entitled "Bureau of Buildings—Contingencies and Emergencies," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said President of the Borough of Manhattan for 1903, entitled "General Administration—Supplies and Contingencies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Justice of the Second District Municipal Court, Borough of Richmond, requesting the transfer of \$166.66 to "Supplies and Contingencies":

MUNICIPAL COURT OF THE CITY OF NEW YORK,  
SECOND DISTRICT, STAPLETON,  
STAPLETON, S. I., December 15, 1903.

EDWARD M. GROUT, Esq., Comptroller, City of New York, New York City:

DEAR SIR—As the "Supply and Contingency Fund" of this Court for this district is exhausted, and as there is an unexpended balance in the salaries account of this Court to its credit of an Attendant's salary for two months, amounting to \$166.66, I would ask that a transfer be made of the same at the next meeting of the Board of Estimate and Apportionment to the "Supply and Contingency Fund."

There are owing by this court some outstanding bills for telephone, law books, etc., which cannot otherwise be met.

Yours truly,  
GEO. W. STAKE.

The following resolution was offered:

Resolved, That the sum of one hundred and sixty-six dollars and sixty-six cents (\$166.66) be and the same is hereby transferred from the appropriation made to Municipal Courts, City of New York (Second District, Borough of Richmond), for the year 1903, entitled "Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said Municipal Courts of The City of New York (Second District, Borough of Richmond) for 1903, entitled "Supplies and Contingencies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the County Clerk of Queens County, requesting the transfer of \$507.89 to 1902 for "Payment of Legal Fees":

OFFICE OF THE COUNTY CLERK OF QUEENS COUNTY,  
JAMAICA, BOROUGH OF QUEENS,  
NEW YORK CITY, December 11, 1903.

To the Board of Estimate and Apportionment, New York City:

GENTLEMEN—I have an unpaid bill against the County of Queens, amounting to \$547.34 for services in criminal cases preparing, indexing and recording Supreme and County Court calendars, preparing slips for trial and Grand Jury wheels, etc., which is chargeable to the appropriation entitled "For payment of Legal Fees, County Clerk of Queens County, 1902." As the above fund is about exhausted, will you

kindly transfer any unexpended balance available for the payment of the above bill, and greatly oblige,

Yours respectfully,  
JAMES INGRAM, Clerk of Queens County.

Note—It may appear strange that the charges against the above appropriation should exceed the amount appropriated. In explanation I wish to state that the Clerk's Office of Queens County is a fee office, the Clerk paying all the clerical force as well as for stationery, supplies, postage, etc.; also that I made an application for an increase in the appropriation, but the Board only allowed the same appropriation as the year previous. The charges against the fund are constantly increasing, and it is impossible to estimate them within a few hundred dollars. For instance, the charge for fees in criminal cases (3 R. S., 2579, sec. 6) provides a fee of 19 cents for drawing a jury and 6 cents for swearing a witness. It is impossible to estimate in advance how many juries will be drawn or how many witnesses will be sworn during the year for which the appropriation is made. The same rule applies to the times of preparing Supreme and County Court calendars and preparing the slips of Grand and Trial Jurors, owing to the fact that at one term of court there might be ten cases on the calendar and the next term might exceed one hundred. These charges are all provided for by the Code as fees to the County Clerk and made a charge against the county (sec. 230, County Law).

There is an unexpended balance in the fund "For Payment of Legal Fees, County Clerk of Queens County, 1902," amounting to \$39.45, leaving a deficit of \$507.89.

The following resolution was offered:

Resolved, That the sum of five hundred and seven dollars and eighty-nine cents (\$507.89) be and the same is hereby transferred from the appropriation made to the County of Queens for the year 1902, entitled "Matteawan State Hospital," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the County Clerk of Queens County for 1902, entitled "For Payment of Legal Fees," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the County Clerk of New York County, requesting the transfer of \$850 to "Supplies and Contingencies":

COUNTY CLERK'S OFFICE, COUNTY OF NEW YORK,  
NEW COUNTY COURTHOUSE,  
NEW YORK, December 9, 1903.

Board of Estimate and Apportionment:

GENTLEMEN—I respectfully request that the sum of eight hundred and fifty dollars (\$850) be transferred from the appropriation made to the County Clerk, New York County, entitled "Salaries" County Clerk, New York County, 1903, to the appropriation entitled "Supplies and Contingencies," County Clerk, New York County, 1903.

Respectfully,  
THOMAS L. HAMILTON,  
Clerk of the County of New York and Clerk of the Supreme Court.

The following resolution was offered:

Resolved, That the sum of eight hundred and fifty dollars (\$850) be and the same is hereby transferred from the appropriation made to the County Clerk, New York County, for the year 1903, entitled "Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said County Clerk, New York County, for 1903, entitled "Supplies and Contingencies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Sheriff of Queens County, requesting the transfer of \$5,800 to "Maintenance of Queens County Jail":

OFFICE OF THE SHERIFF, QUEENS COUNTY,  
COUNTY COURTHOUSE,  
LONG ISLAND CITY, December 8, 1903.

Board of Estimate and Apportionment, New York City:

GENTLEMEN—Application is hereby made for the transfer of fifty-eight hundred dollars from "Sheriff's Services in Criminal and Court Matters" to "Maintenance of Queens County Jail." This transfer is required to pay bills against "Maintenance of Queens County Jail."

Respectfully,  
JOSEPH H. DE BRAGGA,  
Sheriff of Queens County, New York.

The following resolution was offered:

Resolved, That the sum of fifty-eight hundred dollars (\$5,800) be and the same is hereby transferred from the appropriation made to the Sheriff of Queens County for the year 1903, entitled "Sheriff's Services in Criminal and Court Matters," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the said Sheriff of Queens County for 1903, entitled "Maintenance of Queens County Jail," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Corporation Counsel, requesting the transfer of appropriations to the Law Department:

LAW DEPARTMENT—OFFICE OF THE CORPORATION COUNSEL,  
NEW YORK, December 16, 1903.

To the Board of Estimate and Apportionment of The City of New York:

DEAR SIRS—There will be a balance remaining in the appropriation to this Department for "Salaries of Assistants, Etc., 1903," after deducting the amount of the December payroll, amounting to a little over \$2,500. I would like to have part of this sum transferred to the appropriation for "Contingent Counsel Fees, Including Deficiencies, 1903," in which there will be a small deficiency; and another part transferred to the appropriation for "Supplies and Contingencies, Including Deficiencies, 1903," in which there will be a larger deficiency.

1. The balance in the appropriation for "Contingent Counsel Fees, Including Deficiencies, 1903," after paying the bills which have already been certified, will be \$5,768.78. The bills against this appropriation which I now have in hand, and which are the only claims of this character against the Law Department chargeable to this year's appropriation, of which I have any knowledge, amount to \$6,190.30. It will, therefore, be necessary to have the sum of \$421.52 transferred from the salary appropriation to this appropriation.

2. Out of the balance of the excess in the Salary appropriation I would like to have the sum of \$2,000 transferred to the appropriation for "Supplies and Contingencies, Including Deficiencies, 1903." This transfer will just about pay the bills which have already been certified and are now being held in this office until funds are provided for their payment.

3. I also find it necessary to ask your Board to transfer from the appropriations heretofore made to some other department, to the appropriation to this Department

for "Supplies and Contingencies, Etc., 1903," a sufficient sum to pay the bills which are already in hand and those that will come in for payment before the close of the year.

As nearly as I can determine at the present time, the bills for "Supplies and Contingencies" which will come in for payment between now and the close of the year will amount to not less than \$4,000, and it is therefore necessary for me to ask you to transfer this amount from some other department.

In my letter to you dated August 18, 1903, I reported to your Board that there would be a deficiency in this appropriation of about \$35,000, and asked for a transfer of that amount. Subsequently I had a conversation with Mr. Stevenson, the Deputy Comptroller, in which I was asked to prepare another statement, keeping down every possible expense to its lowest point. As a result of that conversation I wrote to your Board again on September 22, 1903, stating that after the most careful revision of the estimated expenses for the balance of the year, I found that it would be necessary to have an additional appropriation of \$29,000. Subsequently your Board granted a transfer from the appropriation for "Lights and Lighting, Department of Water Supply, Gas and Electricity," amounting to \$25,000. It appears that my estimate of \$29,000 was almost exactly the amount which will be needed, and I therefore urgently request that the additional sum of \$4,000 be transferred from any available appropriation made to any other department, where there may be a balance, to pay the bills which will be presented against the appropriation to this Department for "Supplies and Contingencies" during the balance of the year.

The appropriation of \$60,000, made for this purpose for 1904, is available for the payment of deficiencies, but it would be unfair to my successor in office to leave unpaid bills contracted during my term of office, amounting to \$4,000, to be paid out of an appropriation which, in my judgment, will certainly be insufficient for the purposes for which it was appropriated.

In my letter of August 31, 1903, transmitting my estimates for the year, I gave my reasons for thinking that an appropriation of \$100,000 would be needed.

I therefore respectfully request that the Board make the following transfers at the earliest possible day—

1. From the appropriation for "Salaries of Assistants, Etc., 1903," to the appropriation for "Contingent Counsel Fees, Including Deficiencies, 1903" .....	\$421 52
2. From the appropriation for "Salaries of Assistants, Etc., 1903," to "Supplies and Contingencies, Including Deficiencies, 1903" .....	2,000 00

Yours respectfully,  
G. L. RIVES, Corporation Counsel.

The following resolution was offered:

Resolved, That the sum of two thousand four hundred and twenty-one and fifty-two one-hundredths dollars (\$2,421.52) be and the same is hereby transferred from the appropriation made to the Law Department for the year 1903, entitled "Salaries of Assistants, Clerks and Employees in all Offices and Bureaus of the Department, Except the Bureau of Street Openings, and Including the Tenement House Branch," the same being in excess of the amount required for the purposes thereof, to the appropriations made to said Department for the year 1903, entitled and as follows:

"Contingent Counsel Fees, Including Deficiencies" .....

\$421 52

"Supplies and Contingencies, Including Deficiencies" .....

2,000 00

Total .....

\$2,421 52

—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Commissioner of Bridges requesting the Board to amend a resolution adopted September 23, 1903, relative to an appropriation of \$335,000 for the construction of bridges over the Gowanus canal, Borough of Brooklyn:

DEPARTMENT OF BRIDGES—CITY OF NEW YORK,  
December 15, 1903.

Hon. Board of Estimate and Apportionment, No. 280 Broadway, New York City:

GENTLEMEN—In the resolution adopted by the Board of Estimate and Apportionment on the 23d of September, 1903, authorizing the issue of Corporate Stock to an amount not exceeding \$335,000, to provide means for the construction of bridges over the Gowanus canal, in the Borough of Brooklyn, the Third Street Bridge, for which \$75,000 was authorized, was erroneously called the Third Avenue Bridge, and I respectfully request that the resolution be amended so as to read "Third Street Bridge" instead of "Third Avenue Bridge."

There is a fixed bridge at Third avenue over Gowanus canal; the new bridge for which plans have been adopted is a draw bridge at Third street, hence the ambiguity in the resolution, as passed.

Respectfully,

G. LINDENTHAL, Commissioner of Bridges.

The following resolution was offered:

Resolved, That the resolution adopted by the Board of Estimate and Apportionment at meeting held September 23, 1903, and which reads as follows:

"Resolved, That, pursuant to the provisions of section 47 of the Greater New York Charter, the Board of Estimate and Apportionment hereby approves of the issue of Corporate Stock of The City of New York, to an amount not exceeding three hundred and thirty-five thousand dollars (\$335,000), to provide means for the construction of bridges over the Gowanus Canal, in the Borough of Brooklyn, as follows:

For the Hamilton Avenue Bridge.....	\$140,000 00
For the Union Street Bridge.....	70,000 00
For the Third Street Bridge.....	75,000 00
For the Ninth Street Bridge.....	50,000 00

—and that when authority therefor shall have been obtained from the Board of Aldermen, the Comptroller is authorized to issue Corporate Stock of The City of New York, in the manner provided by section 169 of the Greater New York Charter, to an amount not exceeding three hundred and thirty-five thousand dollars (\$335,000), the proceeds whereof to be applied to the purposes aforesaid," be amended so as to read as follows:

For the Hamilton Avenue Bridge.....	\$140,000 00
For the Union Street Bridge.....	70,000 00
For the Third Street Bridge.....	75,000 00
For the Ninth Street Bridge.....	50,000 00

—and that when authority therefor shall have been obtained from the Board of Aldermen, the Comptroller is authorized to issue Corporate Stock of The City of New York, in the manner provided by section 169 of the Greater New York Charter,

ter, to an amount not exceeding three hundred and thirty-five thousand dollars (\$335,000), the proceeds whereof to be applied to the purposes aforesaid.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Deputy and Acting Commissioner of Water Supply, Gas and Electricity, requesting the transfer of \$9,000 to various appropriations in his Department:

DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY,  
COMMISSIONER'S OFFICE, NOS. 13-21 PARK ROW,  
CITY OF NEW YORK, December 16, 1903.

JAMES W. STEVENSON, Esq., Deputy Comptroller, and Secretary, Board of Estimate and Apportionment:

SIR—On November 20 I asked, among other transfers, that your Board make the following transfers of appropriations made to this Department for the year 1903, for the

BOROUGH OF QUEENS.

From—	
Rentals of Fire Hydrants.....	\$7,000 00
Supplying Water to Long Island City.....	2,000 00
	<hr/>
	\$9,000 00
To—	
Salaries—Office of Deputy Commissioner.....	\$80 00
Salaries—Pumping Stations.....	2,638 35
Salaries—Lighting and Electricity.....	511 65
Supplies and Contingencies.....	970 00
Maintenance and Repairs of Water Pipes, etc.....	4,300 00
Pumping Stations, Fuel and Supplies.....	500 00
	<hr/>
	9,000 00

On account of the estimated amount of contracts certified against the appropriation "Rentals of Fire Hydrants," the transfers could not be made at that time. The certification has since been amended and I beg to renew the request and to ask early consideration by your Board.

Very respectfully,  
WM. A. DE LONG,  
Deputy and Acting Commissioner of Water Supply, Gas and Electricity.

The following resolution was offered:

Resolved, That the sum of nine thousand dollars (\$9,000) be and the same is hereby transferred from the appropriations made to the Department of Water Supply, Gas and Electricity for the year 1903, entitled and as follows:

BOROUGH OF QUEENS.

Rentals of Fire Hydrants.....	\$7,000 00
Supplying Water to Long Island City.....	2,000 00
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Total..... \$9,000 00  
—the same being in excess of the amounts required for the purposes thereof, to the appropriations made to said Department for the year 1903, entitled and as follows:

BOROUGH OF QUEENS.

Salaries—Office of Deputy Commissioner.....	\$80 00
Salaries—Pumping Stations.....	2,638 35
Salaries—Lighting and Electricity.....	511 65
Supplies and Contingencies.....	970 00
Maintenance and Repairs of Water Pipes, etc.....	4,300 00
Pumping Stations—Fuel and Supplies.....	500 00
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Total..... \$9,000 00  
—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Secretary to the President of the Borough of Queens, requesting a transfer of \$2,214.92 to "Bureau of Public Buildings and Offices—Supplies and Repairs (Including Wages of Mechanics, Cleaners, etc.)":

THE CITY OF NEW YORK,  
OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS,  
LONG ISLAND CITY, December 16, 1903.

J. W. STEVENSON, Esq., Secretary, Board of Estimate and Apportionment:

DEAR SIR—Herewith I forward you resolution authorizing transfer of funds in the Department of Buildings and Offices, Borough of Queens, which kindly have placed on the calendar for the next meeting of the Board of Estimate and Apportionment, and oblige

Yours respectfully,  
GEO. S. JERVIS, Secretary to President.

The following resolution was offered:

Resolved, That the sum of two thousand two hundred and fourteen dollars and ninety-two cents (\$2,214.92) be and the same is hereby transferred from the appropriation made to the President of the Borough of Queens for the year 1903, entitled "Bureau of Public Buildings and Offices—Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said President of the Borough of Queens for 1903, entitled "Bureau of Public Buildings and Offices—Supplies and Repairs (Including Wages of Mechanics, Cleaners, etc.)," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Commissioner of Parks for the Borough of The Bronx, requesting the transfer of \$125 to "Supplies and Contingencies":

CITY OF NEW YORK—DEPARTMENT OF PARKS,  
OFFICE OF COMMISSIONER FOR THE BOROUGH OF THE BRONX,  
ZBROWSKI MANSION, CLAREMONT PARK,  
NEW YORK, December 16, 1903.

J. W. STEVENSON, Esq., Secretary, Board of Estimate and Apportionment, No. 280 Broadway, New York City:

DEAR SIR—I respectfully request that at the next meeting of the Board of Estimate and Apportionment the sum of \$125 be transferred from the appropriation for "Surveys, Maps and Plans," for the year 1903, to the appropriation for "Supplies and Contingencies," 1903, the amount of the first appropriation being in excess of the requirements thereof, and the amount of the latter appropriation being insufficient.

Respectfully yours,  
JOHN E. EUSTIS,  
Commissioner of Parks, Borough of The Bronx.

The following resolution was offered:

Resolved, That the sum of one hundred and twenty-five dollars (\$125) be and the same is hereby transferred from the appropriation made to the Department of Parks, Borough of The Bronx, for the year 1903, entitled "Surveys, Maps and Plans," the same being in excess of the amount required for the purposes thereof, to the appropriation made to said Department of Parks, Borough of The Bronx, for 1903, entitled "Supplies and Contingencies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented a communication from the Coroner of the Borough of Richmond requesting the transfer of \$360 to "Salaries and Expenses of Coroner in the Borough of Richmond, 1904."

Referred to the Comptroller.

The Secretary presented the following communication from the Coroner in the Borough of Richmond requesting the transfer of \$150 to "Salaries and Expenses of Coroner in the Borough of Richmond" from the Department of Public Charities, together with the consent of the Commissioner of Charities to said transfer:

CORONER'S OFFICE, BOROUGH OF RICHMOND,  
STAPLETON, N. Y., December 17, 1903.

J. W. STEVENSON, Esq., Secretary of the Board of Estimate and Apportionment:

DEAR SIR—I beg leave to ask for a transfer of the sum of \$150 from the appropriation made to the Department of Public Charities entitled "Salaries, 1903," to the Coroner of the Borough of Richmond to the appropriation entitled "Salaries and Expenses for the year 1903," as the Contingent Fund is at present inadequate to meet the demands of 1903. I hereby attach letter of consent of Commissioner Homer Folks, of the Department of Public Charities.

Yours very respectfully,  
GEO. F. SCHAEFER, Coroner.

DEPARTMENT OF PUBLIC CHARITIES,  
FOOT OF EAST TWENTY-SIXTH STREET,  
December 16, 1903.

HON. JAMES W. STEVENSON, Secretary, Board of Estimate and Apportionment:

DEAR SIR—I hereby consent to the transfer of the sum of \$150 from the appropriation to this Department for salaries for 1903 to the Contingent Fund for the Coroner of the Borough of Richmond for the year 1903.

Yours very truly,  
HOMER FOLKS, Commissioner.

The following resolution was offered:

Resolved, That the sum of one hundred and fifty dollars (\$150) be and the same is hereby transferred from the appropriation made to the Department of Public Charities for the year 1903 entitled "Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the Coroner of the Borough of Richmond for 1903 entitled "Salaries and Expenses of Coroner in the Borough of Richmond," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Deputy and Acting Commissioner of Street Cleaning, relative to the transfer of \$9,200 to appropriations within his Department:

DEPARTMENT OF STREET CLEANING,  
NEW YORK, December 17, 1903.

HON. SETH LOW, Mayor, Chairman Board of Estimate and Apportionment:

SIR—I have to request that the sum of thirty-five hundred dollars (\$3,500) be transferred from the account of "Sweeping and Carting," appropriation of the Department of Street Cleaning, Boroughs of Manhattan and The Bronx, for the year 1903, to the appropriation account of "Administration, Boroughs of Manhattan and The Bronx, for 1903."

Also that the sum of fifty-seven hundred dollars (\$5,700) be transferred from the account of "Final Disposition of Material," including cremation or utilization, appropriation of the Department of Street Cleaning, Borough of Brooklyn, for the year 1903, to the appropriation account of "Administration, Borough of Brooklyn, for 1903."

The reason for the above-named transfers is that the balances remaining in the accounts of Administration, Boroughs of Manhattan, The Bronx and Brooklyn, are insufficient to meet the expenses of the year.

Respectfully,  
F. W. GIBSON,  
Deputy and Acting Commissioner.

The following resolution was offered:

Resolved, That the sum of nine thousand two hundred dollars (\$9,200) be and the same is hereby transferred from the following appropriations made to the Department of Street Cleaning for the year 1903, entitled and as follows:

Boroughs of Manhattan and The Bronx—Sweeping and Carting.....	\$3,500 00
Borough of Brooklyn—Final Disposition of Material, including Cremation or Utilization .....	5,700 00

Total ..... \$9,200 00

—the same being in excess of the amounts required for the purposes thereof, to the following appropriations made to said Department of Street Cleaning for 1903, entitled and as follows:

Boroughs of Manhattan and The Bronx—Administration .....	\$3,500 00
Borough of Brooklyn—Administration .....	5,700 00

Total ..... \$9,200 00

—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Commissioner of Bridges, requesting the transfer of \$2,500 to appropriations within said Department:

DEPARTMENT OF BRIDGES—CITY OF NEW YORK,  
December 17, 1903.

HON. BOARD OF ESTIMATE AND APPORTIONMENT, No. 280 Broadway, New York City:

GENTLEMEN—Please transfer from account of "For Maintenance of and Repairs to Bridges in the Borough of Queens, 1902," the sum of \$1,500, to the following accounts:

(1) To "Supplies and Contingencies, 1902," \$500.

(2) To "Maintenance of and Repairs to Bridges Over Newtown Creek, 1902," \$1,000.

Also \$1,000 from the account "Salaries—General Administration, 1903," to account "Supplies and Contingencies, 1903."

Respectfully,

G. LINDENTHAL, Commissioner of Bridges.

The following resolution was offered:

Resolved, That the sum of one thousand five hundred dollars (\$1,500) be and the same is hereby transferred from the appropriation made to the Department of Bridges for the year 1902, entitled "For Maintenance of and Repairs to Bridges in the Borough of Queens," the same being in excess of the amount required for the purposes thereof, to the following appropriations made to said Department of Bridges for 1902, entitled and as follows:

"Supplies and Contingencies" .....	\$500 00
"For Maintenance of and Repairs to Bridges Over Newtown Creek"....	1,000 00
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Total.....	\$1,500 00

—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The following resolution was offered:

Resolved, That the sum of one thousand dollars (\$1,000) be and the same is hereby transferred from the appropriation made to the Department of Bridges for the year 1903, entitled "Salaries," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the said Department of Bridges for 1903, entitled "Supplies and Contingencies," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following resolution transferring the sum of \$5,000 to "Supplies and Contingencies, Comptroller's Office":

Resolved, That the sum of five thousand dollars (\$5,000) be and the same is hereby transferred from the appropriation made to the Department of Finance for the year 1903, entitled "Salaries—Department of Finance," the same being in excess of the amount required for the purposes thereof, to the appropriation made to the Department of Finance for 1903, entitled "Supplies and Contingencies—Comptroller's Office," the amount of said appropriation being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the President of the Borough of Richmond, requesting the transfer of \$2,675 to appropriations under his jurisdiction:

OFFICE OF THE PRESIDENT OF THE BOROUGH OF RICHMOND,  
NEW BRIGHTON, N. Y., December 17, 1903.

J. W. STEVENSON, Secretary, Board of Estimate and Apportionment, City Hall, New York City:

DEAR SIR—I would request the following transfers:

From Bureau of Highways—Labor, Maintenance and Supplies, \$1,800, to Bureau of Sewers—Labor, Maintenance and Supplies.

From Bureau of Highways—Labor, Maintenance and Supplies, \$875, to Bureau of Buildings—Salaries.

Yours respectfully,

GEORGE CROMWELL, President of the Borough.

The following resolution was offered:

Resolved, That the sum of two thousand six hundred and seventy-five dollars (\$2,675) be and the same is hereby transferred from the appropriation made to the President of the Borough of Richmond for the year 1903, entitled "Bureau of Highways—Labor, Maintenance and Supplies," the same being in excess of the amount required for the purposes thereof, to the following appropriations made to said President of the Borough of Richmond for 1903, entitled and as follows:

Bureau of Sewers—Labor, Maintenance and Supplies.....	\$1,800 00
Bureau of Buildings—Salaries.....	875 00
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Total..... \$2,675 00

—the amounts of said appropriations being insufficient.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The President of the Board of Aldermen offered the following resolution designating space in the Hall of Records for the use of the Finance Department:

Resolved, That the Board of Estimate and Apportionment, pursuant to chapter 793 of the Laws of 1897, hereby designates, for the use and purposes of the Finance Department, the first, second and third floors of the New Hall of Records and so much of the basement thereof as may be necessary.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following report of the Engineer of the Department of Finance, relative to the installation of mail chutes in the new Hall of Records Building:

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
December 10, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—In relation to the matter of the installation of a mail chute in the New Hall of Records, I would report that the Cutler Manufacturing Company of Rochester at various times have submitted the following proposals:

	For One Chute, from First to Eighth Floor.	For two Chutes, One from First to Eighth Floor; One from First to Fifth Floor.
A special United States mail box of stationary bronze, as per architect's design	\$6,412 50	\$10,385 00
A special United States mail box of bronze with pedestal, Design No. 988.	5,750 00	.....
A special United States mail box of bronze with pedestal, Design No. 1001.	5,435 00	9,022 50
A special United States mail box of bronze with pedestal, Design No. 1050.	.....	7,300 00

The question of installing a mail chute in the New Hall of Records Building was made the subject of former reports, dated June 12, 1903, and August 6, 1903. In said reports I stated that the New Hall of Records Building should be provided with two chutes, one to be located on the elevator shaft on the Centre street side of the building, to extend from the first or ground floor to the eighth floor, and the other to be placed on the westerly side of the building extending from the first to the fifth floor.

I also gave it as my opinion that the prices charged by the Cutler Manufacturing Company for installing the chutes were excessive, but in all my subsequent interviews with Mr. Cutler and his representative I have been unable to have the company reduce its estimates, and as the Cutler Manufacturing Company are the only parties who make mail chutes I am unable to obtain other estimates; hence, the Board of Estimate and Apportionment is compelled to consider the different proposals as submitted by the Cutler Manufacturing Company.

The first three proposals I consider too elaborate and expensive and would recommend that the Board of Estimate and Apportionment (although I consider the price charged high) accept the last proposal to install two chutes for the sum of \$7,300. This proposal dated December 8, 1903, calls for two special United States mail boxes (one from first to eighth floor and one from first to fifth floor), fine cast bronze with pedestals, design No. 1050, hand chased, and finished in best manner. Except plate glass fronts, the entire exposed parts of mail chutes on ground or first story to be of bronze, in the upper stories special finish of steel to match surroundings.

If my recommendations are favorably considered by the Board and the work is to be done by the Cutler Manufacturing Company, of Rochester, N. Y., it can be done by authorizing the President of the Borough of Manhattan to issue an order to John Peirce (the contractor for the completion of the building), pursuant to section 15, chapter 793, of the Laws of 1897, and the contract to install two mail chutes in the New Hall of Records Building, as per proposal and design No. 1050, as submitted by the Cutler Manufacturing Company, for the sum of \$7,300.

The laws and the terms of the contract of John Peirce state that the contract may be modified or altered, but in no case to involve an increased expense greater than five per cent. of the whole expenditure provided for in said contract. The contract of John Peirce for the completion of the building is for \$1,959,000, and five per cent. of this amount is \$97,950, which is greatly in excess of the amount required for the mail chutes.

Respectfully,  
EUG. E. McLEAN, Engineer.

Hon. EDWARD M. GROUT, Comptroller:

SIR—I have no further report to make in relation to the mail chutes proposed to be installed in the New Hall of Records Building. My reports of June 12, 1903, page 429, Book 18, and August 6, 1903, page 746, Book 18, clearly state my views.

Respectfully,  
EUG. E. McLEAN, Engineer.

November 16, 1903.

The following resolution was offered:

Resolved, That the Board of Estimate and Apportionment hereby authorizes the President of the Borough of Manhattan to enter into an agreement with John Peirce to modify and alter his contract for the erection of the Hall of Records Building, in an amount not to exceed seven thousand three hundred dollars (\$7,300) for the installation of two (2) mail chutes in the New Hall of Records Building, as per proposal and design No. 1050, submitted by the Cutler Manufacturing Company, of Rochester.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Commissioner of Public Charities requesting the Board to recommend to the Board of Aldermen the fixing of the salaries of certain positions in his Department:

DEPARTMENT OF PUBLIC CHARITIES,  
FOOT OF EAST TWENTY-SIXTH STREET,  
September 28, 1903.

Hon. JAMES W. STEVENSON, Secretary, Board of Estimate and Apportionment:

DEAR SIR—I respectfully request that the Board of Estimate and Apportionment, with the concurrence of the Board of Aldermen, establish the following new grades of salaries in this Department:

Examiner of Dependent Children, per annum.....	\$1,200 00
Examiner of Charitable Institutions, per annum.....	1,200 00

The only salary now pertaining to these positions is \$1,000. There should be an opportunity to promote such of the Examiners as, by reason of length of service or efficiency are entitled to promotion, and who, for the same reason, are able to perform the more responsible duties pertaining to the positions above mentioned.

I have the honor to remain,

Yours very truly,

HOMER FOLKS, Commissioner.

The following resolution was offered:

Resolved, That the Board of Estimate and Apportionment hereby recommends to the Board of Aldermen, in accordance with the provisions of section 56 of the Greater New York Charter, that the salaries of the following positions in the Department of Public Charities, Borough of Manhattan, be fixed as follows:

Examiner of Dependent Children, per annum.....	\$1,200 00
Examiner of Charitable Institutions, per annum.....	1,200 00

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following report of the Appraiser of Real Estate, relative to the purchase of land for a public park at Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, Borough of The Bronx:

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE,  
December 1, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—At a meeting of the Board of Estimate and Apportionment held September 30, 1903, the following resolutions were adopted:

"Resolved, That the Board of Estimate and Apportionment of The City of New York, in pursuance of the provisions of section 970 of the Greater New York Charter, deem it for the public interest that the title to the lands and premises required for the opening and extending of a public park, bounded by Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, in the Borough of The Bronx, City of New York.

"Resolved, That the Board of Estimate and Apportionment, deeming it for the public interest so to do, hereby requests the Corporation Counsel to make application to a Special Term of the Supreme Court for the appointment of commissioners of Estimate and Assessment, and to take the necessary proceedings in the name of The City of New York to acquire title wherever the same has not heretofore been acquired, for the use of the public to the lands, tenements and hereditaments that

shall or may be required for the purpose of opening and extending a public park, bounded by Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, in the Borough of The Bronx, City of New York.

"Resolved, That the entire cost and expense of said proceedings shall be borne and paid by The City of New York."

After an examination I have the honor to report that the proposed park site bounded by Fordham road, Sedgwick avenue, Aqueduct avenue and East One Hundred and Eighty-eighth street, Borough of The Bronx, is known on the maps in the Department of Taxes and Assessments as section 11, volume 5, Lot No. 1 of Block 3219, and Lot No. 1 of Block 3226.

Lot No. 1 of Block 3219 includes the whole irregular block, containing 60.605 full City lots. This property is owned by the Moses Devoe Estate, and is assessed at \$54,000.

Lot No. 1 of Block 3226, also irregular, covers 36.437 full City lots. The City already own a plot of aqueduct property in this block known as Lot No. 8 and containing 3.897 City lots. Lot No. 1 is owned by the Wm. H. Webb Home and is assessed at \$24,500. The City property is Lot No. 8 and is assessed at \$5,000, having a small stone aqueduct building on it. The assessed value of the property to be taken for the park is therefore \$78,500.

Since the adoption of the foregoing resolutions, the owners of these two parcels have agreed, as I am informed, to sell to the City for their assessed value. The Devoe tract would therefore amount to \$54,000, and the Wm. H. Webb Home tract to \$24,500; total, \$78,500. This price appears to me fair and reasonable.

I would therefore respectfully recommend that the Board of Estimate and Apportionment adopt a resolution authorizing the purchase of the above-mentioned properties at a price not exceeding \$78,500.

Respectfully submitted for approval,

MORTIMER J. BROWN,  
Appraiser of Real Estate in Charge of Bureau.

The following were offered:

Whereas, The Board of Estimate and Apportionment, in pursuance of the provisions of the Greater New York Charter, in the matter of opening and extending a public park, bounded by Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, in the Borough of The Bronx, and having, by a resolution adopted September 30, 1903, requested the Corporation Counsel to make application to the Special Term of the Supreme Court for the appointment of commissioners of Estimate and Assessment, and to take the necessary proceedings in the name of The City of New York to acquire title wherever the same has not heretofore been acquired for the use of the public to the lands, tenements and hereditaments that shall or may be required for the purpose of opening and extending a public park, bounded by Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, in the Borough of The Bronx, City of New York; therefore be it

Resolved, That the Comptroller of The City of New York is hereby authorized to enter into contracts for the purchase of the property contained within the area bounded by Aqueduct avenue, Fordham road, Sedgwick avenue and East One Hundred and Eighty-eighth street, in the Borough of The Bronx, together with all the right, title and interest of the owners of said premises, of in and to the streets, avenues and roads in front of said premises to the centre thereof, at a price not exceeding seventy-eight thousand five hundred dollars (\$78,500), which contracts are to be submitted to the Corporation Counsel for his approval as to form.

Which were adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Corporation Counsel, relative to the construction of sewers in the Borough of Brooklyn:

LAW DEPARTMENT—OFFICE OF THE CORPORATION COUNSEL,  
NEW YORK, December 17, 1903.

Hon. EDWARD M. GROUT, Comptroller:

SIR—I have received a letter from Deputy Comptroller Stevenson, dated November 18, 1903, transmitting two contracts with Michael J. Dady, each dated November 7, 1903, for the construction of sewers in the Borough of Brooklyn, one in the west side of Fourth avenue, from Butler street to Degraw street, etc., and the other in Fifth avenue, from Atlantic avenue to Dean street, etc.

These contracts are for what are known as relief sewers, but have been certified by the Borough President as chargeable to the Street Improvement Fund under section 149 of the Charter.

The total estimated cost of the two contracts is \$266,121.50. The question upon which my advice is requested is whether the whole of the cost of these improvements can be charged to the Street Improvement Fund, under section 436 of the Charter.

It appears from the copies of the resolutions of the Board of Estimate and Apportionment, and of the Local Board, attached to the contracts, that one resolution only was adopted for the two improvements. This resolution was adopted by the Local Board and approved by the President of the Borough of Brooklyn August 1, 1902, and transmitted to the Board of Estimate and Apportionment. The latter Board on July 8, 1903, adopted a resolution in which it is recited, among other things, that the cost of the proposed work or improvement will be \$163,000, and in which it was resolved "that the said resolution of the said Local Board be and the same hereby is approved and the local improvement therein provided for is hereby authorized. And this Board does hereby reserve its determination as to what portion, if any, of the cost and expense thereof shall be borne and paid by The City of New York and as to what portion, if any, of said cost and expense shall be assessed upon the property deemed to be benefited by the said local improvement."

Subsequently and on the 31st day of July, 1903, the Board of Estimate and Apportionment adopted another resolution reciting the fact that no determination of the proportion of expense to be borne by the City had been made in the previous resolution, and resolved as follows:

"That the Board of Estimate and Apportionment of The City of New York hereby determines that the whole of such cost and expense shall be borne and paid by The City of New York."

It thus appears that the Board of Estimate and Apportionment has in effect determined that there shall be no assessment at all, although up to the adoption of the resolution of July 31 the improvement was treated as assessment work and the procedure required by law for the doing of such work seems to have been duly followed.

The questions thus arise whether this procedure is legal; whether the Street Improvement Fund can be used to pay the contractor, or whether there is now in existence any fund out of which he can legally be paid.

Before answering this question it will be well to refer briefly to former opinions upon relief sewers in the Borough of Brooklyn.

In a letter to you dated May 8, 1902, in answer to your communication of February 19, 1902, in regard to certain resolutions proposed to be presented to the Board of Estimate and Apportionment affecting the construction of relief sewers in the Borough of Brooklyn, I examined the law relating to the main sewer relief and extension fund established in the former City of Brooklyn under authority of Chapter 387 of the Laws of 1884, and approved a plan by which the original scheme of building relief sewers at the expense of the City at large and not by assessment on private property could be carried out by issuing corporate stock to the amount of \$167,000 under section 170 of the Charter, being the balance of the \$2,000,000 authorized to be expended for the purpose by the former City of Brooklyn.

Subsequently, and under date of June 6, 1902, I advised in answer to your communication of May 22, 1902, in reference to statutes relating to the main sewer relief and extension fund as follows:

"So far as the statutes just referred to provide for the construction of relief sewers their terms have been complied with; the sewers have been built and all the bonds authorized have been or will be issued."

I concluded, therefore, that such sewers could not be built under the legislation above referred to.

On April 9, 1903, I addressed a communication to the President of the Borough of Brooklyn in reply to a request from him for an opinion to guide the action of the Board of Estimate and Apportionment. He asked whether power existed in that Board to make an appropriation for relief sewers, or whether it would be necessary to secure legislation to give the Board such power.

After calling attention to sections 383, 444, 445, 446, 428 and 434 of the Charter, which deal with the method of making drainage plans and initiating proceedings for the construction of such improvements, I next quoted section 436 of the Charter by which the Board of Estimate and Apportionment are authorized to determine whether any, and if any, what proportion of the expense and cost of the local improvement should be borne and paid by The City of New York.

I then expressed the opinion that it was competent, therefore, in the case of the construction of any sewer for the Board of Estimate and Apportionment to place the whole expense thereof upon the City at large if it deemed it proper so to do, and that payment of the expense thus incurred might be made under the provisions of section 176 of the Charter which provide for the issuing of Corporate Stock of The City of New York necessary to provide the funds to enable the Comptroller "to pay any and all assessments and expenses imposed or that may hereafter be imposed, directly or indirectly upon the City of New York, by reason of \* \* \* the construction of sewers, and out of the proceeds of said stock to pay such assessments and expenses."

So far as I am informed all the steps necessary for the construction of the sewers in question have been duly taken in accordance with the provisions of the Charter above quoted down to the point of authorizing the issue of corporate stock of The City of New York to provide the funds to enable the Comptroller to pay the expenses of the construction of the proposed sewers.

It does not appear that the issue of such corporate stock has been authorized by the Board of Estimate and Apportionment; and, on the contrary, I infer from your communication that no such authority has been given.

Under these circumstances, I am of the opinion that unless the expense of constructing these sewers can lawfully be charged on the Street Improvement Fund you cannot properly certify the contracts under section 149 of the Charter.

The section just quoted provides that:

"No contract hereafter made, the expense of the execution of which is not by law or ordinance, in whole or in part, to be paid by assessments upon the property benefited, shall be binding or of any force unless the Comptroller shall endorse thereon his certificate that there remains unexpended and unapplied, as herein provided, a balance of the appropriation or fund applicable thereto sufficient to pay the estimated expense of executing such contract, as certified by the officer making the same."

The contracts now under consideration are not to be paid in whole or in part by assessment upon the property benefited. It follows that they are not binding or of any force unless and until you shall endorse thereon your certificate under the section just quoted. As there has been no fund authorized to be created by the sale of Corporate Stock, the certificate, as I have stated, cannot be made unless recourse could be had to the Street Improvement Fund.

In an opinion rendered September 1, 1898, to your predecessor from this Department the history of the Street Improvement Fund was very fully examined and attention was called both to the provisions of former statutes and to the provisions of the Charter of 1897 in relation thereto.

The provisions of section 149, 181 and 184 of the Charter there referred to remain without substantial change in the Charter as revised in 1901.

The fund in question, the Street Improvement Fund, is a special trust fund which is intended to be supplied by the collection of assessments for local improvements, and to be devoted to the payment only of such improvements as are to be met in whole or in part by assessments upon property benefited.

To pay the expenses of a local improvement which is to be charged upon the taxpayers of the whole City and not to be met in any part by assessment upon neighboring property would be in my judgment a plain violation of the law, and would be a departure from the long settled policy of the City.

I therefore advise you, in reply to your communication, that the cost of the proposed improvements cannot be charged to the Street Improvement Fund, and that the only way of providing a fund to meet them will be by resolution of the Board of Estimate and Apportionment authorizing the issue and sale of Corporate Stock for this specific purpose.

I see no reason why such authority may not be given now, after the contracts have been awarded, as well as at the time that the construction of the proposed sewers was authorized, although the latter would appear to be in general the more appropriate method of procedure.

Respectfully yours,

G. L. RIVES, Corporation Counsel.

The following resolution was offered:

Resolved, That, pursuant to the provisions of sections 169 and 176 of the Greater New York Charter, the Comptroller be and hereby is authorized to issue Corporate Stock of The City of New York to an amount not exceeding three hundred thousand dollars (\$300,000), to provide the necessary means for the payment of the expenses incurred or to be incurred by reason of the construction of sewers in the following streets and avenues in the Borough of Brooklyn:

Sewer west side of Fourth avenue, from Butler street to Degraw street; Degraw street, from Fourth avenue to Gowanus canal, with silt and trap basin at Degraw street and Gowanus canal.

Sewer in Fifth avenue, from Atlantic avenue to Dean street; Dean street, from Fifth avenue to Third avenue; Third avenue, between Dean and Baltic streets; Baltic street, from Third avenue to Nevins street; Nevins street, between Baltic and Butler streets; Butler street, north side, from Nevins street to Gowanus canal; Flatbush avenue, east and west sides, between Atlantic and Fifth avenues; Atlantic avenue, south side, between Flatbush and Fifth avenues.

Sewer in Evergreen avenue, between Halsey and Schaefer streets.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented the following communication from the Secretary to the President of the Borough of Queens, requesting the Board to recommend to the Board of Aldermen the fixing of the salary of the position of Attendant in the office of the President of the Borough of Queens:

THE CITY OF NEW YORK,  
OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS,  
LONG ISLAND CITY, December 17, 1903.

J. W. STEVENSON, Esq., Secretary, Board of Estimate and Apportionment:

DEAR SIR—Herewith I forward you resolution fixing the salary of Attendant in the office of the President of the Borough of Queens, which kindly have placed on the calendar for the next meeting of the Board of Estimate and Apportionment, and oblige.

Yours respectfully,

GEO. S. JERVIS, Secretary to President.

The following resolution was offered:

Resolved, That, subject to the concurrence and approval of the Board of Aldermen, the Board of Estimate and Apportionment hereby ratifies and confirms the action of the President of the Borough of Queens, taken and dated September 17,

1903, in fixing the salary of the position of Attendant in the office of the President of the Borough of Queens, at the rate of three dollars (\$3) per diem, as of said date.

Which was adopted by the following vote:

The Mayor, Comptroller, President of the Board of Aldermen and the Presidents of the Boroughs of Manhattan, Brooklyn, Queens and Richmond—15.

The Secretary presented a communication from the President of the Borough of Richmond, requesting the Board to fix the salary of the position of Stenographer in his office at the rate of \$1,500 per annum.

Laid over.

The Secretary presented a resolution of the Board of Aldermen, requesting an issue of Special Revenue Bonds to the amount of \$500 for the use of Chemical Engine Company 1, Borough of Richmond.

Referred to the Fire Commissioner.

The Board adjourned to meet Tuesday, December 22, 1903, at 10:30 a.m.  
J. W. STEVENSON, Secretary.

## DEPARTMENT OF STREET CLEANING.

AN ABSTRACT OF THE TRANSACTIONS OF THE DEPARTMENT OF STREET CLEANING OF THE CITY OF NEW YORK FOR THE WEEK ENDING DECEMBER 20, 1903 (SECTION 1546, GREATER NEW YORK CHARTER).

### BOROUGHS OF MANHATTAN AND THE BRONX.

#### Removal of Incumbrances.

(Section 545, Greater New York Charter.)

Unredeemed incumbrances on hand December 12, 1903..... 193  
Incumbrances seized during the week..... 41 234  
Incumbrances redeemed..... 64

Unredeemed incumbrances on hand..... 170

#### Moneys Transmitted

to City Chamberlain as follows:  
For privilege of trimming scows, week ending December 6, 1903..... \$1,325 00  
For redemption of incumbrances, week ending December 12, 1903..... 70 60

#### Bills and Payrolls

transmitted to Comptroller as follows:  
Schedule No. 292—  
J. H. Timmerman (City Paymaster), wages of Firemen, etc., on steam dumper  
for the week ending December 13, 1903..... \$77 70

Schedule No. 293—  
Sundry items amounting to..... \$34,052 54

Schedule No. 294—  
Sundry items amounting to..... \$12,619 38

Schedule No. 295—  
Sundry items amounting to..... \$6,364 49

Schedule No. 296—  
J. H. Timmerman (City Paymaster), wages of Sweepers, etc., for the week  
ending December 17, 1903..... \$30,806 99

Schedule No. 297—  
J. H. Timmerman (City Paymaster), wages of Department Cart Drivers, etc.,  
for the week ending December 17, 1903..... \$15,314 45

Schedule No. 298—  
J. H. Timmerman (City Paymaster), salaries of Uniformed Force for month of  
December, 1903..... \$14,283 45

Number of Loads of Material Collected during the Week ending December 20, 1903  
(December 14 to 20, inclusive).

	CART LOADS GARBAGE.	CART LOADS ASHES.	CART LOADS RUBBISH.	CART LOADS, TOTAL.
Department carts.....	2,880	29,514 34	3,521	35,915 34
Permit carts.....	410 1/2	8,510 1/2	991	9,918
Total.....	3,296 1/2	38,025 1/2	4,512	45,833 1/2

#### BOROUGH OF BROOKLYN.

#### Moneys Transmitted

to City Chamberlain, as follows:  
For redemption of incumbrances for the week ending December 5, 1903..... \$10 00

#### Bills and Payrolls

transmitted to Comptroller, as follows:  
Schedule No. 248—  
Sundry items amounting to..... \$1,787 13

Schedule No. 249—  
Sundry items amounting to..... \$7,734 66

Schedule No. 250—  
J. H. Timmerman (City Paymaster), wages of Sweepers, etc., for the week  
ending December 17, 1903..... \$11,953 72

Schedule No. 251—  
J. H. Timmerman (City Paymaster), wages of Department Cart Drivers, etc.,  
for the week ending December 17, 1903..... \$7,952 05

Schedule No. 252—  
J. H. Timmerman (City Paymaster), wages of hired trucks and carts for the  
week ending December 17, 1903..... \$644 00

Number of Loads of Material Collected during the Week ending December 20, 1903 (December 14  
to December 20, inclusive).

Ashes.....	12,839 1/4
Paper and rubbish.....	1,521 1/2
Permit ashes.....	541
	14,901 1/4

JOHN McG. WOODBURY, Commissioner.

## THE BOARD OF ALDERMEN OF THE CITY OF NEW YORK.

[Extract from Proceedings of the Board of Aldermen, January 12, 1904.]

### COMMUNICATIONS FROM CITY, COUNTY AND BOROUGH OFFICES.

The President laid before the Board the following communication from the Public Administrator:

No. 39.

Bureau of the Public Administrator of the County of New York,  
No. 119 Nassau Street, Borough of Manhattan,  
New York, January 1, 1904.

To the Honorable the Board of Aldermen of The City of New York:

The Public Administrator, pursuant to chapter 230 of the Laws of 1898, section 27 of said act, herewith exhibits to the Board of Aldermen of The City of New York a statement, on oath, of the total amount of his receipts and expenditures in each case in which he shall have taken charge of and collected any effects, or on which he shall have administered during the year 1903, with the name of the deceased, his or her addition and the country or place from which he or she came, if the same be known.

Respectfully,

WILLIAM M. HOES,  
Public Administrator of the County of New York.  
Cases Heretofore Reported.

Name.	Occupation and Place of Residence at the time of Death.	Country or Place from which he came.	Total Amount of Receipts in 1903.	Total Amount of Expenditures in 1903, including funeral expenses, claims of creditors and amount paid to next of kin, etc.
James McCall.....	None..... New York.....	England.....	\$132 56	\$5 65
Bridget Campbell.....	Washerwoman.....	Ireland.....	1,228 95	9 59
Ferdinand Motz.....	Merchant.....	Maryland.....	2 20	.....
Edward Tenbren.....	Unknown.....	Unknown.....	55 42	608 80
Sarah Burns.....	Domestic.....	Ireland.....	23 72	314 83
Mary Nagel.....	Domestic.....	Ireland.....	200 69	58 39
Ernest Abrahamson.....	Fisherman.....	Sweden.....	132 13	2,670 05
Mathilda Beerman, etc.....	None.....	Germany.....	11 30	21 90
Julius Shiel.....	Motorman.....	Saxony.....	42 89	8 00
William Fellows.....	Unknown.....	Unknown.....	48 71	575 25
Henry Adams.....	None.....	Germany.....	1,063 29	849 68
Matilda Bieber.....	Washerwoman.....	Germany.....	132 13	1,307 29
Max Alexander.....	Salesman.....	Prussia.....	7 84	15 87
Hanna Burns.....	Scrubwoman.....	Sweden.....	1,520 66	1,561 66
Joseph Haischmann.....	Unknown.....	United States.....	1 21	130 91
Katherine Purcell.....	Unknown.....	Germany.....	349 85	349 75
Nis Nattos.....	Dentist.....	Ireland.....	6,924 95	6,924 95
Mary Lynch.....	Housekeeper.....	Tunis.....	4 48	3 88
Carl Fensky.....	Shoemaker.....	Ireland.....	24 77	21 07
Peter Fournes.....	Waiter.....	Germany.....	132 13	1,218 63
Axel T. Larson.....	Laborer.....	Prussia.....	67 53	341 50
Lucien Nichols.....	Unknown.....	Sweden.....	1 21	10 28
John Murphy.....	Unknown.....	United States.....	.....	8 71
M. Caraman.....	Clerk.....	Unknown.....	1 62	45 45
Max Herzog.....	Signmaker.....	Armenia.....	1,473 20	243 32
Emil Nitschke.....	Salesman.....	Germany.....	254 10	254 00
Adolph Salm, etc.....	Laborer.....	United States.....	1,106 42	3 50
William Thompson.....	Mechanic.....	Ireland.....	282 25	282 15
Emilie Groskorth.....	Rug Weaver.....	Norway.....	84 00	83 90
Paul Sarian.....	Clothing Cleaner.....	Germany.....	504 03	503 93
Abraham Steinhardt.....	Waiter.....	Finland.....	39 63	39 53
Paul Wemaland.....	Cleaner.....	Germany.....	421 36	421 26
Mary Sheedy.....	Housekeeper.....	United States.....	1,963 22	191 27
Emilie Strong.....	Clerk.....	Norway.....	208 99	889 51
Ingrar Thanloro.....	Painter.....	Germany.....	1 16	3 31
Pauline Mueff.....	Seamstress.....	Switzerland.....	148 49	148 29
Albert Kundson.....	Sailor.....	Scotland.....	398 38	260 99
Gustav Schapp.....	Soldier.....	France.....	4,001 00	4,000 90
George Dunham.....	Driver.....	Unknown.....	93	68
Louis Hughes.....	None.....	Ireland.....	670 64	670 54
George Eckstein.....	Tailor.....	Germany.....	13 19	44 00
Bertha Newman.....	Domestic.....	Germany.....	173 45	82 60
Richard Ege.....	Soldier.....	Spain.....	108 35	106 50
John Crowe, Jr.....	Mat Maker.....	England.....	828 89	205 66
Sarah Williams.....	Stewardess.....	Hungary.....	36 62	.....
Joseph Binkert.....	Bartender.....	United States.....	55 82	47 67
A. C. Brown.....	Unknown.....	Italy.....	47	47
Fred'k Hennings.....	Waiter.....	Unknown.....	10,521 16	1,545 42
Margaret Reynolds.....	Sigar Store.....	France.....	88 13	1,885 29
Arthur Huff.....	Unknown.....	Unknown.....	34 00	34 00
Marie J. N. Chiarini.....	None.....	Germany.....	13 05	12 40
Mary Farrell.....	Domestic.....	Spain.....	108 35	106 50
Ellen Colquist.....	Cook.....	England.....	828 89	205 66
Ignaz Linemann.....	Sawyer.....	Hungary.....	43 57	1,106 63
Herman Janssen.....	Hospital Orderly.....	United States.....	315 16	1,064 15
Susan H. R. Van Nort.....	None.....	France.....	153 97	4,833 22
Adolph Benjamen.....	Teacher.....	Unknown.....	5 09	5 94
Henry Miller.....	Soldier.....	Germany.....	4,935 94	4,560 43
Emilie A. E. Kuhne.....	None.....	Belgium.....	943 73	18 77
Florent Vander Eycken.....	Soldier.....	Germany.....	13 05	7 60
Caroline Buchinger.....	Housewife.....	Spain.....	13 05	12 40
Morris Hendricks.....	Salesman.....	Unknown.....	108 35	106 50
John E. Dowley.....	U. S. Marshal.....	England.....	828 89	205 66
Thomas F. Booth.....	Painter.....	Hungary.....	55 82	47 67
Kate Kischin.....	Seamstress.....	United States.....	47	47
Elizabeth Z. Mills.....	Housekeeper.....	Italy.....	12 56	302 39
Arorio Gaillo.....	Painter.....	Unknown.....	5 09	5 94
Elise Moller, etc.....	Painter.....	Germany.....	4,935 94	4,560 43
Frederick Domyer.....	Unknown.....	Belgium.....	943 73	18 77
Susan Fallon.....	Immigrant.....	Germany.....	13 05	12 40</td

Name.	Occupation and Place of Residence at the time of Death.	Country or Place from which he came.	Total Amount of Receipts in 1903.	Total Amount of Expenditures in 1903, including funeral expenses, claims of creditors, and amount paid to next of kin.	Cases Not Heretofore Reported.			
					Name.	Occupation and Place of Residence at the time of Death.	Country or Place from which he came.	Total Amount of Receipts in 1903.
Lawrence P. O'Bierne.	Salesman	New York	Ireland	\$46 79	\$47 88	Rade Nastie.	Machinist	New York
Joseph Reck.	Baker	"	England	62 38		Elsa Nelson.	Austria	\$51 77
Michael Cook.	Soldier	"	Ireland	15 66	801 33	Oswald Horne.	Sweden	\$7 70
Mary Grenlich.	Domestic	"	Germany	21 58		Collector	Scotland	162 01
William Veba, etc.	Umbrella maker	"	Bohemia	87		Laborer	England	1 11
Oscar L. Schedin.	Unknown	"	Unknown	58	2,126 38	William Kane.	4,172 54	
James Kearney.	Cook	"	Switzerland	7 80		Paul Schlosser.	Germany	4 00
Max Manley.	Waitress	"	United States	82 09		Elizabeth Ross.	Unknown	1,443 59
Nellie Saunders.	Sailor	"	Austria	11 53	375 38	Mary Quigley.	Unknown	189 91
Martin Johansen.	Tailor	"	Sweden	6 29		Watchman	United States	127 05
Morris Drucker.	Unknown	"	Germany	\$4 24	50 50	David Cole.	60 27	
Samuel Gordon.	None	New York	Sweden	45 69	1,826 81	William Keyns, or Keys.	Carpenter	192 23
Franziska Kneip.	Unknown	"	Sweden	1 80	52 83	Caroline Bergstrom.	Unknown	7 60
Elizabeth Weyman.	Unknown	"	Bohemia	74	90 92	Rade Nastie.	Austria	\$1 77
Madeline Sajous.	Dressmaker	"	England	5 17	353 81	Oswald Horne.	Sweden	\$7 70
William Hare.	Soldier	"	Ireland	7 78	615 99	Collector	Scotland	162 01
Edward Braun.	Soldier	"	Unknown	3 34	10 00	Laborer	England	1 11
Dora Stuhl.	Domestic	"	Ireland	45 69	17 00	William Kane.	4,172 54	
Elsa Baumann.	None	"	Sweden	1 80	826 81	Paul Schlosser.	Germany	4 00
Nils Swanson.	Janitor	"	Bohemia	74	90 92	Elizabeth Ross.	Unknown	1,443 59
Emil Behavy.	Waiter	"	England	10 74	16 96	Mary Quigley.	Unknown	189 91
William H. Hoskins.	Waiter	"	United States	5 88	461 18	Watchman	United States	127 05
Anna Watson.	Denmark	"	Austria	19 03	848 01	David Cole.	60 27	
Jorgen A. Moller.	Waiter	"	Sweden	2 30	9 80	William Keyns, or Keys.	Carpenter	192 23
Charles Scholman.	Unknown	"	Germany	5 35	651 67	Caroline Bergstrom.	Unknown	7 60
Jeremiah D. McDonald.	Carpet layer	"	United States	2 07	264 10	Rade Nastie.	Austria	\$1 77
Daniel Darby.	Unknown	"	France	1 42	1 05	Oswald Horne.	Sweden	\$7 70
Mary Gross.	Cook	"	Germany	9 42	721 71	Collector	Scotland	162 01
Gerhard H. Luneborg.	Baker	"	Ireland	4 60	377 14	Laborer	England	1 11
Bridget Lynch.	Housework	"	England	2 79	144 76	William Kane.	4,172 54	
Charles Glover.	Brushmaker	"	Germany	13 53	1,106 69	Paul Schlosser.	Germany	4 00
Edward Williams.	Shoemaker	"	Ireland	2,077 17	6,391 07	Elizabeth Ross.	Unknown	1,443 59
Dennis Foley.	Laborer	"	Austria	5 35	651 67	Mary Quigley.	Unknown	189 91
Annie Collins.	Housework	"	Sweden	3 96	374 24	Watchman	United States	127 05
Julius Richards.	Waiter	"	England	10 60	1,098 25	David Cole.	60 27	
Amalia Dondero.	Unknown	"	France	10 60	1,098 25	William Keyns, or Keys.	Carpenter	192 23
Peter J. Strom.	Barkeeper	"	Germany	14 44	710 79	Caroline Bergstrom.	Unknown	7 60
John Meehan.	Waiter	"	Sweden	3 48	151 85	Rade Nastie.	Austria	\$1 77
Johanna Maloney, etc.	Housework	"	Germany	92 64	558 11	Oswald Horne.	Sweden	\$7 70
Connell C. McCauley.	Salesman	"	Switzerland	2,662 44	135 32	Collector	Scotland	162 01
Edward Prunner.	Laborer	"	Belgium	3 96	3,128 07	Laborer	England	1 11
Frank Erns.	Confectioner	"	United States	2 14	100 06	William Kane.	4,172 54	
Esther Kohen, etc.	None	"	Ireland	1 53	180 73	Paul Schlosser.	Germany	4 00
Mary Nyberg.	Domestic	"	Switzerland	2 20	143 88	Elizabeth Ross.	Unknown	1,443 59
Frederica Blunstchi.	Nurse	"	Austria	49 46	3,128 07	Mary Quigley.	Unknown	189 91
Otto Soresse, etc.	Laborer	"	Sweden	1 27	537 88	Watchman	United States	127 05
Walter Klinkhardt.	Merchant	"	Germany	10 46	507 15	David Cole.	60 27	
Marie E. Desagers.	Servant	"	United States	29 81	1,144 21	Caroline Bergstrom.	Unknown	7 60
John W. Chism.	Waiter	"	Ireland	11 14	967 93	Rade Nastie.	Austria	\$1 77
Annie M. J. Ryan.	Domestic	"	England	243 07	241 02	Oswald Horne.	Sweden	\$7 70
John H. Ernst.	Bookkeeper	"	Ireland	128 77	128 77	Collector	Scotland	162 01
Eugene J. L. Roussel.	Merchant	"	Germany	1 00	31 56	William Kane.	England	4,172 54
James Smith.	Peddler	"	United States	1,344 79	1,113 01	Paul Schlosser.	Germany	4 00
Elizabeth B. Moseley.	Unknown	"	Germany	10 88	478 56	Elizabeth Ross.	Unknown	1,443 59
Henry W. Schluckebier.	Saloon	"	Sweden	10 33	1,249 98	Mary Quigley.	Unknown	189 91
Louisa Grap.	Housekeeper	"	Germany	2 80	230 01	Watchman	United States	127 05
Anna M. Ramstrom.	Cook	"	Ireland	2 07	201 80	David Cole.	60 27	
August Simon.	Unknown	"	Bavaria	10 59	4,230 87	Caroline Bergstrom.	Unknown	7 60
Sophie Langhorst.	Waiter	"	Armenia	10 88	478 56	Rade Nastie.	Austria	\$1 77
William Clancy.	Actor	"	Germany	10 06	5 06	Oswald Horne.	Sweden	\$7 70
Charles H. Peno.	Gardener	"	United States	3 20	5 51	Collector	Scotland	162 01
Adolph Burnett.	None	"	Ireland	2 07	20 70	Laborer	England	1 11
Annie Schuler.	Nurse	"	Germany	10 60	1,098 25	William Kane.	4,172 54	
Florence W. Jones.	Maid	"	United States	1,009 09	1,006 89	Paul Schlosser.	Germany	4 00
Make Suptwich.	Miner	"	Germany	10 33	1,249 98	Elizabeth Ross.	Unknown	1,443 59
William Lindloff.	Unknown	"	Sweden	2 80	230 01	Mary Quigley.	Unknown	189 91
William Nolan.	Watchman	"	Germany	10 30	1,556 88	Watchman	United States	127 05
Maurice Abbey.	Actor	"	Ireland	1 90	18 81	David Cole.	60 27	
Lorenz Nidetz, etc.	Gardener	"	Bavaria	14 35	1,566 15	Caroline Bergstrom.	Unknown	7 60
Edward Lessley.	Unknown	"	United States	1 00	13 75	Rade Nastie.	Austria	\$1 77
Michael Feurstein.	Street Sweeper	"	Ireland	1 00	111 30	Oswald Horne.	Sweden	\$7 70
Annie Schank.	Housewife	"	Germany	1 00	92 86	Collector	Scotland	162 01
Annette E. Smith.	Music Teacher	"	Sweden	1 00	92 86	Laborer	England	1 11
Fred' L. Lindsthale.	Seaman	"	Germany	1 00	92 86	William Kane.	4,172 54	
Margaret Gorman.	Cook	"	United States	1 00	92 86	Paul Schlosser.	Germany	4 00
Ann Clemens.	Washerwoman	"	Ireland	1 00	92 86	Elizabeth Ross.	Unknown	1,443 59
David Waterman.	Unknown	"	Bavaria	1 00	92 86	Mary Quigley.	Unknown	189 91
John S. Kalian.	Cigarette Maker	"	Armenia	1 00	92 86	Watchman	United States	127 05
William Schellhorn.	Hospital Orderly.	"	Germany	1 00	92 86	David Cole.	60 27	
Margaret Dunn.	None	"	United States	1 00	92 86	Caroline Bergstrom.	Unknown	7 60
J. Bernlinger.	Tailor	"	Germany	1 00	92 86	Rade Nastie.	Austria	\$1 77
Gesino Hulstedt.	Cook	"	United States	1 00	92 86	Oswald Horne.	Sweden	\$7 70
Mary F. Grifing.	Domestic	"	Germany	1 00	92 86	Collector	Scotland	162 01
John D. Smith.	Salesman	"	United States	1 00	92 86	Laborer	England	1 11
Gottlieb Dengl.	None	"	Germany	1 00	92 86	William Kane.	4,172 54	
Thomas Breheny.	Unknown	"	United States	1 00	92 86	Paul Schlosser.	Germany	4 00
Hillmuth J. Schalleben.	Bartender	"	Germany	1 00	92 86	Elizabeth Ross.	Unknown	1,443 59
Julius B. Brechenzende.	Soldier	"	United States	1 00	92 86	Mary Quigley.	Unknown	189 91
Lizzie Carroll.	Shoe Cutter	"	Germany	1 00	92 86	Watchman	United States	127 05
Joseph Finke.	Unknown	"	United States	1 00	92 86	David Cole.	60 27	
Margaret Madden.	Dressmaker	"	Germany	1 00	92 86	Caroline Bergstrom.	Unknown	7 60
Mary Madden.	Unknown	"	United States	1 00	92 86	Rade Nastie.	Austria	\$1 77
Anna Behrens.	Domestic	"	Germany	1 00	92 86	Oswald Horne.	Sweden	\$7 70
Camille Lemoine.	Machinist	"	United States	1 00	92 86</			

Name.	Occupation and Place of Residence at the time of Death.	Country or Place from which he came.	Total Amount of Receipts in 1903.	Total Amount of Expenditures in 1903, including funeral expenses, claims of creditors, and amount paid to next of kin, etc.	Name.	Occupation and Place of Residence at the time of Death.	Country or Place from which he came.	Total Amount of Receipts in 1903.	Total Amount of Expenditures in 1903, including funeral expenses, claims of creditors, and amount paid to next of kin, etc.		
Fernando L. de Queratta	Clerk	New York	Cuba	\$1,183 19	\$1,183 19	Andrew Lund	Sailor	New York	Finland	\$129 00	\$8 01
Mary W. Wallace	Unknown	"	United States	64 10	60	Frank B. Tigges	Coppersmith	"	Unknown	135 00	...
Margaret Condon	Housewife	"	New York	217 60	76 40	Simon McRae	Plasterer	"	Germany	62 54	11 41
Anselet Page	Domestic	"	Virginia	181 28	107 50	John D. O'Brien	Plasterer	"	Scotland	386 87	386 87
Isabella Anderson	Cook	"	Scotland	144 29	7 60	John Koch or Cook	Sailor	"	Unknown	118 00	54 50
Louis Schoenliber, etc.	Soldier	"	Unknown	351 05	12 50	Chaim Leib Grunenberg	Dressmaker	"	Germany	865 00	156 80
Margaret Friot	Unknown	"	United States	4,649 00	3 29	Eliza Folet	Cook	"	Unknown	...	15
Thomas Thompson	Trimmer	"	United States	77 90	77 90	Lizzie Turner	Bookkeeper	"	France	75	90
Amalia Picot	None	"	Virginia	1,868 72	28 66	Fred J. Witt	R. R. Conductor	"	Scotland	3 67	1 70
John Gethrins	Carpenter	"	Ireland	10 87	40	Sam'l Sneider	Dish Washer	"	Unknown	143 00	143 00
Klara Pomurer	Music teacher	"	Russia	1,094 77	96 26	John Gobean	Waiter	"	France	53 13	53 13
Edward Urnick	Laborer	"	England	16 51	6 60	John Moore	Unknown	"	United States	50 00	50 00
Adolph Forker	Unknown	"	Germany	279 90	8 10	Eugene Ernst	Laborer	"	Germany	9 93	65
Mary Hagan	Unknown	"	Ireland	28 40	6 35	Rebecca King	Domestic	"	United States	14 00	2 60
Peter Powers	Painter	"	New York	12 12	90	Marian Jefferies	Forewoman	"	Ireland	50 41	3 30
Mary E. Houlihan	Domestic	"	Ireland	3 90	3 30	Theresa Hill	Cook	"	Salesman	133 00	127 10
Mary Smith	Domestic	"	West Indies	32 25	25 80	Bartholomew Sullivan	Waiter	"	Georgia	2 56	30
Garahed Kanton, etc.	Laborer	"	Armenia	115 27	43 75	Jessie E. Kimball	Unknown	"	Canada	36	1 50
Mary Gough	Domestic	"	Austria	290 00	7 91	Ida Hall	Painter	"	Bavaria	...	1 81
Louis Porchet	Painter	"	France	2 28	20	Dominick Mallard	Porter	"	United States	...	50
Thomas McEntee	Salesman	"	United States	32	35	Barton Jones	Unknown	"	Germany	27	55
Florentine Rauer	Housekeeper	"	Germany	58 55	13 50	Theodore Bottier	Tutor	"	France	124 24	2 50
Minnie Walters	Seamstress	"	Germany	1 88	40	Gaston Lagelouze	Inventor	"	Italy	38	15 85
Martin Nordstrom	Decorator	"	Sweden	4 29	55	Luigi Petich	Soldier	"	England	1 00	10
Jose de Perignat	Consul of Spain	"	Spain	703 67	299 26	Michael Ricardetti	Laborer	"	Italy	24 00	20 70
Edward Bennett	Merchant	"	Unknown	...	1 40	Joseph Vacinerra	Unknown	"	Italy	21 50	...
Annie Hickey	Unknown	"	Unknown	85 38	85 38	Bridget Hickey	Catholic Priest	"	Unknown	...	20
James Kelly	Cartman	"	Ireland	210 30	210 30	Edward R. Stone	Cook	"	Austria	5 45	5 20
Frederick Paynter	Planter	"	Unknown	1,344 63	115 61	Antonio Bauer	None	"	Germany	1 00	30
Patrick Dalton	Printer	"	United States	118 00	27 00	Louis Lehms	Unknown	"	Bavaria	1 00	30
James W. Robertson	Unknown	"	Unknown	138 96	138 96	Michael Hilschmann	Kate Garrity	"	Irland	...	3 30
Wilhelm Schroeder	Domestic	"	Germany	4,750 00	22 36	Immaculata Darisi, etc.	Unknown	"	Italy	260 00	200 10
Ellen Mulligan	Unknown	"	Ireland	257 65	13 30	Catherine Garahan	Domestic	"	Irland	3 28	...
Ellen Grady	None	"	Ireland	370 73	15 50	Guiseppi Boroni	Unknown	"	Unknown	71 07	...
Jane Patterson	Unknown	"	Unknown	...	Thomas Brennan	Soldier	"	Ireland	38 91	38 91	
William J. McPherson	Broker	"	Canada	1,000 00	12 36	Ferdinand Kirchner	Butler	"	France	51 50	40
Tessie Hill	Cook	"	Unknown	195 04	112 35	Samuel J. Lynch	Liquor Dealer	"	Irland	4,178 27	150 20
Thomas Griffin	R. R. Conductor	"	Canada	59 00	8 16	Thomas A. Jenkins	Window Cleaner	"	England	6 74	10
Patrick Mahoney	Unknown	"	Unknown	30	30	Nikolay Klevinsky	Butcher	"	Russia	2 54	10
Celestine Garling	Housewife	"	France	134 48	20 05	Fred'k Mosapp	Unknown	"	Unknown	8 77	20
Margaret Decker	Domestic	"	Germany	121 88	113 46	John G. Patrick	Unknown	"	Unknown	58	20
John Lonergan	Marine	"	Ireland	2 29	45	William B. Williams	None	"	Ohio	120 00	108 45
William Brewer	Dockbuilder	"	Germany	2 72	2 20	John C. McEntee	Unknown	"	Unknown	6 00	6 00
Mrs. Martin Bourgon	Unknown	"	France	...	Charles Hing	Laundry	"	Germany	3 09	1 00	
Mrs. R. Smith	Jeweler	"	Virginia	55 59	10	Theo. Ludwig	Taylor	"	Unknown	256 00	200 10
Gottlieb Ziegler	Harness Maker	"	Unknown	55 60	50	Charles Kennedy	Unknown	"	Germany	37 50	...
Michael Boltomer	Harness Maker	"	Ireland	2,078 79	28 46	Marie Haaven	Janitress	"	Germany	5 00	...
Mary Green	Unknown	"	Unknown	27 63	15 45	Mark Bloom	Unknown	"	Switzerland	37 56	37 56
Mary Mack	Domestic	"	United States	...	...	John Yarwood	Unknown	"	Unknown	23	23
Margaret Bradley	Unknown	"	Unknown	15 50	60	Fred'k Justin	Unknown	"	Unknown	23 75	23 75
Julia Bongasz	Domestic	"	Hungary	...	...	Jean Cargousse	Cook	"	France	13	...
Carlo A. Segalini	Singer	"	Unknown	226 36	58 51	Michael Kelly	Engineer	"	Irland	...	10
Elizabeth Lockwood	Housework	"	United States	127 36	8 80	Emelie S. Edin	Unknown	"	Sweden	...	10
Abraham Karpshevsky	Musician	"	Russia	100 00	20	Anders P. Bard	Unknown	"	Irland	...	10
James Vaughan	Laborer	"	United States	513 24	169 37	Patrick Corcoran	Engineer	"	Unknown	...	10
Martin Gibbons	Laborer	"	Ireland	1,273 33	149 01	Angelo Rosetti	Unknown	"	New York	13 98	...
Michael Roundtree	Laborer	"	Ireland	\$118 20	\$118 20	Carl H. Bohudoff	Soldier	"	Germany	16 42	\$4 00
John Bultomer	Clerk	"	New York	...	...	Emanuel Stone	Merchant	"	Brazil	69 08	10
Mittie A. Pickett	Cook	"	North Carolina	312 20	161 40	Emma Austie	Unknown	"	Unknown	65	...
Peter Hart	Saloon Keeper	"	Unknown	...	John Nixon	Waiter	"	Unknown	88 47	10	
Dieran K. Varzhabidian	Unknown	"	Turkey	10,121 99	176 26	Domenico Ballow	Soldier	"	Ireland	131 54	10
Johann H. Zeyh	Cook	"	Germany	2,497 25	25 26	Mary O'Hara	Housework	"	Austria	...	30
Emanuel N. Zanoni	Unknown	"	Italy	38 82	20 10	Marcel Hardina	Carpenter	"	Irland	...	20
Bridget Gaynor	Steamfitter	"	Unknown	10 00	3 16	John Nagel	Laborer	"	Unknown	...	20
Alfred J. Wills	Domestic	"	New York	29 00	29 00	B. F. Berg	Unknown	"	Cuba	17 85	30
Francoise Marot	Coachman	"	France	37 35	37 35	Manuel Baez	Rubber stamps	"	...	...	...
James H. Jones	Unknown	"	Virginia	5 06	2 85						
Annie Berblin	Domestic	"	Finland	60 04	50						
Marie Rodel	Domestic	"	Germany	12 07	7 91						
Theodore Willkopf	Unknown	"	Austria	132 75	111 81						
H. Lacontine, etc.	Musician	"	...	3,566 04	56 61						
Patrick Walsh	Laborer	"	...	3 00	...						
Eliza M. Tumay	None	"	England	3,595 81	49 42						
Francis D. V. Downes	Unknown	"	Unknown	718 52	70 06						
Andrew Downes	Unknown	"	Unknown	718 52	32 50						

Margaret Dunn	\$51 90	Gottlieb Ottenbach	\$0 50
J. Burnlinger	17 58	Corinne Dematteo	92
Mary F. Giffing	70 44	Robert Burlinson	1 62
Lizzie Carroll	20 73	James Risto	1 25
Alfred H. Palmer	16 29	James H. Hardie	1 35
Reynold M. Hayes	63 65	Joseph Sales	34
Mary Duncan	13 75	Olof Lind	20
Cornelia Saunders	6 14	Hans Rich	35
John With	3 34	Michael Oeffner	1 92
Mary Kamp	9 49	Henry Dietz	30
Rudolph Granowsky	26 00	Helen Von Bachelle	95
Lucien Nichols	8 71	Charles N. Baker	4 00
M. Caraman	6 88	Patrick Gallagher	60
Louisa Wessell	33 94	Alex. D. Warnock	1 50
Simeon Clayton	9 54	Annie D. Smith	30
Hanna Burns	100 64	Thomas McPherson	36
Carl Fensky	14 16	Mary Cannon	26
Adolph Salm	4 32	James Golden	45
Paul Wendland	10 28	Wm. H. Phelan	15
Mary Shrady	20 60	Wm. Crosby	1 92
Emily Strong	10 70	John Kerrigan	50
Mary Farrell	68	Maggie Primrose	1 04
Neilie Sanders	31 28	Walter B. Barber	4 15
Ann Hurley	21 71	Bettie Raglans	2 00
Jane G. Le Grange	161 93	Kate O'Neil	04
Richard Towning	50 00	James Localovitch	1 00
Maggie Keane	6 82	Mary Wolf	44
Lou Hoffman	54	William Upton	5 00
Emma Brede	17 10	Carl Fritzel	36
Gabrielle Darcy	36	Vincent Cimagna	2 00
William Hoag	58 59	Martin Sweeney	1 17
Florence Stevens	90	Jacob Spear	3 00
Francis Jacobs	12 91	Mary Van Halpin	28
Mrs. Schroeder	4 30	John Donohue	1 25
Harry Ellis	66 64	Ellen Tyner	6 00
Jacob Gander	5 69	Geo. Yanska	2 00
Mary Clark	1 55	Albert E. Dugan	1 00
Michael Roundtree	4 20	May or Marion Nolan	4 66
Francoise Marat	1 45	Mary Cascin	51
		Sol. Rubin	30
Total.	\$2,308 75	Henry Taylor	5 41
		August Gengel	17
		William Fox	09
		Mary Smith	3 05
		Ellen Gillesie	94
		Edward Kiernan	90
		Roxey Miner	25
		John Haffner	3 00
		Mamie Kelly	4 25
		John Robbins	70
		Mansoll Blauvelt	10
		Geo. Cornish	1 78
		John St. John	2 72
		William Olsen	26
		Nettie William	1 07
		Patrick Divarrey	3 00
		Maria Hobbs	2 05
		Louisa Martyne	15
		Annie Kozel	11
		William Hallering	62
		Mary Markham	99
		Emil Lavel	1 00
		Henry Hibbett	82
		John Lewis	4 00
		Fred Gabriel	1 18
		Frank Lorusso	1 25
		Mary Brown	1 50
		Mary Murphy, or Williams	1 00
		John Crowley	1 35
		Margaret Mullen	5 00
		Dominick Andilica	3 00
		Mary Alterman	35
		William Clayton	6 00
		Adeline Mickel	10
		Mary Appel	17
		Carl Becler	5 00
		Mary Quinlan	2 00
		Lizzie Desmond	1 00
		Timothy McDonald	1 70
		John Goerl	07
		Michael Duffy	50
		Frank Duli	1 00
		Frieda Kochler	1 34
		Sylvester Byrne	86
		Edward Simms	40
		Patrick Gormerly	2 05
		Peter Flanagan	01
		Joseph Dawsohi	02
		William Cassell	08
		William Page	05
		Total.	\$62 65
		Proceeds of sale of effects received from the Department of Public Charities during the year. The amount realized was paid into the City Treasury:	
		Mary A. Lee	\$1 36
		Carrie Lee	1 44
		Jennie Ferman	08
		Stella Busbaum	24
		Angelina Sarmaca	96
		William Suizecle	64
		Eliza Young	40
		Annie Hoff	1 80
		Annie Lyon	80
		Joseph Thompson	80
		Jennie Heine	1 84
		Helen Haddock	48
		Joseph Fairbank	80
		Sadie Friend	12
		Carrie Schulka	56
		Unknown man, New York Hospital	20
		Lena Scott	80
		Matta Greenberg	20
		Michael Murray	88
		Hilda Johnson	80
		Ella Dunn	20
		Anna Burns	20
		Gustav Kaschner	48
		Annie Foyle	80
		Sarah Newmann	48
		Catherine Baumann	28
		Justina Chirarine	24
		William B. Stilts	56
		Bridget Doilly	12
		Mary Davis	40

Emma Blume . . . . .	\$0 24	John Burnett . . . . .	\$0 55
Amelia Shimmins . . . . .	1 44	Martin Kelly . . . . .	35
Mary Klefler . . . . .	24	James Gordon . . . . .	1 00
Maria DeFio . . . . .	1 20	Terrence Renahan . . . . .	91
Annie Gordon . . . . .	20	Unknown man, foot of Sixteenth street and East river . . . . .	10
Rose Cullen . . . . .	72	Mrs. Mack . . . . .	1 35
Louia Loubeke . . . . .	20	Robinson . . . . .	08
Eliza Dunn . . . . .	3 40	Unknown man, Thirty-seventh street and North river . . . . .	05
A. B. Nord . . . . .	2 40	James Kilpatrick . . . . .	60
Rosie Brune . . . . .	20	Unknown man East river, off Barge Office . . . . .	50
Hannah Silverman . . . . .	48	Mary Waters . . . . .	31
Lizzie Birson . . . . .	2 00	Louis Burns . . . . .	03
Michael Dolphin . . . . .	80	Abraham Mendal . . . . .	3 32
Mary Byrnes . . . . .	20	Geamniarino Santinrello . . . . .	28
Rosa Schwartz . . . . .	24	Unknown man, Ramble, Central Park . . . . .	07
Gertrude Biener . . . . .	56	James O'Brien . . . . .	01
Johanna Lehey . . . . .	40	Ottar Singer . . . . .	3 27
Unknown man . . . . .	20	Unknown man, Pier 45, North river, foot of West Tenth street . . . . .	2 00
Cora Lushh . . . . .	40	Unknown man, foot of West Fifty-first street . . . . .	25
Ella Kappinger . . . . .	4 40	Unknown man, No. 309 East Forty-seventh street . . . . .	1 75
Margaret Zimmerman . . . . .	24	Anderson Winslow . . . . .	05
Rosa Lavalisi . . . . .	40	Unknown man, No. 1111 Broadway . . . . .	03
Selma Pendelwitz . . . . .	32	Henry Gosebeanuck . . . . .	12
Eliza Donohue . . . . .	1 00	Sarah O'Callahan . . . . .	1 17
Elizabeth Wiltie . . . . .	1 40	Harry Wansbecker . . . . .	03
Nine de Pauli . . . . .	20	Unknown man, Ornatel Park, Grand street . . . . .	05
Hedwig Frembenberg . . . . .	1 12	Unknown man, One Hundred and Sixteenth street and North river . . . . .	25
Louisa Franquilla . . . . .	80	Patrick Shevlin . . . . .	08
Maggie Welsch . . . . .	48	William Lamar . . . . .	04
Edward Fitzgerald . . . . .	20	Unknown man, northeast corner of Twenty-sixth street and Second	
Mary Burns . . . . .	88	avenue . . . . .	65
Kate Dethu . . . . .	40	John Wilson . . . . .	25
John Timmerle . . . . .	40	Unknown man, foot of King street . . . . .	2 45
Christian Miller . . . . .	36	Frederick Upham . . . . .	03
Joseph Deale . . . . .	1 36	Henry Clark . . . . .	80
Francesca Petrenella . . . . .	1 36	Unknown woman, No. 501 West Fifty-third street . . . . .	34
Mary Brady . . . . .	64	Mary Hagan . . . . .	58
Salvador Giller . . . . .	40	Charles McDonald . . . . .	09
Lonis Sachs . . . . .	80	Unknown man, Pier 19, North river . . . . .	61
Edward Ball . . . . .	56	Unknown man, foot of West Twenty-fourth street . . . . .	05
Michael O'Brien . . . . .	56	Unknown man, Fifty-fourth street and Eighth avenue . . . . .	5 05
John Lawson . . . . .	56	Laffie Lavelle . . . . .	90
Charles Elliot . . . . .	1 28	Frank Smyth . . . . .	60
William Stevenger . . . . .	40	Henry McWilliams . . . . .	1 20
William H. Nilson . . . . .	40	Unknown man, foot of One Hundredth street . . . . .	02
Peter Sanns . . . . .	1 52	Henry Smith . . . . .	01
Henry Anderson . . . . .	1 68	Frank Gibson . . . . .	13
Lawrence Narella . . . . .	40	Unknown woman, No. 225 East Thirtieth street . . . . .	1 11
Martin Hayden . . . . .	40	Unknown man, One Hundred and Thirty-fifth street and Harlem river . . . . .	10
Annie Applebaum . . . . .	40	Moring Bulik . . . . .	2 05
Mary McDowell . . . . .	1 80	James Cassello . . . . .	03
Nellie Coleman . . . . .	48	Daniel Culhano . . . . .	05
Margaret Powell . . . . .	40	Mary Clerk . . . . .	04
Adolph Rosenbaum . . . . .	88	Thomas Dolan . . . . .	10
Margaret Barker . . . . .	20	Annie Pogarty . . . . .	30
Maria Felina . . . . .	64	Charles Lelewsky . . . . .	04
Sarah Pearsells . . . . .	40	Edward McDevitt . . . . .	90
Oscar Shedin . . . . .	20	John McMahon . . . . .	44
William C. Bethman . . . . .	48	Constine O'Donnell . . . . .	55
John Kelly . . . . .	40	Margaret Peters . . . . .	23
Jacob Forberger . . . . .	40	Charles Robertson . . . . .	01
John Stoll . . . . .	40	William Schultz . . . . .	05
Joseph Newtimer . . . . .	1 40	R. Summersville . . . . .	59
Morris Shunberg . . . . .	40	Fred R. Smith . . . . .	98
James Cox . . . . .	56	Isaac Smith . . . . .	15
Emma Lohsberg . . . . .	48	Michael Tobin . . . . .	41
Thomas Cleffey . . . . .	40	Robert Vickers . . . . .	17
James Fox . . . . .	56	Michael Krucks . . . . .	21
Henry Softy . . . . .	56	Unknown man, Broadway and Spring street, 75c, less expenses 30c . . . . .	45
Harry Davis . . . . .	40	May Stack . . . . .	1 11
Henry Atten . . . . .	40	Unknown man, Pier 49, East river . . . . .	62
Napoleon Lavallee . . . . .	1 00	Unknown man, Sixteenth street and North river, \$1.10, less expenses 60c . . . . .	60
Unknown man, Scow Admiral . . . . .	64	N. Donovan . . . . .	1 47
Eugene Getty . . . . .	48	James Healy . . . . .	05
Stephen Bruska . . . . .	1 20	Michael Kennedy . . . . .	15
Marcus Denning . . . . .	48	Daniel Ryan . . . . .	35
Edward White . . . . .	40	James Cotter . . . . .	16
John Curtain . . . . .	64	Mrs. F. J. Huyden . . . . .	75
Bernard Bolger . . . . .	40	Unknown man, No. 391 Bowery, New York . . . . .	42
Sarah Bulger . . . . .	40	Henry Stevens . . . . .	4 00
Joseph Urz . . . . .	1 20	Unknown man, foot of Fifth street, East river . . . . .	5 05
Frank Dermatini . . . . .	80	Thomas J. Weise . . . . .	1 80
Nellie French . . . . .	80	Charles Larkin . . . . .	26
Marry C. Norris . . . . .	48	Mathias Liskin . . . . .	9 46
Ellen Mahoney . . . . .	20	William Matchutt . . . . .	20
Mary Perroy . . . . .	40	Andrew Rose . . . . .	12
Dora Dassel . . . . .	40	George Dickey . . . . .	10
Mary Dirgow . . . . .	72	James Gomez . . . . .	01
Charles Weiler . . . . .	1 76	Thomas Curtis . . . . .	91
G. A. Lord . . . . .	56	James Foley . . . . .	1 00
Nettie Williams . . . . .	1 28	Guiseppi Marina . . . . .	10
Charles Hudson . . . . .	2 17	John Costello . . . . .	99
Ellen Stafford . . . . .	1 00	John Welsh . . . . .	1 60
Samuel Field . . . . .	1 00	George W. Lyons . . . . .	37
Annie Blum . . . . .	2 74	Patrick Curren . . . . .	20
Gustav Ekland . . . . .	55	Carl Gudsmyers . . . . .	2 85
Jacob Spear . . . . .	1 37	John Duffy . . . . .	15
Catherine McLoughlin . . . . .	46	Albert Jansen . . . . .	1 00
Henry Bartlett . . . . .	64	Unknown man, No. 23 East Broadway . . . . .	11
Gustav Janssen . . . . .	92	Unknown man, No. 88 Leonard street . . . . .	36
Alfred Leacock . . . . .	3 44	Gustav Jung . . . . .	51
Joseph Manhein . . . . .	1 15	Maggie Keane . . . . .	22
<b>Total . . . . .</b>	<b>\$104 12</b>	Martin Kelly . . . . .	05
		Paul Pacade . . . . .	01
		John Peterson . . . . .	3 80
		John Pholman . . . . .	05
		Tony Spinella . . . . .	86
		Patrick Slavin . . . . .	15
		John Schaeffer . . . . .	1 98
		Unknown man, Fifty-ninth street and Sixth avenue, Central Park . . . . .	
		Unknown man, One Hundred and Eighty-first street and Broadway . . . . .	
		Unknown man, Riverside Park and West Eighty-seventh street . . . . .	
		Unknown man, East river . . . . .	
		Unknown man, Twelfth avenue and One Hundred and Twenty-first street . . . . .	
		Matthew Anderson . . . . .	33
		S. Breson . . . . .	80
		Abraham Cohen . . . . .	6 09
		Herman Erickson . . . . .	63
		John Parrell . . . . .	5 08
		Jacob Ganter . . . . .	49
		John Golden . . . . .	1 00
		Hugh Kelly . . . . .	38
		Andrew Lambert . . . . .	14 39
		John Murphy . . . . .	35
			1 03

The following estates were received from the Coroner's Office during the year. The amount of cash received was paid into the City Treasury:

Frank Vlick . . . . .	\$13 15	Unknown man, North river and Houston street, less expenses, \$1.10 . . . . .	7 20
Bertha Lavine . . . . .	7 24	Frank J. Feeley . . . . .	3 11
Frank J. Feeley . . . . .	3 11	Frank J. Feeley . . . . .	32
George Lang . . . . .	4 00	Michael Blumenthal . . . . .	4 00
Unknown man, Pier 33, North river . . . . .	1 59	Unknown man, Pier 33, North river . . . . .	1 59
Carl Hendrickson . . . . .	01	John Mann . . . . .	01
John Mann . . . . .	15	John Parsons . . . . .	05
John Parsons . . . . .	05	Unknown man, Fifty-third street and Eighth avenue . . . . .	03
Martin Kreimer . . . . .	03	Martin Kreimer . . . . .	15
Frank Martin . . . . .	15	Unknown man, Fifty-third street and Eighth avenue . . . . .	12
William Schubert . . . . .	10	John F. Lloyd . . . . .	10
John F. Lloyd . . . . .	02	Thomas Quinnlan . . . . .	10
George Reynay . . . . .	10	George Reynay . . . . .	10

Jennie Wessin . . . . .  
 Wallace R. Parramore . . . . .  
 Henry Valentine . . . . .  
 Unknown man, No. 205 Park row . . . . .  
 Unknown man, One Hundred and Twenty-ninth street and North river . . . . .  
 Unknown man, Central Park . . . . .  
 Unknown man, One Hundred and Thirty-third street and North river . . . . .  
 Unknown man, One Hundred and Tenth street and East river . . . . .  
 Sig. de Condit . . . . .  
 Unknown man, Sixth avenue and Fourth street . . . . .  
 Unknown man, No. 6 West Sixty-seventh street . . . . .  
 George Gruber . . . . .  
 Joseph Brady . . . . .  
 John Eagan . . . . .  
 Robert Hart . . . . .  
 Daniel Hughes . . . . .  
 Peter Kimmeth . . . . .  
 Samuel Kenny . . . . .  
 Jake Price . . . . .  
 Edward R. Schultz . . . . .  
 Unknown man, No. 305 Bowery . . . . .  
 Unknown woman, No. 179 East Ninety-fourth street . . . . .  
 Unknown man, Pier 14, North river, \$6.76, less expenses, \$1.50 . . . . .  
 Herman Uhler . . . . .  
 Unknown man, Thirty-eighth street and North river . . . . .  
 Charles Curran . . . . .  
 William McGraw . . . . .  
 Julius Aronson . . . . .  
 Aaron Cohen . . . . .  
 Thomas Sherman, \$4.80, less expenses, \$1.50 . . . . .  
 Frank Woppert . . . . .  
 Paul Wenderland . . . . .  
 John McLaughlin . . . . .  
 Charles Schmidt . . . . .  
 Edward Stuart . . . . .  
 Mary Shady . . . . .  
 Gustav Epenhaim . . . . .  
 Ernest Gaeger . . . . .  
 Frank Patterson . . . . .  
 John Conerty . . . . .  
 Bernhard Spassel . . . . .  
 John Cummings . . . . .  
 Unknown man, foot of West Forty-sixth street . . . . .  
 John Duggan . . . . .  
 George Felhardt . . . . .  
 Unknown man, No. 136 Broad street, \$16.53, less expenses, \$2.20 . . . . .  
 Edward Boucher . . . . .  
 Unknown man, Prospect street and Sherman avenue . . . . .  
 F. F. Tennis . . . . .  
 Walter Presting . . . . .  
 T. Wilson . . . . .  
 Samuel Olsen . . . . .  
 David Jacobson . . . . .  
 James Higgins . . . . .  
 Alfred Von Huben . . . . .  
 Sarah Reilly . . . . .  
 James McGuire . . . . .  
 John Casey . . . . .  
 Unknown man, Hudson river and One Hundred and Thirtieth street . . . . .  
 Cash Received from the Coroner of The Bronx, August 4, 1903 . . . . .  
 Michael Kennedy . . . . .  
 Fileppo Vintimeglia . . . . .  
 Claus Silius . . . . .  
 John Tracy . . . . .  
 Unknown man, No. 697 Morris avenue . . . . .  
 Thomas F. Roman, No. 27 South Eleventh avenue . . . . .  
 Antonio Ainone . . . . .  
 William Fox . . . . .  
 Unknown man found off Hart's Island . . . . .  
 Unknown man, Ferry Point, Long Island Sound . . . . .  
 James Reilly, No. 562 East One Hundred and Thirty-fifth street . . . . .  
 Unknown man, James lane and Moshulu avenue . . . . .  
 Matthias Buhler, No. 1210 Brook avenue . . . . .  
 Ella Schroeder, less 10 cents . . . . .  
 Barbara Burkhardt . . . . .  
 Michele Capobiamo . . . . .  
 Susan Kuling . . . . .  
 Total . . . . .

\$0 13	Unknown woman, No. 2 . . . . .	\$0 40
02	William Matchett . . . . .	1 74
1 54	John Duggan . . . . .	2 55
1 02	Andrew Rose . . . . .	82
3 92	Mathias Liska . . . . .	1 37
1 05	Patrick Curran . . . . .	92
14	Catherine Payne . . . . .	1 74
64	Carl Gudszus . . . . .	3 44
11	Robert Beidlich . . . . .	92
20	John Duggan . . . . .	3 66
15	Bernhard Spassel . . . . .	6 87
20	Anna Gerschinski . . . . .	92
5 25	Stephen Heygmegi . . . . .	92
15	Mathias Leske . . . . .	1 10
1 30	Annie Fransch . . . . .	8 40
3 56	John Murphy . . . . .	56
30	Captain Thomas Stead . . . . .	1 68
2 29	Samuel Gordon . . . . .	4 20
09	Unknown man, Presbyterian Hospital . . . . .	60
5	Unknown man, Eighty-ninth street and North river . . . . .	88
12	Dominick Tascafetti . . . . .	1 28
40	Mathias Fisher . . . . .	1 60
5 26	Farronta Sorranteis . . . . .	2 40
52	Katie Gallagher . . . . .	1 12
18	John Riley . . . . .	2 80
2 35	John Jackson . . . . .	2 20
04	John C. Johnson . . . . .	40
04	Abraham Weil . . . . .	88
98	Lillie Elzahyn . . . . .	64
3 30	Hannah Bannon . . . . .	88
13	James A. Smith . . . . .	40
15	Nicholas H. Torney . . . . .	48
05	James Murphy . . . . .	72
4 03	Edward T. Bagwell . . . . .	80
2 10	John Drew . . . . .	40
1 55	Alfred Oatman . . . . .	32
10	Marc Cohn . . . . .	28
15	— Norres . . . . .	40
62	Mary Tappen . . . . .	28
20	Martin Peterson . . . . .	28
12 01	Sarah Donohue . . . . .	16
4 00	David Berger . . . . .	24
10 45	Edward Schenman . . . . .	80
25 55	Pasquale G. Tonto . . . . .	1 44
4 17	Unknown man, No. 1 . . . . .	1 28
14 33	Unknown man, No. 2 . . . . .	88
7 70	Unknown woman, No. 1 . . . . .	24
14	M. A. Heilbrun . . . . .	04
1 08	Eva E. Kraslowitz . . . . .	24
30	Thomas Hall Todd . . . . .	20
45	Estate of unknown . . . . .	1 60
1 65	F. Bronavater . . . . .	2 20
1 72	Hans Noichel . . . . .	48
10	Unknown man . . . . .	80
3 85	Fritz Miller . . . . .	2 80
5 00	Mary Boyle . . . . .	88
05	Fanny Bishop . . . . .	88
22	Unknown man . . . . .	32
1 31	Amelia Saccond . . . . .	40
	William Foll . . . . .	1 04
	Ella Shroeder . . . . .	96
\$5 98	Domingue Santillo . . . . .	1 12
5 52	Frederick White . . . . .	64
46	Wilton Stengal . . . . .	1 20
64	John Burlinger . . . . .	40
37	John Urban . . . . .	56
46	Isodore Zucker . . . . .	80
83	William Esmond . . . . .	80
28	Fritz Holls . . . . .	20
83	Fritz Schorle . . . . .	56
55	Sigmund Blane . . . . .	1 40
64	Unknown man, H. R. R. track . . . . .	1 20
20	Joseph Liebengath . . . . .	80
4 49	Ferdie Morant . . . . .	64
18	Gus Derkes . . . . .	1 00
25	Max Schutter . . . . .	72
15	Antonio Patti . . . . .	2 20
	T. Taylor . . . . .	1 04
	Joseph H. Sutton . . . . .	1 04
	Henry Megliorati . . . . .	98
	Frank J. Aldrich . . . . .	2 00
	Unknown man, One Hundred and Forty-third street and North river . . . . .	80
	Edward Bathesaer . . . . .	1 60
	Pansella . . . . .	80
	Louis L. Bethuny . . . . .	80
	Guesseppi Del Negu . . . . .	80
	James Tog . . . . .	80
	Thomas P. Gill . . . . .	96
	M. Caraman . . . . .	96
	Samuel Bronholz . . . . .	32
	John Bauer . . . . .	80
	John Hartmann . . . . .	24
	John Millner . . . . .	88
	Henry Gletzle . . . . .	40
	John Schafer . . . . .	55
	Cantello Raffano . . . . .	69
	Estate of unknown man, One Hundred and Twenty-ninth street and North river . . . . .	1 84
	Clarence H. Frazer . . . . .	2 76
	John Golden . . . . .	92
	Gustave Repenham . . . . .	46
	John E. Stover . . . . .	3 22
	C. H. Worthen . . . . .	2 76
	Adolph Offer . . . . .	55
	R. Braimlich . . . . .	1 38
	Christian Gang . . . . .	1 15
	Tony Trafale . . . . .	2 76
	John Golden . . . . .	69
	Benjamin G. Buffall . . . . .	92
	August Marenelli . . . . .	92
	Emilie Nitschke . . . . .	83
	Daniel Ryan . . . . .	23
	Ernest Reyersbach . . . . .	55
	Frederick S. Leland . . . . .	92
	Charles Schmidt . . . . .	92
	Estate of Mrs. O'Neil . . . . .	74
	William P. Nelson . . . . .	92
	Emil Hoericke . . . . .	1 84
	Samuel Lurinson . . . . .	1 38
	Michael Spargara . . . . .	2 53
	A. H. Van Slyck . . . . .	1 01
	William Schultz . . . . .	37
	Estate of Bresson . . . . .	55
	Total . . . . .	\$209 04

The following estates were received from the Board of Health during the year. The amount of cash received was paid into the City Treasury:			\$0 57
Mary Rielly.	\$0 50		05
Pauline Ackerman.	20		38
Albert T. Hanford.	04		65
Unknown persons, 58 cents, less expenses, 20 cents.	38		5 65
Peter Kuchelmeister.	10		61
John Bell.	26		1 37
Catherine McDonald.	25		13
Ida Grose.	60		10
Domino Strollo.	60		10
Philip Pagna.	17		15
Annie Brickman.	05		7 40
Thomas Monaghan.	20		65
Frank Meyer.	16		78
Isaac Greenburg.	50		15
John Rielly.	39		25
Joseph Francis, less expenses, 30 cents.	70		1 65
— Armstead.	60		1 08
Bridget Healy.	63		21
Mrs. Curtin.	1 03		45
Total.	\$8 36		1 50

Proceeds of sale of effects received from the Board of Health during the year. The amount realized was paid into the City Treasury:			\$0 28
Emilie Schrieber.	20		05
Jennie Sussman.	1 44		7 05
Unknown person.	72		1 50
Unknown person.	60		21
Rose Graberker.	08		10
Estelle Goldberg.	20		12
Annie Browetz.	08		64
Esther Miser.	08		50
Pauline Gottlieb.	20		12
Patrick J. Mahoney.	36		25
Bertha Dimond.	32		09
Unknown person.	88		1 45
Caropresi Rosine.	24		8 00
Lena Snifer.	20		10
Lena Hoff.	20		08
William Gibbons.	1 52		3 50
Rebecca Levine.	20		55
Lena Bellmuth.	20		10
Bertie Bluestein.	20		2 70
Annie Leverts.	12		70
Katie Giordano.	20		40
Rosie Nickeden.	20		20
Fannie Shapiro.	12		1 00
Unknwn person.	2 40		1 80
Unknown person.	2 08		15
Hannah Kaledeni.	12		03
Lillie Brunn.	24		05
Lillie Goldstein.	20		20
Marscha Sheradenky.	20		1 56
Jenny Brown.	1 20		10
Rosie Aronsen.	20		62
Maria Zwnig.	20		25
Francis Schunfeld.	20		02
Grazia Vendsneuar.	20		12
Lillie Rosenberg.	12		03
Sarah Sacher.	24		05
Fannie Goldberg.	20		20
Fannie Hammer.	20		10
Annie Dechal.	24		10
Louisa Renich.	20		50
Mary Grossman.	20		1 00
Lena Gerge.	12		70
Sadie Silberman.	20		85
Annie Rerrini.	20		6 95
Katie Bruner.	10		02
Lydia Baer.	10		52
Joseph Bernstein.	20		02
Jennie Rosenner.	24		05
Total.	\$20 04		1 42

The following estates were received from the J. Hood Wright Hospital during the year 1902. The amount of cash received was paid into the City Treasury:			\$0 76
Louis Fadne.	\$0 00		8 00
G. Joyce.	2 85		2 85
John Bright.	3 00		3 00
Levi Goldberg.	11		11
John Sullivan.	13		13
Petro Tessi.	17		17
Jane O'Brien.	1 63		1 63
Timothy Dinan.	25		25
Philip Sneider.	02		02
Homer Lane.	10		10
Thomas Gilligan.	11		11
Gasper Snyder.	34		34
Mary Kennedy.	50		50
James Reach.	75		75
Vincent Matthews.	4 96		4 96
Unknown, less expenses, 30 cents.			
Total.	\$23 68		2 01

Proceeds of sale of effects received from the J. Hood Wright Hospital during the year. The amount realized was paid into the City Treasury:			\$0 40
G. Schaffer.	1 50		1 50
Huese.			

The following estates were received from Bellevue Hospital during the year. The amount of cash received was paid into the City Treasury:			\$0 05
Mary Winkelhouse.	47		47
Daniel McLoughlin.	01		01
Balthazer Branner.	40		40
Frances Jackson.	25		25
Maria Farinella.	20		20
Harry Mantel.	02		02
John Daley.	5 00		5 00
John Ward.	11		11
Camello Dangilly.	26		26
John Trainor.	15		15
Mary Monahan.	01		01
William Munn.	01		01
Bella Cohen.	40		40
Israel Orchowitz.	50		50
William Heinkle.	15		15
James Mulligan.	01		01
Percy Smithson.	00		00
Total.	49		4 00

Joseph Legoni	\$0 20	Mary McNeary	\$0 40
Hannah Burns	25	Katie Huckowitz	80
Jane Martin	20	Charles Hunt	88
Francis Jacobs	54	Henry Mayer	1 40
Ellen Monahan	06	William Wagner	1 28
Rosa Halpin	50	Mary Robin	1 28
Louis Dathery	70	Mary Rice	1 28
August Thomas	11	Walter Reynold	1 92
Eva Meyers	20	Annie Lelut	80
Thomas Sheehan	50	Mary Garboni	1 90
Unknown	02	Elise Poultie	2 10
Latilla Grosser	50	Eleanor Miller	56
Annie Glass	74	Clarance Dixon	40
Annie Glass	1 00	Louisa Miller	56
Mamie Trufelli	78	Mary McCue	64
Camillo Svollo	35	Delia Foriarum	40
John Garton	20	Jane H. Donnelly	60
Peter Comiskey	50	Maria Centrizia	36
Patrick Kinseller	16	Paul Doeschowitz	80
John Harold	62	William Galvin	18 40
Charles Nichols	1 45	Tenaka Tenelada	72
Edward Mullen	1 05	Charles Dalle	50
Josephine Frestom	45	Franklin Robinson	4 80
Patrick Reynolds	74	James Fleming	64
Sophia Hood	17	Catherine Sheridan	1 46
John Wilson	1 00	John McWilliams	46
John Magerwitz	1 00	Richard Chandler	1 28
William Riley	2 30	Etta Hopkins	3 44
Mary Gosper	28	Frederick Robinson	1 83
Humphries Dennohy	76	Mamie Trufelli	82
Otto Sievnon	10	John Corning	1 37
William Sanford	1 00	Henry Hartman	2 06
Clemons Magnard	32	Yetto Jacobowitz	20
Charles Hoffman	3 00	Johanna Healy	36
John Peters	22	Richard Newortie	48
William Dickson	20	Theresa Euphemia	20
James Van Loo	34	Francis Jacobs	1 44
John Duncan	68	Nellie Devery	24
John Dwyer	10	Eva Meyers	08
Dominick Chilendor	80	Rosa Halpin	24
William Swin	05	Cordelia Hagin	80
Henry Wilson	20	John Trainer	48
Thomas Mullahy	30		
Patrick Boyle	1 58	Total.....	\$60 80
Annie Smith	20		
Martin Kelly	05		
John Thompson	30		
Joseph Smith	4 35		
Luke J. Gibney	26		
David Spellman	20		
Mary Scott	25		
Con Real	85		
Katie McLoughlin	05		
Samuel Burrell	20		
James Downing	1 02		
Annie Cashena	1 15		
Rosie Dwyer	40		
William Van Winkle	10		
John Kerr	2 82		
Mary Kerr	35		
John Chapmann	1 00		
John Barry	1 00		
James O'Brien	25		
John Donohue	54		
William Kirkmann	54		
Lizzie Miller	1 40		
Ardie Semple	25		
William Terry	48		
Henry Boland	78		
Henry Hartmann	25		
John Macabuso	5 00		
Vincent Skiron	02		
Mary Robertson	2 60		
P. Schuster	1 31		
James Hall	21		
John Corning	70		
William F. Wright	2 66		
William Hanrahan	12 00		
John Murphy	50		
Every Reihl	70		
Richard McManus	1 80		
Michael Lacy	10		
Michael Gallagher	33		
John Sheridan	80		
Mary Corbett	05		
John Keenan	1 44		
James McFadden	06		
Antonio Daverdies	40		
William Pennington	1 19		
Louis Schmidt	50		
Patrick Kelly	1 35		
Thomas Vafes	1 00		
Peter Santelli	06		
John Lally	66		
Michael Glinch	03		
Unknown person	22		
John E. Robinson, less expenses, 70 cents	05		
Thomas Mannix	9 34		
Orlando Vanderhoff	50		
John A. Betz	3 23		
Hans Rheinhardt	60		
George A. Rottger	2 50		
Jacob Hotzman	60		
John Lankan	34		
John Fangus	30		
Murry Ellis	30		
Anthony Williams	25		
John Denning	28		
William Douglas	70		
Margaret Brant	10		
Frank Norton	10		
Joseph Roth	20		
John Margan	26		
Demenious Bonbino	05		
Emma Gist	05		
Toni Sharigo	30		
Mary Foley	15		
John Warburton	15		
Theo Simona	13		
Adolph Hulziker	50		
	08		

Proceeds of sale of effects received from Bellevue Hospital during the year. The

Joseph Kenner	\$0 32
Stanislau Mrox	26
Matthew McCarron	05
Charles Contetz	2 45
Michael Kidney	02
James Papa	1 30
Michael Coogan	07
Belfield Bratherite	01
Patrick McDonald	01
Frederick Bruger	4 97
Archie Martin	40
Theodore Saechetti	3 08
William Satchwell	28
Paul Jasso	22
Dennis O'Dea	31
James Baker	31
Total.	\$38 93

The following estates were received from the Harlem Hospital during the year.	
The amount of cash received was paid into the City Treasury:	
Michael O'Brien	\$0 11
James Howell	25
Thomas Fleming	10
Charles Garnett	15
Total.	\$0 61

Cash Account for the Year 1903.	
January 1, 1903, balance.	\$495,650 87
Total amount of cash received during the year.	323,551 19
Total.	\$819,202 06
Total amount of cash disbursed during the year.	499,879 71
Balance January 1, 1904.	\$319,322 35

Deposited as follows:	
Morton Trust Company	\$61,797 61
City Trust Company	87,580 30
Bankers' Trust Company	50,437 15
Windsor Trust Company	33,422 05
Lincoln Trust Company	13,575 77
Century Bank	5,000 00
Phenix National Bank	\$66,902 17
National Bank of Commerce	607 30
Total.	\$319,322 35

Total amount paid into the City Treasury during the year for Commissions	\$14,407 37
Total amount paid into the City Treasury during the year for account of Intestate Estates	8,937 89
Total.	\$23,345 26

## City and County of New York, ss.:

William M. Hoes, Public Administrator of the County of New York, being duly sworn, deposes and says that, according to his best knowledge, information and belief, the foregoing account contains a true statement of the total amount of his receipts and expenditures in each case in which he shall have taken charge of and collected any effects or on which the Public Administrator shall have administered during the year 1903, with the name of the deceased, his or her addition, and the country or place from which he or she came, if the same be known.

WILLIAM M. HOES.

Sworn to before me this 7th day of January, 1904.

OWEN A. KEEGAN, Notary Public, New York County.

Which were severally ordered on file.

## DEPARTMENT OF HEALTH

New York, January 4, 1904.

The Board of Health of the Department of Health of The City of New York, organized pursuant to the provisions of chapter 466 of the Laws of 1901, met at the building occupied by the Department of Health, at the southwest corner of Fifty-fifth street and Sixth avenue, in the Borough of Manhattan, on the 4th day of January, 1904, at 11 o'clock a. m.

The President presented his certificate, as did also Police Commissioner William A. McAdoo.

The First Deputy Police Commissioner presented a copy of the order of the Police Commissioner delegating to the said First Deputy Commissioner the performance of the duties imposed by law upon the Police Commissioner as a member of the Board of Health.

Present—Thomas Darlington, M. D., Commissioner of Health and President; Alvah H. Doty, M. D., Health Officer of the Port, and Thomas J. McAvoy, First Deputy Police Commissioner.

On motion, it was

Resolved, That the standing committees of the Department of Health shall be as follows:

Finance Committee, of which the Commissioner of Health shall be Chairman.

Sanitary Committee, of which the Health Officer of the Port shall be Chairman.

The resignation of Edward F. Hurd, M. D., Assistant Sanitary Superintendent in this Department, Borough of The Bronx, was received and accepted, to take effect January 4, 1904.

On motion, it was

Resolved, That Gerald Sheils, M. D., be and is hereby appointed Assistant Sanitary Superintendent in the Department of Health, and assigned to duty in the Borough of The Bronx, with salary at the rate of \$3,500 per annum, to date from January 4, 1904.

The resignation of Joseph H. Raymond, M. D., Assistant Sanitary Superintendent in the Department of Health, Borough of Brooklyn, was received and accepted, to take effect January 4, 1904.

On motion, it was

Resolved, That Patrick J. Murray, M. D., be and is hereby appointed Assistant Sanitary Superintendent in the Department of Health, and assigned to duty in the Borough of Brooklyn, with salary at the rate of \$3,500 per annum, to date from January 4, 1904.

On motion, it was

Resolved, That Edward F. Hurd, M. D., be and is hereby appointed a Sanitary Inspector in the Department of Health, pursuant to the rules and classification of the Municipal Civil Service Commission, pending the consent of said Municipal Civil Service Commission to such appointment, with salary at the rate of \$1,800 per annum, to date from January 4, 1904.

On motion, the Board adjourned.

EUGENE W. SCHEFFER, Secretary.

## DEPARTMENT OF HEALTH.

New York, December 30, 1903.

The Board met pursuant to adjournment. Present—Commissioner Ernst J. Lederle, Ph. D., President; Alvah H. Doty, M. D., Health Officer of the Port. The minutes of the last meeting were read and approved.

The Finance Committee presented the following bills, which were approved and ordered forwarded to the Comptroller for payment:

## BOROUGH OF MANHATTAN.

Charles F. P. Dillon	\$2 00
Burrelle's Press Clipping Bureau	7 50
Eimer & Amend	9 00
F. W. Devoe & C. T. Reynolds Company	1 65
Remington Typewriter Company	4 50
Ferd. Stark Company	17 90
The Smith Premier Typewriter Company	4 50
Inland Stamp Works	18 50
E. Machlett & Son	15 40
Merck & Co.	6 05
R. H. Macy & Co.	14 80
A. F. Brombacher & Co.	9 97
Keuffel & Esser Company	7 03
Seabury & Johnson	4 68
H. Griffin & Sons	94 20
Eugene W. Scheffer, Secretary	6 12
Goodyear Rubber Company	48 00
Valvoline Oil Company	20 80
Samuel E. Hunter	12 25
Richard Webber	32 00
R. H. Macy & Co.	48 16
John J. Delahanty	58 00
M. J. Garry	13 00
Edward Riley	25 00
American Automobile Storage Company	72 20
Thomas Buckley	19 75
McKesson & Robbins	23 25
Eugene W. Scheffer, Secretary	43 00
A. Gross	48 85
Dr. C. Clark	143 50
Trustees of Bellevue and Allied Hospitals	1,984 53
Trustees of Bellevue and Allied Hospitals	1,544 82
William Wheeler Smith	10,002 40
Curtis & Blaisdell	961 71
Department of Charities	1,141 60
Harry Balfe	2 20
John J. Delahanty	4 06
The George Ermold Company	3 00
Dr. H. D. Gill	380 00
R. H. Macy & Co.	24 02
Eimer & Amend	143 05
Stohlmann, Pfarre & Co.	16 50
Merck & Co.	6 40
G. C. McKesson	20 73
George Tiemann & Co.	57 50
E. B. Estes & Sons	206 65
Bliss Bros.	23 40
F. J. Dessoir	6 24
Eugene W. Scheffer, Secretary	500 00
George C. McKesson	25 13
Ernst J. Lederle	15 00
A. Gross	4 00
Nason Manufacturing Company	1 00
George Tiemann & Co.	30 41
Howard L. Sills	61 42
John W. Terry	24 34
Arthur L. De Groff	56 64
George C. McKesson	106 51
Emil Greiner	3 30
John Leffler & Co.	99 42
Inland Stamp Works	1 00
B. A. Cushman & Co.	7 50
Fussell Ice Cream Company	31 59
William P. Youngs & Brothers	17 00
Richard Webber	14 40
Nason Manufacturing Company	1 67
Brown & Root	138 52
Hugo Fredricks	51 26
A. Miller	6 00
J. Warren Mead, Agent and Warden	10 70
Western Union Telegraph Company	4 55
Samuel E. Hunter	43 15
Schieffelin & Co.	3 20
White, Van Glahn & Co.	2 70
American Ice Company	96 44
Eugene W. Scheffer, Secretary	27 00
James Jones	1,200 00
James Jones	15 00
William E. Elderd	1,350 00

## BOROUGH OF THE BRONX.

American Ice Company	5 68
Eugene W. Scheffer, Secretary	45 56
Initial Towel Supply Company	4 50
Dennison Manufacturing Company	40
John Leffler & Co.	67 46
Ledyard Avery & Co.	12 99
Borden's Condensed Milk Company	21 96
F. J. Dessoir	3 85
Brown & Root	1 15
B. A. Cushman & Co.	10 00
Nason Manufacturing Company	41
The Kny-Scheerer Company	20 73
Fred. Schnauffer	25 00
B. F. Hewitt	57 50
Frank B. Hill	20 80
Charles H. Nichols	21 25
Heipershausen Brothers	451 00
Jorgensen & Norgard	700 00

## BOROUGH OF BROOKLYN.

Troy Steam Laundry	3 52
The Great International Window Cleaning Company	14 64
George C. McKesson	27 50
George Merck	75 44
The Hildebrand Baking Company	178 64
George C. McKesson	12 37
St. Catharine's Hospital	100 00
Norwegian Deaconesses' Home and Hospital	100 00
St. Mary's Hospital	100 00
Edward Brown	100 00
Eugene W. Scheffer, Secretary	350 00

## BOROUGH OF THE BRONX.

Howard L. Sills	\$78 78



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John Wanamaker.....	\$8 70
John W. Terry.....	7 95
The J. M. Horton Ice Cream Company.....	12 50
Adam Nimpfius.....	7 00
Western Union Telegraph Company.....	4 50
Richard Webber.....	18 95
Lowell M. Palmer.....	127 75
J. T. & F. E. Buckley.....	10 00
Siegel-Cooper Company.....	18 75
William M. Sullivan.....	100 00
Eugene W. Scheffer, Secretary.....	7 95
Morse Iron Works and Dry Dock Company.....	472 54
Solomon Bassell.....	2,040 00

## BOROUGH OF BROOKLYN.

Bausch & Lomb Optical Company.....	\$180 68
Clarke & Baker.....	6 00
Gasteiger & Schaefer.....	2 70
Gerstenberg & Mullen.....	15 90
Eugene W. Scheffer, Secretary.....	7 20
Edward J. Francois.....	5 50
Isaac S. Douglass.....	25 00
Schiffelin & Co.....	22 29
Bushwick Central Hospital.....	100 00
Western Union Telegraph Company.....	96
E. J. & S. W. McKeever.....	1,125 00
E. J. & S. W. McKeever.....	1,500 00

## BOROUGH OF QUEENS.

F. F. Heyse.....	\$2 50
H. M. Hicks.....	4 00
The George Ermold Company.....	4 35
Bedell's Jamaica Express.....	1 00
Miller & Deckinger.....	30
Eugene W. Scheffer, Secretary.....	15 49
Morrell & Menchen.....	11 00
Hospital and Dispensary of the Town of Flushing.....	50 00
S. W. McKeever.....	843 95
Eugene W. Scheffer, Secretary.....	150 00
German Hospital of Brooklyn.....	100 00
The Brooklyn Hospital.....	200 00
John Morgan.....	6 00
Gasteiger & Schaefer.....	419 08
Gasteiger & Schaefer.....	4 05
Joseph Ohlhausen.....	4,250 00
Kelly & Kelley.....	10,037 65

## BOROUGH OF QUEENS.

American Ice Company.....	\$4 70
West Disinfecting Company.....	40
Gasteiger & Schaefer.....	47 50
Gasteiger & Schaefer.....	132 28
James Feeny.....	1 25
W. L. Scott.....	25 00
George Merck.....	1 60
M. J. Halloran.....	13 50
Gasteiger & Schaefer.....	199 45

## BOROUGH OF RICHMOND.

Whitall Tatum Company.....	\$4 32
Dr. Edmund Prince Fowler.....	1 00
United States Express Company.....	4 30
J. C. Muller.....	3 20
S. F. Hayward & Co.....	22 00
Eugene W. Scheffer, Secretary.....	2 90
Eugene W. Scheffer, Secretary.....	15 31
Eugene W. Scheffer, Secretary.....	150 00

Communication from the Assistant Corporation Counsel, recommending the discontinuance of the suits named in his report.

On motion, it was

Resolved, That the Corporation Counsel be and is hereby requested to discontinue without costs the actions against the following named persons for violations of the Sanitary Code and of the Health Laws, the Inspector having reported the orders therein complied with, or the nuisances complained of abated, a permit having been granted or violations removed, or the orders rescinded, to wit:

Heffernan, Edward.....	2407B	Gannon, James.....	3469B
Woods, Edward.....	2859	Wyler, Leon.....	3480
New York Bottling Company.....	3091	Ruthrauf, Charles C.....	3490
Phoenix Realty Company.....	3150	Finkelstein, Adolph.....	3511
Dooley, John.....	3224	Morasko, Raphael.....	3515
O'Reilly, Mary.....	3312B	McQuade, John J.....	3584B
Daly, Catharine.....	3347B	Dunn, Bartholomew.....	1B
Graham, Thomas F.....	3356B	Gass, Frank.....	3B
Acton, Charles.....	3371	Gass, Frank.....	4B
New York Central and Hudson River Railroad Company.....	3376	Gass, Frank.....	5B
Engel, Frederick.....	3393	United States Mortgage and Trust Company.....	6B
Edelstein, Harry.....	3420	Cooper, Howard H.....	7B
Welsh, Charles.....	3422	Shannon, Mary H.....	15
Whalen, "Mary".....	3461B	Palladino, Michael.....	16
Dressel, John.....	3464B	Maher, Martin.....	39
Buchanan, Henry J.....	3467B		=====

## SANITARY BUREAU.

The following communications were received from the Sanitary Superintendent:

1st. Weekly reports of the Sanitary Superintendent. Ordered on file.

2d. Weekly reports from the Willard Parker, Reception, Riverside and Kingston Avenue hospitals. Ordered on file.

Report on changes in the hospital service.

On motion, it was

Resolved, That the following changes in the hospital service be and are hereby approved:

## Riverside Hospital.

Mary Mason, Domestic, \$168; appointed December 22.
Josie Burke, Domestic, \$168; appointed December 21.
Elizabeth Maher, Domestic, \$168; appointed December 21.
Delia Baxter, Domestic, \$168; appointed December 21.
Elvira Hoehne, Nurse, \$420; appointed December 23.
Maggie McDonald, Domestic, \$168; appointed December 26.
Madge Wilson, Domestic, \$168; appointed December 26.

## Willard Parker Hospital.

No. 37 Lizzie Shockett, Domestic, \$168; resigned November 30.
37 Mary Smith, Domestic, \$168; appointed December 11.
41 Mary Black, Domestic, \$168; resigned December 4.
41 Annie Sullivan, Domestic, \$168; appointed December 4.
53 Catherine Sullivan, Domestic, \$168; resigned December 8.
45 Annie McQueeny, Domestic, \$168; resigned December 18.
45 Norah Griffin, Domestic, \$168; appointed December 19.
45 Norah Griffin, Domestic, \$168; resigned December 21.
45 Volga Vogel, Domestic, \$168; appointed December 22.
45 Volga Vogel, Domestic, \$168; resigned December 24.
28 Elizabeth Williams, Domestic, \$240; appointed December 22.
53 Mary Baumgarten, Domestic, \$168; appointed December 24.
3 Henry H. Beers, Interne, \$120; resigned December 24.
14 Anne Anderson, Nurse, \$360; returned from leave of absence December 25.

John Henrich, Hospital Clerk, \$840; salary increased to December 1.

Catherine Britton, Helper, \$480; salary increased to December 1.

Annie Sisk, Helper, \$480; salary increased to December 1.

3d. Reports and certificates on overcrowding in the following tenement houses:

On motion, the following preamble and resolution were adopted:

Whereas, The Sanitary Superintendent has certified to this Board that the following apartments in tenement houses in The City of New York are so overcrowded that less than four hundred cubic feet of air space is afforded to each occupant in the said houses:

It is ordered that the number of occupants in said apartments be and are hereby reduced as follows:

No.

216. No. 31 Washington street, second floor, rear, south; Joseph Risher, 4 adults, 5 children.

217. No. 33 Washington street, fourth floor, rear, south; Barney Schultz, 5 adults, 1 child.

218. No. 33 Washington street, fourth floor, rear, north; John Richmond, 4 adults, 1 child.

219. No. 17 Washington street, third floor, rear, south side; John Lingar, 4 adults, 2 children.

220. No. 36 Norfolk street, Room No. 14; Jacob Steinberg, 4 adults, 2 children.

221. No. 314 West Sixty-ninth street, fourth floor, rear, west side; Estro Francesco, 6 adults.

4th. Certificates in respect to the vacation of premises at No. 417 Liberty avenue, Borough of Brooklyn.

On motion, the following preamble and resolution were adopted:

Whereas, The Sanitary Superintendent has certified to this Board that the building situated upon Lot No. 417 Liberty avenue, in the Borough of Brooklyn, has become dangerous to life and is unfit for human habitation because of defects in the plumbing and draining thereof, and because of the existence of a nuisance on the premises which is likely to cause sickness among its occupants:

Ordered, That all persons in said building situated on Lot No. 417 Liberty avenue, in the Borough of Brooklyn, be required to vacate said building on or before January 6, 1904, for the reason that said building is dangerous to life and is unfit for human habitation because of defects in the plumbing and drainage thereof, and because of the existence of a nuisance on the premises likely to cause sickness among its occupants.

And further, that this order be affixed conspicuously on the front of and in said building and be served as the law requires, under the direction of the Sanitary Superintendent.

5th. Report on compliance with certain orders to vacate premises, etc.

On motion, it was

Resolved, That the following orders be and are hereby rescinded, for the reason that the causes for the same have been removed:

## Vacations.

## BOROUGH OF BROOKLYN.

No. 4956. No. 37 Benton street.

No. 4957. No. 37 Benton street.

6th. Certificates declaring the premises at Nos. 127 to 133 Bedford avenue, Borough of Brooklyn, a public nuisance.

On motion, the following order was entered:

Whereas, The premises Nos. 127, 129, 131 and 133 Bedford avenue, Borough of Brooklyn, in The City of New York, and the business pursuit specified in this case, being in the opinion of the Board in a condition and in effect dangerous to life and health and a public nuisance, and the Board having taken and filed among its records the reports of the Sanitary Superintendent and the Inspectors relating thereto, and what it regards as sufficient proof to authorize its declaration that the premises and business pursuit in this case are in condition and effect dangerous to life and health and a public nuisance—the Board hereby enters in its records the said premises as a nuisance, and declares the same to be a public nuisance dangerous to life and health, and in respect thereto orders, viz.:

That the use of said premises as a stable in its present condition be discontinued; that the said premises be cleaned; that the filth-saturated soil be removed and replaced with fresh earth, and the surface so graded that all surface water shall be freely discharged therefrom; that all manure be removed from the vault and its use be discontinued; that manure vault be cleaned and disinfected; that all cows be removed from the premises, and the keeping of same thereat discontinued, and that the stable be thoroughly cleaned and disinfected; that all chickens be removed from the premises, and the keeping of same thereat discontinued, and that the coop be thoroughly cleaned and disinfected.

7th. Reports on application for permits.

On motion, it was

Resolved, That permits be and are hereby granted as follows:

## BOROUGH OF MANHATTAN.

No.

100 To W. H. Lyons, to keep a lodging house at No. 128 Park row.

On motion, it was  
Resolved, That the following permits for the sale and delivery of milk in

The City of New York be and the same are hereby granted:

## Stores.

No. 10693 To William Wordilmann, at No. 237 Seventh avenue.  
7396 To Hyman Appelburg, at No. 231 Broome street.  
9110 To Henry Eibs, at No. 417 West Forty-seventh street.  
1792 To Sam Fine, at No. 17 Pike street.  
4169 To Joseph Gettler, at No. 124 East Third street.  
4501 To The Reliance Tea and Coffee Company, at No. 391 Ninth avenue.  
4607 To Alois Mandik, at No. 1362 Avenue A.  
6747 To John Stengel, at No. 1619 Avenue A.  
7451 To Gollin & Richmond, at No. 283 Eighth avenue.  
7669 To Adolf Cohen, at No. 80 Henry street.  
7746 To Leo Marcus, at No. 332 East Fourth street.  
7747 To Louis Goldberg, at No. 26 Norfolk street.  
7757 To Joseph Canvisser, at No. 344 West Thirty-eighth street.  
7764 To Jacob Paley, at No. 193 Eldridge street.  
7769 To Max Harz, at No. 57 West Eighth street.  
7771 To George Anderson, at No. 552 West One Hundred and Twenty-sixth street.  
7779 To Joseph Falkovich, at No. 83 Columbia street.  
7782 To Ludwig Ihrig, at No. 615 Ninth avenue.  
7784 To Andrew McLaughlin, at No. 542 West Fifty-third street.  
7785 To Morris Sheir, at No. 129 West Twenty-eighth street.  
11458 To Henry Frietag, at No. 401 Ninth avenue.  
11807 To Sophie Gellert, at No. 2090 Amsterdam avenue.  
12098 To Sam Ort, at No. 645 East Ninth street.

## Wagon.

619 To Eugene Weissman, at No. 322 East Forty-fourth street.

## BOROUGH OF QUEENS.

458 To Antonio Maggio, at Metropolitan avenue and Grand street, Maspeth.

On motion, it was

Resolved, That permits be and are hereby denied as follows:

## BOROUGH OF MANHATTAN.

No. 4314 To Natale Lobicero, to sell milk at No. 517 East Thirteenth street.  
4315 To Morris Gensler, to sell milk at No. 745 Sixth street.  
4316 To Solomon Kirsch, to sell milk at No. 133 Suffolk street.  
4317 To Luigi Palazzolo, to sell milk at No. 201 Chrystie street.  
4318 To Louis Held, to sell milk at No. 100 Norfolk street.  
4319 To John H. Satterfield, to sell milk at No. 237 East Forty-fifth street.  
4320 To Johan Heims, to sell milk at No. 208 East Twenty-first street.  
4321 To Michael Patti, to sell milk at No. 49 Lewis street.  
4322 To G. Gatto, to sell milk at No. 72 Oliver street.  
4323 To R. F. Wheeler, to sell small birds and animals at No. 106 East Twenty-eighth street.

## BOROUGH OF BROOKLYN.

4324 To The L. I. Pigeon Breeding and Importing Company, to keep pigeons at No. 12 Charles place.

On motion, it was

Resolved, That the following permits be and the same are hereby revoked:

## BOROUGH OF MANHATTAN.

No. 406 To Jacob Marks, to sell and deliver milk at No. 74 East One Hundred and Twelfth street.  
14354 To Elise Wannenberg, to board and care for one child at No. 70 East End avenue.  
1792 To Meyer Fink, to sell and deliver milk at No. 17 Pike street.  
4169 To Joseph Gettler, to sell and deliver milk at No. 131 East Third street.  
4501 To The Reliance Tea and Coffee Company, to sell and deliver milk at No. 417 Tenth avenue.  
4607 To Frank Krejci, to sell and deliver milk at No. 1362 Avenue A.  
6747 To Frank Hetzel, to sell and deliver milk at No. 1619 Avenue A.  
7451 To Margaret Kennedy, to sell and deliver milk at No. 123 East One Hundred and Twenty-sixth street.  
7669 To Yetta Levinson, to sell and deliver milk at No. 80 Henry street.  
11458 To George Fischer, to sell and deliver milk at No. 401 Ninth avenue.  
12098 To Sam Lieberman, to sell and deliver milk at No. 645 East Ninth street.  
619 To Ritter Seelig, to sell and deliver milk at No. 71 Forsyth street.  
14620 To St. Elizabeth Industrial School, to use beds in dormitories at Nos. 235-237 East Fourteenth street.  
57 To William H. Lyons, to keep a lodging house at No. 128 Park row.  
14058 To Jacob Karasik, to keep and slaughter poultry at No. 418 East One Hundred and Tenth street.

8th. Reports on applications for relief from orders.

On motion, it was

Resolved, That the following orders be extended, modified or rescinded, as follows:

Granted.

## BOROUGH OF MANHATTAN.

No. 11953 No. 205 East Forty-seventh street, extended to January 9, 1904.  
12656 No. 620 West Fifty-eighth street, extended to January 22, 1904, on that portion of the order relating to cementing of stable floors.  
13513 Nos. 221-9 East Ninety-ninth street, extended to January 4, 1904.  
13571 No. 229 East Seventy-ninth street, extended to January 11, 1904.

## BOROUGH OF BROOKLYN.

4005 Enfield street, near McKinley avenue, extended to January 30, 1904.

Rescinded.

## BOROUGH OF MANHATTAN.

13450 No. 337 West Eighty-sixth street.  
13557 Northeast corner of West One Hundred and Nineteenth street and Amsterdam avenue.  
13694 No. 173 Third avenue.

## BOROUGH OF THE BRONX.

1117 Second street and Park avenue, Williamsbridge.  
1574 No. 2450 Arthur avenue.  
1977 One Hundred and Eighty-first street and Concourse.

## BOROUGH OF BROOKLYN.

1067 No. 77 Ralph street.  
4475 No. 938 Fourth avenue.  
4476 No. 938 Fourth avenue.  
4616 No. 486 McDonough street.  
4791 No. 140 McDougal street.  
4853 No. 67a Sumner avenue.  
5073 Cottage place and Highland View avenue.

On motion, it was

Resolved, That the following applications for relief from orders be and are hereby denied:

## BOROUGH OF MANHATTAN.

11848 No. 288 Broadway.  
13597 Broadway and Two Hundred and Twelfth street.  
13565 No. 771 Lexington avenue.  
13651 No. 144 Liberty street.  
13800 No. 243 Pearl street.  
13452 No. 1734 Second avenue.  
13433 Nos. 132-136 West Fourteenth street.

## BOROUGH OF THE BRONX.

2401 Southeast corner Intervale avenue and One Hundred and Sixty-seventh street and extending 100 feet on East One Hundred and Sixty-seventh street.

## BOROUGH OF MANHATTAN.

1st. Weekly reports from the Assistant Sanitary Superintendent of the work performed in the Borough of Manhattan. Ordered on file.

## Division of Inspections.

2d. Weekly reports of the Chief Inspector.

(a) Weekly report of work performed by Sanitary Police. Ordered on file.

(c) Report of violations of Section No. 63 of the Sanitary Code.

The Secretary was directed to notify the persons named in said report that a repetition of the offense will be sufficient cause for the revocation of their permits.

## Division of Contagious Diseases.

3d. Weekly reports of the Chief Inspector.

(a) Monthly reports of charitable institutions.

(b) Report of inspections of discharged patients from Riverside Hospital. Ordered on file.

## Division of Chemistry.

4th. Weekly report of the Chemist. Ordered on file.

## Division of Bacteriology.

5th. Weekly report of the Pathologist and Director of the Bacteriological Laboratories. Ordered on file.

## BOROUGH OF THE BRONX.

Weekly reports from the Assistant Sanitary Superintendent of the work performed in the Borough of The Bronx. Ordered on file.

## BOROUGH OF BROOKLYN.

1st. Weekly reports from the Assistant Sanitary Superintendent of the work performed in the Borough of Brooklyn. Ordered on file.

## Division of Sanitary Inspection.

2d. Weekly report of the Chief Inspector.

(a) Weekly report of work performed by Sanitary Police. Ordered on file.

## Division of Contagious Diseases.

3d. Weekly report of the Chief Inspector. Ordered on file.

## BOROUGH OF QUEENS.

Weekly reports from the Assistant Sanitary Superintendent of the work performed in the Borough of Queens. Ordered on file.

## BOROUGH OF RICHMOND.

Weekly reports from the Assistant Sanitary Superintendent of the work performed in the Borough of Richmond. Ordered on file.

## BUREAU OF RECORDS.

The following communications were received from the Registrar of Records:

1st. Weekly report. Ordered on file.

2d. Reports on applications to record corrected certificates.

On motion, it was  
Resolved, That permission be and is hereby given to record corrected certificates relating to

Antoine Frabasilius, married November 22, 1903.

Elias Bronstein, born November 23, 1903.

Florence Elizabeth McCall, born November 26, 1903.

Eva Fink, died March 20, 1903.

Bryan J. O'Connor, died September 15, 1903.

Rosetta Mehling, died October 14, 1903.

Michael Walsh, died December 11, 1903.

Henry August Young, died December 12, 1903.

Mary M. Young, died December 12, 1903.

Joseph Gilbert, died December 16, 1903.

Thomas Burns, died December 21, 1903.

Thomas Smith, died December 21, 1903.

Jane Healey, died December 25, 1903.

Alfred Shaw, died December 25, 1903.

3d. Report on applications to file delayed and imperfect certificates.

On motion, it was

Resolved, That the Registrar of Records be and is hereby directed to file in the volume of "delayed and imperfect certificates" the following certificates:

Johann Jacob Pfleger, born March 7, 1881.

William Alexander Gonzales, born November 19, 1884.

Annie Bernstein, born February 10, 1889.

Charles Pearsall, born May 2, 1889.

Annie Goldstein, born May 9, 1889.

Rebecca Brachman, born June 8, 1889.

Mary Wiener, born December 2, 1889.

Abraham Harber, born December 5, 1889.

Olga Rosenberg, born July 4, 1888.

William Aarons, born January 4, 1886.

Mollie Eisenstadt, born October 21, 1889.

Eugenia A. Oakshott, born October 8, 1889.

Bertha Bloom, born November 27, 1889.

David B. Stoney, born September 10, 1889.

Blanche D. Stoney, born March 6, 1891.

## Leave of Absence.

Reports on applications for leave of absence.

On motion, it was

Resolved, That leave of absence be and is hereby granted as follows:

## BOROUGH OF MANHATTAN.

Frank B. Mitchell, from December 1 to December 25, 1903.

Samuel Krommer, December 23, 1903.

Maggie Daly, from December 22 to December 26, 1903.

Hanne Anderson, from December 1, 1903, to January 1, 1904.

Hugh Hall, from November 30 to December 24, 1903, inclusive.

Louis Levy, from December 14 to December 19, 1903, inclusive.

Russell Raynor, December 22 and 23, 1903.

John B. Huber, M. D., December 20 to 21, 1903.

S. Dana Hubbard, M. D., from December 29 to December 31, 1903.

H. D. Goetchi, M. D., December 24 and 26, 1903.

G. W. Bogart, M. D., from December 22 to 24, 1903, inclusive.

H. P. Swift, M. D., from December 26 to 28, 1903, inclusive.

S. H. Abkarian, M. D., from December 22 to December 24, 1903, inclusive.

H. T. Peck, M. D., from December 21 to December 24, 1903, inclusive.

H. L. Lynch, M. D., from December 18 to December 30, 1903.

Jacob Sobel, December 28, 1903.

Ella L. Grannatt, from January 1 to January 20, 1904.

Aaron Silkman, from January 1 to January 31, 1904, without pay.

## Miscellaneous Reports, Communications.

On motion, it was

Resolved, That Miss Jean Hunter and Miss A. L. Higgins be and are hereby appointed Nurses in this Department and assigned to duty in the Tuberculosis Dispensary, with salaries at the rate of \$900 per annum, to date from and after January 6, 1904, and January 11, 1904, respectively.

On motion, it was

Resolved, That Hugh J. Eschenbach be and is hereby appointed a Sanitary Inspector in this Department and assigned to duty in the Borough of Manhattan, pursuant to the rules and regulations of the Municipal Civil Service Commission, with salary at the rate of \$1,200 per annum, to date from January 1, 1904.

On motion, it was

Resolved, That J. A. G. McThail, M. D., and Bruno S. Horowitz, M. D., be and are hereby appointed Internes in this Department and assigned to duty in the contagious disease hospitals, with salaries at the rate of \$10 per month, from December 28, 1903, to June 30, 1904, inclusive.

On the recommendation of the Sanitary Superintendent, it was

Resolved, That Joseph D. Condit, M. D., be and is hereby appointed an interne in this Department and assigned to duty in the contagious hospitals, with salary at the rate of \$10 per month.

Resolved, That Paul Allen, M. D., be and is hereby appointed Ambulance Surgeon, to serve without compensation at the Brooklyn Hospital, Borough of Brooklyn.

Copies of resolutions adopted by the Commissioners of the Sinking Fund December 23, 1903, authorizing renewals of the leases of premises Nos. 38-40 Clinton street, Borough of Brooklyn, and Nos. 54-56 Water street, Borough of Richmond, for the use of the Department of Health in said boroughs, were received and ordered on file.

Upon the recommendation of the General Medical Officer, it was

Resolved, That, in the opinion of the Board of Health of the Department of Health of The City of New York, no member of the Police Department or of the Fire Department of The City of New York should be permitted to remain on duty in said departments while suffering from tuberculosis in its infectious stage.

List of old and worn-out articles at Willard Parker Hospital was received, and the Secretary was directed to notify the Superintendent of Hospitals to cause said goods to be condemned and destroyed.

Copy of a resolution adopted by the Board of Aldermen December 15, 1903, and approved by the Mayor December 22, 1903, classifying the position of Bacteriologist in the Department of Health of the sixth grade, with salary at the rate of \$1,500 per annum, was received and ordered on file.

Copy of a resolution adopted by the Board of Aldermen December 22, 1903, requesting the heads of the various City departments, the offices of which were to close on December 26, 1903, and January 2, 1904, to secure through the Comptroller full compensation for the per diem men employed in said departments for the days above mentioned, was received and ordered on file.

The certificate of service of Joseph Anderson, M. D., Medical Inspector in the employ of this Department, in the Sixteenth Massachusetts Volunteers and the United States Navy, during the war of the rebellion, was received and ordered on file.

The certificate of transfer issued by the Municipal Civil Service Commission of Russell Raynor from the position of Inspector of Foods to the position of Sanitary Inspector in this Department, was received, and, on motion, it was

Resolved, That, pursuant to a certificate issued by the Municipal Civil Service Commission, Russell Raynor, an employee of the Department of Health, be and is hereby transferred from the position of Inspector of Foods to the position of Sanitary Inspector.

Report in relation to the transfer of Patrolman John D. Bevins, of the 26th Precinct, and James Clancy, of the 30th Precinct, to the Sanitary Police Squad was received and ordered on file.

A communication from the Chief Inspector of the Division of Inspections in this Department, assigned to duty in the Borough of Brooklyn, in relation to the necessity for an increase in the number of Patrolmen assigned to the Sanitary Squad of the Department of Health in the Borough of Brooklyn, was received and ordered on file.

A physician's certificate issued by E. Styles Potter, M. D., to Anna F. Donoghue, M. D., Medical Inspector in the employ of this Department, assigned to duty as a Vaccinator in the Borough of Manhattan, who was notified to appear before the Board of Health at its meeting held this day and make answer to the charges preferred against her for neglect of duty, submitting a false report of work performed by her as a Medical Inspector in the Department of Health, assigned to duty as a Vaccinator, and with conduct unbecoming an employee of said Department, certifying to her physical inability to make such appearance as directed, was received, and, upon the recommendation of the Health Officer of the Port, Commissioner of Health, said charges were laid upon the table until such time as said Anna F. Donoghue, M. D., is able to appear and make answer to same.

Leopold Harris, M. D., against whom were preferred charges for violation of the rules and regulations of the Department of Health, with neglect of duty, with submitting false report of work performed by him as a Medical Inspector and with conduct unbecoming an employee of this Department, appeared and was heard in respect to same, and

On motion, it was

Resolved, That Leopold Harris, M. D., of No. 66 Columbia street, Borough of Manhattan, Medical Inspector in the Department of Health, against whom charges were preferred for violation of the rules and regulations of the Department of Health, with neglect of duty, with submitting false report of work performed by him as a Medical Inspector and with conduct unbecoming an employee of said Department, be and is hereby fined one week's salary, to be deducted from his salary as such Medical Inspector for the month of January, 1904.

Corrado Tranchida, M. D., of No. 123 East Seventeenth street, who was notified to appear before the Board of Health and explain his violation of section 143 of the Sanitary Code, in permitting Amelia Bevilacqua, aged five years, of No. 238 East Ninety-fifth street, while suffering from diphtheria, to remove from the premises above mentioned to No. 8 West Ninety-second street, appeared and was heard, and, his explanation being satisfactory, the matter was ordered on file.

On motion, the following order to cancel the certificate of birth of one Katharine Dorothea Lubkert, alleged to have been born to Katharina Lubkert June 12, 1902, at No. 215 East Tenth street, which certificate was filed in this Department on the 23d day of June, 1902, was promulgated, and the Secretary was directed to serve said order upon the Registrar of Records, with directions that said record of birth of Katharina Dorothea Lubkert, alleged to have been born on June 12, 1902, be canceled of record.

An affidavit having been presented to the Board of Health of the Department of Health of The City of New York by Katharina Lubkert, in which it appears to the satisfaction of the Board of Health from such affidavit that the child in question was not born to said Katharina Lubkert on the 12th day of June, 1902, and it further appearing from the affidavit that the record contained in said certificate is false and untrue, it is hereby

Ordered, That Birth Certificate No. 23969, filed in the Bureau of Records of the Department of Health on the 23d day of June, 1902, purporting to be the record of birth of a female child to Katharine Lubkert on the 12th day of June, 1902, and now on file in the said Bureau of Records, be and the same is hereby canceled; and it is further

Ordered, That the Registrar of Records of the Department of Health of The City of New York mark the said certificate, No. 23969, canceled and discharged of record.

Report in relation to damages sustained to personal property owned by Mrs. John Klein, of No. 526 West Fifty-eighth street, as the result of sulphur fumigation, was received.

On motion, it was

Resolved, That Mrs. John Klein, of No. 526 West Fifty-eighth street, be and is hereby allowed the sum of \$2.50, the amount of damages sustained to personal property owned by her as the result of sulphur fumigation of said premises.

The bids or estimates for the removal of night soil, offal and dead animals from the Borough of Queens, in The City of New York, pursuant to the provisions of the Greater New York Charter, submitted by S. W. McKeever, Thomas F. White

and Robert Furey, and which were laid on the table by the Board of Health at its meeting held December 10, 1903, were taken from the table, and,

On motion, it was

Resolved, That the bids or estimates for the removal of night soil, offal and dead animals from the Borough of Queens, in The City of New York, pursuant to the provisions of the Greater New York Charter, submitted by S. W. McKeever, Thomas F. White and Robert Furey, be and are hereby rejected.

Amended plans and specifications for the proposed small stock abattoir to be erected by Strauss & Adler at No. 608 West Fortieth street, Borough of Manhattan, were received, and upon the recommendation of the Sanitary Superintendent it was

Resolved, That the amended plans and specifications for the proposed small stock abattoir to be erected by Strauss & Adler at No. 608 West Fortieth street, Borough of Manhattan, be and are hereby approved.

On motion, it was

Resolved, That the salaries of John T. Turner and Daniel T. Kenney, Sanitary Inspectors in the employ of this Department, assigned to duty in the Borough of Manhattan, be and are hereby fixed at the rate of \$1,800 per annum, to date from and after January 1, 1904, pursuant to the rules and classification of the Municipal Civil Service Commission.

Report that Frank Story finished the preventive hydrophobia treatment December 28, 1903, was received and ordered on file.

A certificate of expertness in relation to the examination of samples of whiskey submitted to W. B. Greenbaum, an expert employed for the purpose, was received and ordered on file.

On motion, it was

Resolved, That Samuel P. Watson, M. D., Hospital Physician in the employ of this Department and assigned to duty at the Kingston Avenue Hospital, Borough of Brooklyn, be and is hereby transferred to Riverside Hospital, in the Borough of The Bronx, from January 1, 1904.

On motion, it was

Resolved, That Heyward L. Lynah, M. D., a Hospital Physician in this Department, and assigned to duty at Riverside Hospital, Borough of The Bronx, from January 1, 1904, be and is hereby transferred to the Kingston Avenue Hospital, in the Borough of Brooklyn.

On motion, it was

Resolved, That Ambrose Lee, Jr., a Clerk of the second grade in this Department, assigned to duty in the Borough of The Bronx, be and is hereby designated an Assistant Chief Clerk in this Department and assigned to duty in the Borough of The Bronx.

Pursuant to notice in the "City Record," bids or estimates for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of the Department in the different boroughs, during the year 1904, opened by the President of the Board of Health, December 24, 1903, under resolution adopted by the Board of Health September 12, 1902, authorizing the President to open bids for furnishing the Department with supplies, repairs, etc., tabulate the same and report thereon to the Board at the regular meeting next thereafter, were submitted for the approval of the Board from the following:

A. L. Hirsch,  
Schieffelin & Co.,  
Perth Amboy Company,  
George McKesson,  
Lehn & Fink,  
Seabury & Johnson,  
Meinecke,  
Bausch & Lomb,  
Scharp & Dohme,  
Dougherty,  
B. G. Amend,  
Amil Griener,  
George Merck,

Dreyfuss,  
Hascal Soap Company,  
Cheseborough & Co.,  
The Kny-Scheerer Company,  
The White Tar Company,  
Gastieger & Schaeffer,  
Eidt & Wyand,  
McGinn,  
Ingersoll,  
Luyties Brothers,  
W. P. Sonn Brothers Company,  
W. P. Eng's Son Company.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 245, 246 and 248) be and is hereby awarded to A. L. Hirsch for the sum of two thousand six hundred and thirty-one and ninety one-hundredths dollars (\$2,631.90), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 12, 13, 20, 23, 24, 25, 28, 33, 35, 36, 37, 38, 45, 48, 53, 55, 248, 262, 263, 265, 268, 281, 282, 283, 289, 290, 291, 293, 296, 302, 303, 305, 306, 308, 315, 325, 329, 333, 340, 341, 342, 343, 347, 348, 355, 356, 357, 362, 363, 376, 377, 380, 382, 385, 392, 397, 398, 399, 400, 401, 402, 408, 409, 410, 413, 429, 431, 432, 433, 436, 440, 441, 444, 448, 462, 463, 465, 466, 467, 468, 477, 478, 483, 484, 486, 488, 489, 490, 491, 492, 493, 494, 495, 496, 508, 512, 513, 515, 517, 521, 522, 523, 525, 533, 536, 540, 543, 545, 546, 547, 548, 550, 551, 555, 556, 557, 559, 560, 561, 562, 563, 564, 565, 567, 568, 570, 571, 572, 573, 574, 575, 576, 577, 578, 581, 585, 591, 592, 593, 594, 596, 597, 598, 599, 600, 601, 602, 603, 612) be awarded to Schieffelin & Co. for the sum of two thousand five hundred and sixty and fourteen one-hundredths dollars (\$2,560.14), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 12, 13, 20, 23, 24, 25, 28, 33, 35, 36, 37, 38, 45, 48, 53, 55, 248, 262, 263, 265, 268, 281, 282, 283, 289, 290, 291, 293, 296, 302, 303, 305, 306, 308, 315, 325, 329, 333, 340, 341, 342, 343, 347, 348, 355, 356, 357, 362, 363, 376, 377, 380, 382, 385, 392, 397, 398, 399, 400, 401, 402, 408, 409, 410, 413, 429, 431, 432, 433, 436, 440, 441, 444, 448, 462, 463, 465, 466, 467, 468, 477, 478, 483, 484, 486, 488, 489, 490, 491, 492, 493, 494, 495, 496, 508, 512, 513, 515, 517, 521, 522, 523, 525, 533, 536, 540, 543, 545, 546, 547, 548, 550, 551, 555, 556, 557, 559, 560, 561, 562, 563, 564, 565, 567, 568, 570, 571, 572, 573, 574, 575, 576, 577, 578, 581, 585, 591, 592, 593, 594, 596, 597, 598, 599, 600, 601, 602, 603, 612) be awarded to Schieffelin & Co. for the sum of two thousand five hundred and sixty and fourteen one-hundredths dollars (\$2,560.14), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 41, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 250, 254, 256, 257, 258, 259, 260, 264, 266, 267, 276, 277, 286, 262a, 288, 294, 295, 298, 301, 304, 307, 309, 310, 316, 317, 318, 321, 322, 323, 330, 331, 332, 334, 335, 336, 337, 339, 344, 349, 350, 353, 354, 359, 360, 361, 365, 366, 368, 370, 373, 375, 378, 379, 386, 387, 388, 394, 396, 411, 412, 417, 418, 419, 421, 422, 423, 430, 437, 439, 442, 445, 446, 447, 449, 451, 454, 456, 458, 459, 469, 472, 473, 479, 482, 497, 500, 501, 502, 503, 504, 505, 506, 507, 510, 511, 514, 516, 518, 519, 526, 527, 528, 529, 535, 537, 539, 541, 542, 543, 545, 547, 548, 550, 551, 553, 555, 556, 558, 560, 561, 562, 563, 564, 565, 567, 568, 570, 571, 572, 573, 574, 575, 576, 577, 578, 581, 585, 591, 592, 593, 594, 596, 597, 598, 599, 600, 601, 602, 603, 612) be awarded to the Perth Amboy Chemical Works for the sum of nine hundred and forty-one and twenty-four

be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, disinfection stations, office buildings and stables of this Department during the year 1904 (Line Nos. 122, 123, 605, 606, 607, 608, 609, 610, 611, 613, 614, 615, 616, 618, 619 and 620) be and is hereby awarded to Seabury & Johnson for the sum of six hundred and thirty-eight and forty one-hundredths dollars (\$638.40), they being the lowest bidders, subject to the approval of sureties by the Comptroller, and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 539, 544, 549, 552, 553, 569 and 580), be and is hereby awarded to Meinecke & Co. for the sum of four hundred and thirty-five and fifty-three one-hundredths dollars (\$435.53), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 5, 6, 7, 9, 10, 14, 19, 27, 30, 32, 42, 51, 59, 61, 67, 74, 82, 83, 85, 86, 87, 91, 93, 94, 124, 129, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 145, 148, 152, 153, 154, 157, 158, 159, 171, 173, 174, 175, 176, 177, 178, 188, 189, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 216, 217, 218, 219, 222, 223, 227, 228, 229, 230, 237, 238, 239, 240, 241, 587, 588, 589 and 590) be and is hereby awarded to the Bausch & Lomb Optical Company for the sum of three hundred and eighty-seven and ninety-two one-hundredths dollars (\$387.92), they being the lowest bidders, subject to the approval of the sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 242, 324, 326, 327, 328, 338, 345, 346, 351, 352, 364, 367, 369, 371, 381, 384, 389, 390, 391, 393, 395, 403, 404, 405, 406, 407, 414, 415, 416, 420, 424, 425, 426, 427 and 428) be and is hereby awarded to Scharp & Dohme for the sum of three hundred and twenty-one and twenty-one one-hundredths dollars (\$321.20), they being the lowest bidders, subject to the approval of sureties by the Corporation Counsel; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 8, 34, 156, 192, 224, 541, 542, 554, 558, 566, 582 and 604) be and is hereby awarded to James T. Dougherty for the sum of three hundred and twenty-nine and two one-hundredths dollars (\$329.02), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Lines Nos. 57, 60, 66, 68, 69, 70, 71, 72, 73, 84, 88, 89, 90, 95, 96, 97, 98, 99, 125, 126, 127, 130, 131, 132, 143, 144, 147, 149, 150, 151, 155, 160, 161, 162, 163, 179, 180, 181, 209, 220, 231, 232, 233, 234, 235 and 236), be and is hereby awarded to B. G. Amend for the sum of three hundred and four and sixty-four one-hundredths dollars (\$304.64), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Lines Nos. 92, 190, 191, 214, 215, 221, 226, 584 and 586) be and is hereby awarded to Emil Greiner for the sum of one hundred and forty-three and forty-nine one-hundredths dollars (\$143.49), he being the lowest bidder, subject to the approval of sureties by the Comptroller, and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Lines Nos. 3, 15, 16, 17, 18, 22, 29, 31, 39, 43, 47, 49, 52, 58, 249, 252, 255, 261, 270, 271, 275, 278, 280, 287, 297, 299, 300, 311, 319 and 438) be and is hereby awarded to George Merck for the sum of one hundred and seventy-eight one-hundredths dollars (\$100.78), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line No. 383) be and is hereby awarded to Leo Dreyfus for the sum of eighty-one dollars (\$81), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line No. 524) be and is hereby awarded to the Hascal Soap Company for the sum of seventy-six and eighty one-hundredths dollars (\$76.80), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Lines Nos. 531 and 532) be and is hereby awarded to Cheseborough & Co. for the sum of fifty-five and fifty one-hundredths dollars (\$55.50), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering as required, chemicals, disinfectants, drugs, horse feed and liquor to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 62, 63, 64, 65, 75, 76, 77, 78, 79, 80, 81, 128, 164, 165, 166, 167, 168, 169, 170, 172, 182, 183, 184, 185, 186, 187, 193, 207, 208, 210, 211, 212, 213, 225, 579 and 583) be and is hereby awarded to the Kny-Scheerer Company, for the sum of sixty-two and eighty-four one-hundredths dollars (\$62.84), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering as required, chemicals, disinfectants, drugs, horse feed and liquor to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 62, 63, 64, 65, 75, 76, 77, 78, 79, 80, 81, 128, 164, 165, 166, 167, 168, 169, 170, 172, 182, 183, 184, 185, 186, 187, 193, 207, 208, 210, 211, 212, 213, 225, 579 and 583) be and is hereby awarded to the Kny-Scheerer Company, for the sum of sixty-two and eighty-four one-hundredths dollars (\$62.84), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 4 and 253) be and is hereby awarded to the White Tar Company, for the sum of twenty-seven and seventy-five one hundredths dollars (\$27.75), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors, to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 650, 651, 652, 653, 654, 655, 657, 658, 659, 660, 661, 662, 663, 665, 667 and 670) be and is hereby awarded to Gasteiger & Schaeffer for the sum of two thousand eight hundred and seventy-six and fifty-five one hundredths dollars (\$2,876.55), they being the lowest bidders, subject to the approval of the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648 and 649), be and is hereby awarded to Eidl & Wyand, for the sum of two thousand six hundred and eight and sixty-eight one-hundredths dollars (\$2,668.68), they being the lowest bidders, subject to the approval of the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 666, 668, 669, 670, 671, 672 and 673), be and is hereby awarded to McGinn & Donnelly, for the sum of five hundred and seventy and ten one-hundredths dollars (\$570.10), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 656 and 664) be and is hereby awarded to Horace Ingersoll for the sum of eleven dollars (\$11), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line Nos. 622 and 624) be and is hereby awarded to Luyties Brothers for the sum of one thousand four hundred and eighty-six and seventy-five one-hundredths dollars (\$1,486.75), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904 (Line No. 623) be and is hereby awarded to Sonn Brothers' Company for the sum of three hundred and fifteen dollars (\$315), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the proposals of A. L. Hirsch, Schieffelin & Co., Perth Amboy Chemical Works, George McKesson, Lehn & Fink, Seabury & Johnson, Meinecke & Co., Bausch & Lomb Optical Company, Sharp & Dohme, James T. Dougherty, B. G. Amend, Emil Greiner, George Merck, Leo Dreyfus, Hascal Soap Company, Cheseborough & Co., Kny-Scheerer Company, White Tar Company, Gasteiger & Schaeffer, Eidl & Wyand, McGinn & Donnelly, Horace Ingersoll, Luyties Brothers, Sonn Brothers' Company and P. W. Engs Sons' Company, for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904, be forwarded to the Comptroller for approval of sureties.

On motion, it was

Resolved, That the security deposits on bids of estimates for furnishing and delivering, as required, chemicals, disinfectants, drugs, horse feed and liquors to the hospitals, laboratories, office buildings, disinfection stations and stables of this Department during the year 1904, opened by the President of the Board of Health, December 24, 1903, pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board, be forwarded to the Comptroller, as follows:

Luyties Brothers, check .....	\$37 17
Abram L. Hirsh, check .....	120 00
Horace Ingersoll, check .....	150 00
W. A. Ross & Brother, check .....	6 65
George C. McKesson, check .....	297 00
The Hascal Soap Company, check .....	5 00
P. W. Engs & Sons Company, check .....	65 00
Leopold Mayer, check .....	15 00
Schieffelin & Company, check .....	225 00
Seabury & Johnson, cash .....	35 00
The Kny-Scheerer Company, check .....	55 72
D. M. Koehler & Sons Company, cash .....	40 00
Meinecke & Co., cash .....	65 00
Sharp & Dohme, check .....	34 13
Perth Amboy Chemical Works, cash .....	25 00
Lewis Steinhardt, check .....	100 45
Henry Hollander, cash .....	52 00
A. Klipstein & Co., check .....	59 48
Lehn & Fink, check .....	115 00
Bausch & Lomb Optical Company, check .....	45 00
George Merck, check .....	47 00
The White Tar Company, cash .....	38 00
Emil Greiner, check .....	61 00
West Disinfecting Company, check .....	80 00
Eimer & Amend, check .....	75 00
Leo Dreyfus, cash .....	5 60
Eidl & Wyand, check .....	65 22
Mallard Distilling Company, check .....	80 00
John Lefler & Co., check .....	62 50
The Cook & Bernheimer Company, check .....	63 44

George N. Reinhardt, cash.....	\$70 00
Sohn Brothers Company, check.....	100 00
James F. Dougherty, cash.....	30 00
Gasteiger & Schaefer, cash.....	150 00
Wm. S. Gray, check.....	53 75
McGinn & Donnelly, cash.....	20 00
Cheseborough Manufacturing Company, check.....	2 78

Pursuant to notice in the "City Record," bids or estimates for furnishing and delivering milk to the Department of Health for the use of the Willard Parker Hospital, the Reception Hospital, the Vaccine Laboratory and the Research Laboratory, at the foot of East Sixteenth street, Borough of Manhattan; the Riverside Hospital, at North Brother Island, Borough of The Bronx, and the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, during the year 1904, opened by the President December 23, 1903, under resolution adopted by the Board of Health September 12, 1902, authorizing the President to open bids for furnishing this Department with supplies, repairs, etc., tabulate the same and report thereon to the Board at the regular meeting next thereafter, were submitted for the approval of the Board, as follows:

McDermott-Bunger Dairy Company.

W. M. Evans.

Empire State Dairy Company.

On motion, it was

Resolved, That the contract for furnishing and delivering milk to the Department of Health for the use of the Willard Parker Hospital, the Reception Hospital, the Vaccine Laboratory and the Research Laboratory at the foot of East Sixteenth street, Borough of Manhattan, and the Riverside Hospital, North Brother Island, Borough of The Bronx, City of New York, for the year 1904, be awarded to the McDermott-Bunger Dairy Company, as follows:

Willard Parker Hospital, 37,000 quarts, 43 1/4 cents per quart;

Reception Hospital, 12,500 quarts, 43 1/4 cents per quart;

Vaccine Laboratory, 6,000 quarts, 43 1/4 cents per quart;

Research Laboratory, 1,500 quarts, 43 1/4 cents per quart;

Riverside Hospital, 65,000 quarts, 43 1/4 cents per quart;

—they being the lowest bidders, subject to the approval of sureties by the Comptroller, and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the contract for furnishing and delivering milk to the Department of Health for the use of the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, during the year 1904 (72,500 quarts at 4.23-40 cents per quart), be awarded to the Empire State Dairy Company, they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the proposals of the McDermott-Bunger Dairy Company and the Empire State Dairy Company for furnishing and delivering milk to the Department of Health for the use of the Willard Parker Hospital, the Reception Hospital, the Vaccine Laboratory and the Research Laboratory, at the foot of East Sixteenth street, Borough of Manhattan; the Riverside Hospital, at North Brother Island, Borough of The Bronx, and the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, during the year 1904, be forwarded to the Comptroller for approval of sureties.

On motion, it was

Resolved, That the security deposits on bids or estimates for furnishing milk to the Department of Health, for use of the hospitals and laboratories of this Department, opened by the President of the Board of Health pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board, be forwarded to the Comptroller as follows:

McDermott-Bunger Dairy Company, cash.....	\$250 00
Empire State Dairy Company, cash.....	100 00
W. M. Evans, check.....	90 63

Pursuant to notice in the "City Record," bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a laundry building at the Riverside Hospital, North Brother Island, Borough of The Bronx, City of New York, opened by the President of the Board of Health December 28, 1903, under resolution of the Board adopted September 12, 1902, authorizing the President to open bids for furnishing this Department with supplies, repairs, etc., tabulate the same and report thereon to the Board at the regular meeting next thereafter, were submitted for the approval of the Board, as follows:

John Boyd .....	\$38,865 00
Casey & Long .....	43,137 00
W. E. Elderd .....	37,370 00

On motion, it was

Resolved, That the contract for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a laundry building at the Riverside Hospital, North Brother Island, Borough of The Bronx, City of New York, be and is hereby awarded to W. E. Elderd, for the sum of thirty-seven thousand three hundred and seventy dollars (\$37,370), he being the lowest bidder, subject to the approval of sureties by the Comptroller, and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the proposal of W. E. Elderd for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a laundry building at the Riverside Hospital, North Brother Island, Borough of The Bronx, be forwarded to the Comptroller for approval of sureties.

On motion, it was

Resolved, That the security deposits on bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a laundry building at the Riverside Hospital, North Brother Island, Borough of The Bronx, City of New York, opened by the President of the Board of Health December 28, 1903, pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board, be forwarded to the Comptroller, as follows:

John Boyd, check.....	\$1,000 00
Casey & Long, check.....	1,100 00
W. E. Elderd, check.....	935 00

Pursuant to notice in the "City Record," bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof administration building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, opened by the President December 28, 1903, under resolution adopted by the Board of Health September 12, 1902, authorizing the President to open bids for furnishing this Department with supplies, repairs, etc., tabulate the same and report thereon to the Board at the regular meeting next thereafter, were submitted for the approval of the Board, as follows:

John H. Parker Company .....	\$164,235 00
Luke A. Burke .....	169,621 00
John R. Sheehan & Co. .....	168,700 00
Kelly & Kelley .....	168,800 00

On motion, it was

Resolved, That the contract for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof administration building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, be and is hereby awarded to John

H. Parker Company for the sum of one hundred and sixty-four thousand two hundred and thirty-five dollars (\$164,235), they being the lowest bidders, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the proposal of John H. Parker Company for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof administration building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, be forwarded to the Comptroller for approval of sureties.

On motion, it was

Resolved, That the security deposits on bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof administration building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, opened December 28, 1903, by the President of the Board of Health, pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board, be forwarded to the Comptroller as follows:

John H. Parker Company, check.....	\$5,000 00
Luke A. Burke, check.....	4,250 00
John R. Sheehan & Co., check.....	4,500 00
Kelly & Kelley, check.....	4,800 00

Pursuant to notice in the "City Record" bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof laboratory building on the grounds of the Willard Parker Hospital, at the foot of East Sixteenth street, Borough of Manhattan, City of New York, opened December 29, 1903, by the President of the Board of Health, under resolution adopted by the Board September 12, 1902, authorizing the President to open bids for furnishing this Department with supplies, repairs, etc., tabulate the same and report thereon to the Board at the regular meeting next thereafter, were submitted for the approval of the Board as follows:

Luke A. Burke .....	\$115,000 00
John R. Sheehan & Co. .....	119,300 00

On motion, it was

Resolved, That the contract for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof laboratory building on the grounds of the Willard Parker Hospital, at the foot of East Sixteenth street, Borough of Manhattan, City of New York, be and is hereby awarded to Luke A. Burke for the sum of one hundred and fifteen thousand dollars (\$115,000), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion, it was

Resolved, That the proposal of Luke A. Burke for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof laboratory building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, be forwarded to the Comptroller for approval of sureties.

On motion, it was

Resolved, That the security deposits on bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a fireproof laboratory building on the grounds of the Willard Parker Hospital, foot of East Sixteenth street, Borough of Manhattan, City of New York, opened by the President of the Board of Health December 29, 1903, pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board, be forwarded to the Comptroller as follows:

Luke A. Burke check.....	\$3,000 00
John R. Sheehan & Co., check.....	3,000 00

Pursuant to notice in the "City Record," bids or estimates for furnishing all the labor and furnishing all the materials necessary or required to complete a nurses' home at the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, opened December 29, 1903, by the President of the Board of Health, under resolution adopted by the Board September 12, 1902, authorizing the President to open bids for furnishing this Department with supplies, repairs, etc., tabulate the same, and report thereon to the Board at the regular meeting next thereafter, were submitted to the Board, as follows:

George Hildebrand .....	\$87,900 00
Kelly & Kelley .....	78,100 00
Daniel J. Ryan .....	73,500 00
James MacArthur .....	87,155 00
Myron C. Rush .....	87,000 00

On motion it was

Resolved, That the contract for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a nurses' home at the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, be and is hereby awarded to Daniel J. Ryan for the sum of seventy-three thousand five hundred dollars (\$73,500), he being the lowest bidder, subject to the approval of sureties by the Comptroller; and the President be and is hereby authorized to execute the contract in the form approved by the Corporation Counsel.

On motion it was

Resolved, That the proposal of Daniel J. Ryan for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a nurses' home on the grounds of the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, be forwarded to the Comptroller for approval of sureties.

On motion it was

Resolved, That the security deposits on bids or estimates for furnishing all the labor and furnishing and erecting all the materials necessary or required to complete a nurses' home on the grounds of the Kingston Avenue Hospital, Kingston avenue and Fenimore street, Borough of Brooklyn, City of New York, opened by the President of the Board of Health December 29, 1903, pursuant to a resolution adopted by the Board September 12, 1902, authorizing the President to open bids for supplies, repairs, etc., on behalf of the Board of Health, be forwarded to the Comptroller, as follows:

George Hildebrand, check .....	\$3,000 00
Kelly & Kelley, check .....	\$2,200 00
Daniel J. Ryan, check .....	1,837 50
James MacArthur, check .....	2,200 00
Myron C. Rush, check .....	2,175 00

On motion the Board adjourned.

EUGENE W. SCHEFFER, Secretary,

## BOARD OF EXAMINERS.

JANUARY 12, 1904.

Present—William J. Fryer, Warren A. Conover, Charles Buck, William C. Smith, Charles G. Smith, Charles W. Kruger and Walter Cook (Chairman).

Mr. William J. Fryer stated that he had been re-elected (for the period of one year) as the representative of the Society of Architectural Iron Manufacturers; that he had taken the oath of office and filed notice of election, all as required by law. Appeal 250—On presentation of report and on motion, appeal was approved. Appeal 252—(Laid over pending appearance of appellant, also additional drawings required.)

Drawings filed on the 11th inst.

Mr. J. W. Boylson appeared before the Board.

On motion, approved as amended by letter of January 4, and by drawings submitted to the Board this day.

Appeal 253—On presentation of report and on motion, appeal was approved.

Appeal 254—On presentation of report and on motion, appeal was denied.

Appeal 255—On presentation of report and on motion, appeal was denied.

Appeal 1 of 1904—On presentation of report and on motion, appeal was respectfully returned to the Acting Chief of the Fire Department for further information.

Appeal 2 of 1904—Report presented stated that "fireproof shutters are actually necessary on window on east side of this building in light shaft; also on three windows on rear extension (which have access to building No. 76 Fifth avenue)."

On motion, report accepted and its conclusions adopted as the decision of this Board, namely, that the petition be denied as to the windows mentioned and specified in the report, and granted as to any other windows in said building.

Appeal 3 of 1904—Fireproof Shutter Case 3 of 1903, No. 302 Broadway, Manhattan, Nicholas Biddle, appellant.

On motion, referred to Acting Chief Kruger for examination and report, with recommendation.

Appeal 4 of 1904—Alteration 1903 of 1903, northeast corner Eighth avenue and Fifty-fourth street, Manhattan, Neville & Bagge, architects and appellants:

No. 4—The three buildings will be converted into one hotel; therefore building should be fireproof and occupy not more than 95 per cent. of lot area. See section 10 of the Building Code.

The Superintendent of Buildings has refused to mode of construction and the materials proposed to be used in the alteration.

To allow the plans to be approved as originally filed, showing twenty-four rooms without making said building fireproof.

The building was originally three separate buildings, and were used as boarding houses, and we are merely combining the three buildings into one, which, when completed, will be smaller than the ordinary sized building, being only 24 feet 9 1/2 inches by 64 feet, as we are not increasing the number of rooms originally shown in the three houses, and as we are willing to place such fire-escape accommodation which may be required, to make good for the stairs which we propose to remove, it is requested that the law which limits such non-fireproof buildings to fifteen rooms be modified so that this may be approved as originally shown.

No appearance.

On motion, laid over, the Clerk being instructed to notify appellants to appear before the Board on the 19th inst.

On motion,

Resolved, That in view of the cessation of the services of Mr. James Gaffney, for the past two years Clerk to this Board, the Board desires to place on record an expression of complete satisfaction with the able, efficient and faithful services rendered by him throughout that period.

The Clerk was instructed to send a copy of this minute to Mr. Gaffney.

Adjourned.

THOMAS F. DONOHUE, Clerk.

## EXAMINING BOARD OF PLUMBERS.

### Report for the Year 1903.

OFFICE OF EXAMINING BOARD OF PLUMBERS,  
CITY OF NEW YORK, No. 149 CHURCH STREET,  
NEW YORK, January 10, 1904.

Hon. GEORGE B. McCLELLAN, Mayor:

HONORABLE SIR—Enclosed we respectfully submit a report of appropriation, expenditures and transfer to General Fund for the year 1903.

Respectfully,

WILLIAM MONTGOMERY,  
President, Examining Board of Plumbers.

Appropriation, Expenditures and Transfer to General Fund for the year 1903.—Examining Board of Plumbers.

TITLE OF APPROPRIATION.	APPROPRIATION.	EXPENDITURES.	TRANSFER TO GENERAL FUND.
Examiners' fees .....	\$3,900 00	\$3,900 00	.....
Salary of clerk.....	1,000 00	999 96	10 04
Supplies and contingencies.....	254 00	228 44	25 56
Total .....	\$5,154 00	\$5,128 40	\$25 60

OFFICE OF EXAMINING BOARD OF PLUMBERS,  
CITY OF NEW YORK, No. 149 CHURCH STREET,  
NEW YORK, January 8, 1904.

Hon. GEORGE B. McCLELLAN, Mayor:

HONORABLE SIR—The Examining Board of Plumbers respectfully submit their report of work done during the year 1903:

Number of applicants examined ..... 216

Certificates granted ..... 151  
Applicants rejected ..... 54  
Examinations pending ..... 11

Amount of money received from applicants ..... \$1,080 00  
Deposited with City Chamberlain ..... 1,080 00

Respectfully submitted,  
WILLIAM MONTGOMERY,  
President, Examining Board of Plumbers.

OFFICE OF EXAMINING BOARD OF PLUMBERS,  
CITY OF NEW YORK, No. 149 CHURCH STREET,  
NEW YORK, January 8, 1904.

Hon. GEO. B. McCLELLAN, Mayor:

HONORABLE SIR—We respectfully submit our report for quarter ending December 31, 1903:

Applicants examined ..... 65

Certificates granted ..... 47  
Applicants rejected ..... 11  
Examinations pending ..... 7

Money received from applicants ..... \$325 00  
Deposited with City Chamberlain ..... 325 00

Respectfully,  
WILLIAM MONTGOMERY,  
President, Examining Board of Plumbers.

### CHANGES IN DEPARTMENTS.

#### BOARD OF CITY MAGISTRATES.

Second Division.

January 16—At meeting of the Board of City Magistrates of the Second Division of The City of New York, held this day, the following-named persons were appointed to the office of Police Clerk of the City Magistrates' Courts, in the Borough of Brooklyn, for the term of four years, commencing January 19, 1904, and ending on the 18th day of January, 1908, at a salary of \$2,500 per annum:

Charles J. Flanigan, Jr., No. 648 Halsey street, Brooklyn, N. Y.

William J. Hunter, Ocean parkway and Eighteenth avenue, Parkville, Brooklyn, N. Y.

#### DEPARTMENT OF PARKS.

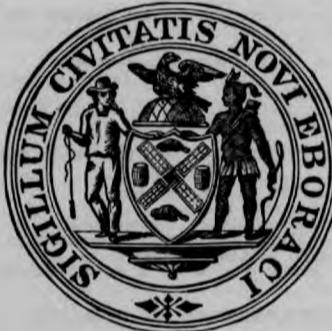
Borough of The Bronx.

January 9—Reinstatement in this Department of John E. O'Neill, No. 630 East One Hundred and Forty-second street, Laborer; to take effect January 9, 1904.

#### DEPARTMENT OF DOCKS AND FERRIES.

January 16—Herman Goldberg, who was appointed as Topographical Draughtsman on October 20, 1903, has thus far failed to report for duty. His appointment has, therefore, been rescinded.

James Keeley, No. 174 East Eightieth street, Borough of Manhattan, has been appointed Machinist, temporarily, for a period not to exceed fifteen days, with compensation at the rate of 50 cents per hour while employed. The appointment of Thomas Cook as Machinist has been changed from five days to fifteen days.



#### OFFICIAL DIRECTORY.

##### CITY OFFICERS.

STATEMENT OF THE HOURS DURING WHICH THE PUBLIC OFFICES IN THE CITY ARE OPEN FOR BUSINESS, AND AT WHICH THE COURTS REGULARLY OPEN AND ADJOURN, AS WELL AS OF THE PLACES WHERE SUCH OFFICES ARE KEPT AND SUCH COURTS ARE HELD; TOGETHER WITH THE HEADS OF DEPARTMENTS AND COURTS:

##### EXECUTIVE DEPARTMENT.

Mayor's Office.

No. 5 City Hall, 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

Telephone 700 Cortlandt.

GEORGE B. McCLELLAN, Mayor.

JOHN H. O'BRIEN, Secretary.

G. TARLETON GOLDTHWAITE, Assistant Secretary.

THOMAS HASSETT, Chief Clerk.

##### Bureau of Licenses.

9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

Telephone 700 Cortlandt.

JOHN P. CORRIGAN, Chief of Bureau.

Principal Office, Room 1, City Hall, GAETANO D'AMATO, Deputy Chief, Boroughs of Manhattan and The Bronx.

Branch Office, Room 12, Borough Hall, Brooklyn; DANIEL J. GRIFFIN, Deputy Chief, Borough of Brooklyn.

Branch Office, Richmond Building, New Brighton, S. I.; WILLIAM R. WORLFE, Financial Clerk, Borough of Richmond.

Branch Office, Hackett Building, Long Island City; CHARLES H. SMITH, Financial Clerk, Borough of Queens.

JOSEPH V. SCULLY, Deputy City Clerk, Borough of Brooklyn.

THOMAS MURPHY, First Deputy City Clerk.

MICHAEL F. BLAKE, Chief Clerk of the Board of Aldermen.

JOSEPH V. SCULLY, Deputy City Clerk, Borough of Brooklyn.

THOMAS J. McCABE, Deputy City Clerk, Borough of The Bronx.

WILLIAM R. ZIMMERMAN, Deputy City Clerk, Borough of Queens.

MICHAEL J. COLLINS, Deputy City Clerk, Borough of Richmond.

##### BOARD OF ALDERMEN.

No. 11, City Hall, 9 A. M. to 4 P. M.; Saturday, 10 A. M. to 12 M.

Telephone 5365 Cortlandt.

P. J. SCULLY, City Clerk and Clerk of the Board of Aldermen.

THOMAS MURPHY, First Deputy City Clerk.

MICHAEL F. BLAKE, Chief Clerk of the Board of Aldermen.

JOSEPH V. SCULLY, Deputy City Clerk, Borough of Brooklyn.

THOMAS J. McCABE, Deputy City Clerk, Borough of The Bronx.

WILLIAM R. ZIMMERMAN, Deputy City Clerk, Borough of Queens.

MICHAEL J. COLLINS, Deputy City Clerk, Borough of Richmond.

##### DEPARTMENT OF FINANCE.

No. 11, City Hall, 9 A. M. to 4 P. M.; Saturday, 10 A. M. to 12 M.

Telephone 39 Cortlandt.

CHARLES V. FORBES, President.

P. J. SCULLY, City Clerk.

##### TENEMENT HOUSE BUREAU AND BUILDING BUREAU.

No. 61 Irving place, 9 A. M. to 5 P. M.; Saturday, 9 A. M. to noon.

JOHN P. O'BRIEN, Assistant, in charge.

##### BUREAU FOR COLLECTION ARREARS OF PERSONAL TAXES.

No. 280 Broadway (Stewart Building). Office hours for the public, 10 A. M. to 2 P. M.; Saturday, 10 A. M. to 12 M.

HENRY STEINERT, Assistant, in charge.

##### BUREAU FOR THE RECOVERY OF PENALTIES.

Nos. 119 and 121 Nassau street, 9 A. M. to 5 P. M.; Saturday, 9 A. M. to 12 M.

HERMAN STIRFEL, Assistant, in charge.

##### BUREAU OF STREET OPENINGS.

Nos. 90 and 92 West Broadway, 9 A. M. to 5 P. M.; Saturday, 9 A. M. to 12 M.

JOHN P. DUNN, Assistant, in charge.

##### COMMISSIONERS OF ACCOUNTS.

Rooms 114 and 115, Stewart Building, 9 A. M. to 4 P. M.; Telephone 4315 Franklin.

JOHN C. HERTLE, WILLIAM HARMON BLACK, Commissioners.

## COMMISSIONERS OF SINKING FUND.

GEORGE B. McCLELLAN, Mayor, Chairman; EDWARD M. GROUT, Comptroller; PATRICK KEENAN, Chamberlain; CHARLES V. FORNES, President of the Board of Aldermen, and JOHN T. McCALL, Chairman, Finance Committee, Board of Aldermen, Members. N. TAYLOR PHILLIPS, Deputy Comptroller, Secretary.

Office of Secretary, Room No. 12, Stewart Building.

## BOARD OF ESTIMATE AND APPORTIONMENT.

Telephone, Finance Department, 2070 Franklin. Telephone, Public Improvements, 8020 Cortlandt.

THE MAYOR, Chairman; the COMPTROLLER, President of the Board of Aldermen, President of the Borough of Manhattan; PRESIDENT OF THE BOROUGH OF BROOKLYN, President of the Borough of the Bronx, President of the Borough of Queens, President of the Borough of Richmond.

JAMES W. STEVENSON, Deputy Comptroller, Secretary, Finance Department, No. 280 Broadway; JOHN H. MOONEY, Assistant Secretary, Public Improvements, City Hall; CHARLES V. ADEE, Clerk of the Board, Finance Department, No. 280 Broadway.

## AQUEDUCT COMMISSIONERS.

Room 207, Stewart Building, 5th floor, 9 A. M. to 4 P. M. Telephone, 1942 Franklin.

THE MAYOR, the COMPTROLLER, *ex officio*; Commissioners WILLIAM H. TEN EYCK (President), JOHN J. RYAN, WILLIAM E. CURTIS and JOHN P. WINDOLPH; HARRY W. WALKER, Secretary; WILLIAM R. HILL, Chief Engineer.

## BOARD OF ARMORY COMMISSIONERS.

THE MAYOR, GEORGE B. McCLELLAN, Chairman; THE PRESIDENT OF THE DEPARTMENT OF TAXES AND ASSESSMENTS, FRANK A. O'DONNELL, Vice-Chairman; THE PRESIDENT OF THE BOARD OF ALDERMEN, CHARLES V. FORNES; Brigadier-General JAMES McLEER and Brigadier-General GEORGE MOORE SMITH, Commissioners.

FRANK J. BELL, Acting Secretary, Stewart Building, No. 280 Broadway. Office hours, 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

## POLICE DEPARTMENT.

## Central Office.

No. 300 Mulberry street, 9 A. M. to 4 P. M. Telephone, 3100 Spring.

WILLIAM McAPOD, Commissioner.

THOMAS F. McAVOY, First Deputy Commissioner.

HENRY F. HAGGERTY, Second Deputy Commissioner.

JOHN F. COWAN, Third Deputy Commissioner.

## BOARD OF ELECTIONS.

Headquarters, General Office, No. 107 West Forty-first street.

Commissioners—JOHN R. VOORHIS (President), CHARLES B. PAGE (Secretary), JOHN MAGUIRE, RUDOLPH C. FULLER.

A. C. ALLEN, Chief Clerk of the Board.

## BOROUGH OFFICES.

## Manhattan.

No. 112 West Forty-second street.

WILLIAM C. BAXTER, Chief Clerk.

## The Bronx.

One Hundred and Thirty-eighth street and Mott avenue (Solingen Building).

CORNELIUS A. BUNNER, Chief Clerk.

## Brooklyn.

No. 42 Court street.

GEORGE RUSSELL, Chief Clerk.

## Queens.

No. 51 Jackson avenue, Long Island City.

CARL VOEGEL, Chief Clerk.

## Richmond.

Staten Island Savings Building, Stapleton, S. I.

ALEXANDER M. ROSS, Chief Clerk.

All offices open from 9 A. M. to 4 P. M.; Saturday, 9 A. M. to 12 M.

## DEPARTMENT OF BRIDGES.

Nos. 13 to 21 Park row, 9 A. M. to 4 P. M.; Saturdays 9 A. M. to 12 M. Telephones: 6080 Cortlandt, Manhattan; 2206 Main, Brooklyn; 1054 Melrose, The Bronx; 527 Greenpoint, Queens. GEORGE E. BEST, Commissioner.

GOTTIFRED WESTERNACHER, Deputy.

## DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY.

Nos. 13 to 21 Park row, 9 A. M. to 4 P. M.

Telephones: Manhattan, 256 Cortlandt; Brooklyn, 3980 Main; Queens, 430 Greenpoint; Richmond, 39 Tompkinsville; Bronx, 62 Tremont. JOHN T. OAKLEY, Commissioner.

FRANK J. GOODWIN, Deputy Commissioner.

NICHOLAS S. HILL, Jr., Chief Engineer.

GEORGE W. BIRDSALL, Consulting Hydraulic Engineer.

GEORGE F. SEVER, Consulting Electrical Engineer.

CHARLES F. LACOMBE, Engineer of Surface Construction.

JOSEPH W. SAVAGE, Water Registrar, Manhattan.

WILLIAM M. BLAKE, Secretary to the Department.

THOMAS F. BYRNES, Deputy Commissioner, Borough of Brooklyn, Municipal Building, Brooklyn.

WILLIAM R. McGuIRE, Water Registrar, Brooklyn.

THOMAS H. O'NEIL, Deputy Commissioner, Borough of The Bronx, Crotona Park Building, One Hundred and Seventy-seventh street and Third avenue.

JOHN G. BORGSTEDT, Water Registrar, The Bronx.

GUSTAVE A. ROULLIER, Deputy Commissioner, Borough of Queens, Hackett Building, Long Island City.

J. MILLER, Deputy Commissioner, Borough of Richmond, Richmond Building, New Brighton, S. I.

## FIRE DEPARTMENT.

Office hours for all, except where otherwise noted, from 9 A. M. to 5 P. M.; Saturdays, 12 M. Headquarters.

Nos. 157 and 159 East Sixty-seventh street. Telephone, 2230 Plaza, Manhattan; 2653 Main, Brooklyn.

NICHOLAS J. HAYES, Fire Commissioner.

WILLIAM A. DOYLE, Deputy Commissioner, Boroughs of Brooklyn and Queens.

ALFRED W. DOWNES, Secretary.

CHARLES W. KRUGER, Acting Chief of Department and in charge of Fire Alarm Telegraph.

JAMES F. MURRAY, Deputy Chief, in charge of Boroughs of Brooklyn and Queens.

GEORGE E. MURRAY, Inspector of Combustibles, Acting Fire Marshal, Boroughs of Manhattan, The Bronx and Richmond. Central office open at all hours.

Committee to examine persons who handle explosives meets Thursday of each week at 2 o'clock P. M.

## MUNICIPAL EXPLOSIVES COMMISSION.

Nos. 157 and 159 East Sixty-seventh street, Headquarters Fire Department.

Fire Commissioner, NICHOLAS J. HAYES, Chairman; WILLIAM J. CHARLTON, Esq.; Gen. GEORGE O. EATON, J. AMORY HASKELL, Esq., Dr. CHARLES F. MCKENNA.

Office hours, 9 A. M. to 5 P. M.; Saturdays, 9 A. M. to 12 M.

## DEPARTMENT OF STREET CLEANING.

Nos. 13 to 21 Park row, 9 A. M. to 4 P. M.

Telephone, 3863 Cortlandt.

JOHN McGAW WOODBURY, Commissioner.

F. M. GIBSON, Deputy Commissioner.

JOHN J. O'BRIEN, Chief Clerk.

## DEPARTMENT OF CORRECTION.

Central Office.

Nos. 148 East Twentieth street. Office hours from 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

Telephone 1047 Eighteenth.

FRANCIS J. LANTRY, Commissioner.

A. C. MACNULTY, Deputy Commissioner.

## DEPARTMENT OF PUBLIC CHARITIES.

Central Office.

Foot of East Twenty-sixth street, 9 A. M. to 5 P. M.

Telephone, 3350 Madison Square.

JAMES H. TULLY, Commissioner for Manhattan and The Bronx.

JAMES E. DOUGHERTY, First Deputy Commissioner.

## BELLEVUE AND ALLIED HOSPITALS.

Telephone 2730 Madison Square.

Board of Trustees—Dr. JOHN W. BRANNAN, ARDEN M. ROBBINS, MYLES TIERNEY, SAMUEL SACHS, JAMES K. PAULDING, MARCUS STINE, THEODORE E. TACK, JAMES H. TULLY.

## TENEMENT HOUSE DEPARTMENT.

Manhattan Office, No. 61 Irving place, south-west corner Eighteenth street.

Telephone, 5331 Eighteenth.

Brooklyn Office, Temple Bar Building, No. 44 Court street.

Bronx Office to be established.

THOMAS C. T. CRAN, Commissioner.

JOHN F. SKELLY, First Deputy Tenement House Commissioner.

WILLIAM BRENNAN, Second Deputy Tenement House Commissioner.

## DEPARTMENT OF DOCKS AND FERRIES.

Pier "A," N. R. Battery place.

Telephone, 1681 Broad.

MAURICE FEATHERSON, Commissioner.

CONRAD HASENFLUG, Deputy Commissioner.

CHARLES J. COLLINS, Secretary.

Office hours, 9 A. M. to 4 P. M.; Saturdays, 12 M.

## DEPARTMENT OF HEALTH.

Southwest corner of Fifty-fifth street and Sixth avenue, Borough of Manhattan, 9 A. M. to 4 P. M. Burial Permit and Contagious Disease Offices always open.

THOMAS DARLINGTON, Commissioner of Health and President.

Telephone, 1204 Columbus.

EUGENE W. SCHIFFER, Secretary.

CHARLES F. ROBERTS, M. D., Sanitary Superintendent.

WILLIAM H. GUILFOY, M. D., Registrar of Records.

WALTER BENSEL, M. D., Assistant Sanitary Superintendent, Borough of Manhattan.

GEORGE SHEIL, M. D., Assistant Sanitary Superintendent, Borough of The Bronx, No. 1237 Franklin avenue.

PATRICK J. MURRAY, M. D., Assistant Sanitary Superintendent, Borough of Brooklyn, Nos. 38 and 40 Clinton street.

SAMUEL HENDRICKSON, M. D., Assistant Sanitary Superintendent, Borough of Queens, Nos. 372 and 374 Fulton street, Jamaica.

JOHN T. SPRAGUE, M. D., Assistant Sanitary Superintendent, Borough of Richmond, Nos. 54 and 56 Water street, Stapleton, Staten Island.

## DEPARTMENT OF PARKS.

JOHN J. PALLAS, Commissioner of Parks for the Boroughs of Manhattan and Richmond and President of the Park Board.

WILLIS HOLLY, Secretary, Park Board.

MICHAEL KENNEDY, Commissioner of Parks for the Boroughs of Brooklyn and Queens.

Offices, Litchfield Mansion, Prospect Park, Brooklyn.

WILLIAM P. SCHMITT, Commissioner of Parks for the Borough of The Bronx.

Offices, Zbrowski Mansion, Claremont Park.

Office hours, 9 A. M. to 4 P. M.; Saturdays, 12 M.

## DEPARTMENT OF TAXES AND ASSESSMENTS.

Stewart Building, No. 280 Broadway. Office hours, 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

FRANK A. O'DONNEL, President; JOHN J. BRADY, EDWARD H. TODD, JAMES B. BOUCK, SAMUEL STRASSBOURGER.

## MUNICIPAL CIVIL SERVICE COMMISSION.

No. 61 Elm street, 9 A. M. to 4 P. M.

JOHN H. MCCOY, President; JOSEPH P. DAY, E. A. CROWNHILL, JEROME SIEGEL, HAL BELL, EUGENE F. O'CONNOR.

HENRY BERLINGER, Secretary.

## BOARD OF ASSESSORS.

Office, No. 320 Broadway, 9 A. M. to 4 P. M.; Saturdays, 12 M.

ROBERT MUH, ANTONIO ZUCCA, CHARLES A. O'MALLEY.

## DEPARTMENT OF EDUCATION.

## BOARD OF EDUCATION.

Park avenue and Fifty-ninth street, Borough of Manhattan, 9 A. M. to 5 P. M. (in the month of August, 9 A. M. to 4 P. M.); Saturdays, 9 A. M. to 12 M.

HENRY A. ROGERS, President; FRANK L. BARTON, Vice-President; A. EMERSON PALMER, Secretary.

WILLIAM H. MAXWELL, City Superintendent of Schools.

C. B. J. SNYDER, Superintendent of School Buildings.

PATRICK JONES, Superintendent of School Supplies.

HENRY R. M. COOK, Auditor.

HENRY M. LEIPZIG, Supervisor of Lectures.</

## PUBLIC ADMINISTRATOR.

No. 103 Third street, Long Island City, 9 A. M. to 5 P. M.  
CHARLES A. WADLEY, Public Administrator.

## RICHMOND COUNTY OFFICES.

## COUNTY JUDGE AND SURROGATE.

Terms of Court, Richmond County, 1902:  
County Courts—STEPHEN D. STEPHENS, County Judge.

First Monday of June, Grand and Trial Jury;  
First Monday of December, Grand and Trial Jury;

Fourth Wednesday of January, without a Jury;  
Fourth Wednesday of February, without a Jury;

Fourth Wednesday of March, without a Jury;

Fourth Wednesday of April, without a Jury;

Fourth Wednesday of July, without a Jury;

Fourth Wednesday of September, without a Jury;

Fourth Wednesday of October, without a Jury;

—All at the Courthouse at Richmond.

Surrogate's Court—STEPHEN D. STEPHENS, Surrogate.

Mondays, at the First National Bank Building, St. George, at 10:30 o'clock A. M.

Tuesdays, at the First National Bank Building, St. George, at 10:30 o'clock A. M.

Wednesdays, at the Surrogate's Office, Richmond, at 10:30 o'clock A. M.

## DISTRICT ATTORNEY.

Port Richmond, S. I.  
Office hours, from 9 A. M. to 12 M., and from 1 P. M. to 5 P. M.

EDWARD S. RAWSON, District Attorney.

## COUNTY CLERK.

County Office Building, Richmond, S. I., 9 A. M. to 4 P. M.

C. L. BOSTWICK, County Clerk.

County Courthouse, Richmond, S. I., 9 A. M. to 4 P. M.

## SHERIFF.

CHARLES J. MCKEARMICK, Sheriff.

## COMMISSIONER OF JURORS.

Village Hall, Stapleton.

CHARLES J. KULLMAN, Commissioner.

J. LOUIS GARRETSON, Commissioner.

Office open from 9 A. M. until 4 P. M.; Saturdays, from 9 A. M. to 12 M.

## THE COURTS.

## APPELLATE DIVISION SUPREME COURT.

## FIRST JUDICIAL DEPARTMENT.

Courthouse, Madison avenue, corner Twenty-fifth street. Court opens at 1 P. M.

CHARLES H. VAN BRUNT, Presiding Justice; EDWARD PATTERSON, MORGAN J. O'BRIEN, GEORGE L. INGRAHAM, CHESTER B. MC LAUGHLIN, EDWARD W. HATCH, FRANK C. LAUGHLIN, Justices; ALFRED WAGSTAFF, Clerk. WILLIAM LAMB, Jr., Deputy Clerk.

Court's Office opens at 9 A. M.

SUPREME COURT—FIRST DEPARTMENT.

County Courthouse, Chambers street. Courts open from 10:15 A. M. to 4 P. M.

Special Term, Part I. (motions), Room No. 12.

Special Term, Part II. (ex parte business), Room No. 15.

Special Term, Part III., Room No. 19.

Special Term, Part IV., Room No. 11.

Special Term, Part V., Room No. 30.

Special Term, Part VI. (Elevated Railroad Cases), Room No. 36.

Trial Term, Part II., Room No. 25.

Trial Term, Part III., Room No. 17.

Trial Term, Part IV., Room No. 18.

Trial Term, Part V., Room No. 16.

Trial Term, Part VI., Room No. 24.

Trial Term, Part VII., Room No. 23.

Trial Term, Part VIII., Room No. 33.

Trial Term, Part IX., Room No. 31.

Trial Term, Part X., Room No. 32.

Trial Term, Part XI., Room No. 22.

Trial Term, Part XII., Room No. 34.

Trial Term, Part XIII., and Special Term, VII., Room No. 26.

Appellate Term, Room No. 31.

Naturalization Bureau, Room No. 38, third floor.

Assignment Bureau, room on third floor.

Clerks in attendance from 10 A. M. to 4 P. M.

Clerk's Office, Special Term, Part I. (motions), Room No. 13.

Clerk's Office, Special Term, Part II. (ex parte business), room southwest corner mezzanine floor.

Clerk's Office, Special Term, Calendar, room southeast corner second floor.

Clerk's Office, Trial Term, Calendar, room northwest corner, second floor, east.

Clerk's Office, Appellate Term, room southwest corner third floor.

Trial Term, Part I. (criminal business).

Criminal Courthouse, Centre street.

Justices—CHARLES H. TRUAX, FRANCIS M. SCOTT, CHARLES F. MACLEAN, HENRY BISCHOFF, JR., LEONARD A. GIEGERICH, JOHN J. FREEDMAN, P. HENRY DUGRO, HENRY GILDERSLEEVE, JAMES FITZGERALD, DAVID LEVENTRITT, JAMES A. O'GORMAN, GEORGE C. BARRETT, JAMES A. BLANCHARD, JOHN PROCTOR CLARKE, SAMUEL GREENBAUM, EDWARD E. McCALL, EDWARD B. AMEND, VERNON M. DAVIS.

SUPREME COURT—SECOND DEPARTMENT.

Kings County Courthouse, Borough of Brooklyn, N. Y.

Courts open daily, from 10 o'clock A. M. to 5 o'clock P. M. Five jury trial parts. Special Term for Trials. Special Term for Motions.

GERARD M. STEVENS, General Clerk.

## CRIMINAL DIVISION—SUPREME COURT.

Building for Criminal Courts, Centre, Elm, White and Franklin streets.

Court opens at 10:30 A. M.

THOMAS L. HAMILTON, Clerk; EDWARD R. CARROLL, Special Deputy to the Clerk.

Court's Office open from 9 A. M. to 4 P. M.

## COURT OF GENERAL SESSIONS.

Held in the building for Criminal Courts, Centre, Elm, White and Franklin streets.

Court opens at 10:30 o'clock A. M.

RUFUS B. COWING, City Judge; JOHN W. GOFF, Recorder; JOSEPH E. NEWBURGER, MARTIN T. McMAHON and WARREN W. FOSTER, Judges of the Court of General Sessions. EDWARD R. CARROLL, Clerk.

Court's Office open from 9 A. M. to 4 P. M.

Special Term Chambers will be held from 10 A. M. to 4 P. M.

Court's Office open from 9 A. M. to 4 P. M.

JAMES M. FITZSIMMONS, Chief Justice; JOHN H. McCARTHY, LEWIS J. CONLAN, EDWARD F.

McDAVITT, Clerk.

CITY COURT OF THE CITY OF NEW YORK.

No. 32 Chambers street, Brownstone Building, City Hall Park, from 10 A. M. to 4 P. M.

General Term, Part I.

Part II.

Part III.

Part IV.

Part V.

Special Term Chambers will be held from 10 A. M. to 4 P. M.

Court's Office open from 9 A. M. to 4 P. M.

JAMES M. FITZSIMMONS, Chief Justice; JOHN H. McCARTHY, LEWIS J. CONLAN, EDWARD F.

McDAVITT, Clerk.

COURT OF SPECIAL SESSIONS.

Building for Criminal Courts, Centre street, between Franklin and White streets, Borough of Manhattan.

Court opens at 10 A. M.

Justices—First Division—ELIZUR B. HINSDALE, WILLIAM E. WYATT, JOHN B. MCKEAN, WILLIAM C. HOLBROOK, WILLARD H. OLMSSTEAD, JOSEPH M. DEUEL, WILLIAM M. FULLER, Clerk; JOSEPH H. Jones, Deputy Clerk.

Clerk's Office open from 9 A. M. to 4 P. M.

Second Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Third Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Fourth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Fifth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Sixth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Seventh Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Eighth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Ninth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Tenth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Eleventh Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Twelfth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Thirteenth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Fourteenth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Fifteenth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and Fridays, at 10 o'clock; Town Hall, Jamaica, Borough of Queens, Tuesdays, at 10 o'clock; Town Hall, New Brighton, Borough of Richmond.

Court's Office open from 9 A. M. to 4 P. M.

Sixteenth Division—Trial Days—No. 171 Atlantic

avenue, Brooklyn, Mondays, Wednesdays and

49,700 cubic yards of Filling.  
16,000 linear feet of new Curbstones, furnished and set.  
100 linear feet of old Curbstone, rejoined and reset.  
50,500 square feet of new Flagging, furnished and laid.  
200 square feet of old Flagging, rejoined and relaid.  
11,500 square feet of new Bridgestone for cross walks, furnished and laid.  
500 cubic yards of Dry Rubble Masonry, in retaining walls, culverts and gutters.  
20 cubic yards of Rubble Masonry, in mortar.  
100 linear feet of Vitrified Stoneware Pipe, 12 inches in diameter.  
100 linear feet of Vitrified Stoneware Pipe, 18 inches in diameter.  
Time allowed to complete the contract is 250 working days.  
The amount of security required will be Twenty-five Thousand Dollars.

No. 8. CONSTRUCTING SEWER AND APPURTENANCES IN MORRIS AVENUE, from the existing sewer in East One Hundred and Seventy-sixth street, to a point about 280 feet south thereof.

The Engineer's estimate of the work is as follows:

285 linear feet of Pipe Sewer, 12 inches.  
36 Spurs for house connections.  
3 Manholes, complete.  
5 cubic yards of Concrete in place, exclusive of concrete in sewer sections, as shown on plan.  
1,000 feet (B. M.) of Timber, furnished and laid.  
10 linear feet of 12-inch Drain Pipe, furnished and laid.

The time allowed to complete the work will be 25 working days.

Amount of security required will be Seven Hundred Dollars.

No. 9. FOR CONSTRUCTING SEWER AND APPURTENANCES IN EAST ONE HUNDRED AND EIGHTY-FIFTH STREET, from the Southern Boulevard to Prospect avenue, with branch in Prospect avenue, from East One Hundred and Eighty-fifth street to East One Hundred and Eighty-third street.

The Engineer's estimate is as follows:  
357 linear feet of Pipe Sewer, 15 inches.  
365 linear feet of Pipe Sewer, 12 inches.  
100 Spurs for house connections.  
9 Manholes, complete.

325 cubic yards of rock, to be excavated and removed.  
5 cubic yards of Concrete, in place, exclusive of concrete in sewer sections, as shown on plan.

10 linear feet of 12-inch Drain Pipe, furnished and laid.

The time allowed to complete the work is 75 working days.

The amount of security required will be Two Thousand Two Hundred Dollars.

No. 10. FOR CONSTRUCTING SEWER AND APPURTENANCES IN EAST ONE HUNDRED AND SIXTY-NINTH STREET, from Clay avenue to Findlay avenue, and in TELLER AVENUE, from the first summit south of East One Hundred and Sixty-ninth street to the first summit north of East One Hundred and Sixty-ninth street.

The Engineer's estimate of the work is as follows:

216 linear feet of Pipe Sewer, 15 inches.  
130 linear feet of Pipe Sewer, 12 inches.  
165 Spurs for house connections.  
15 Manholes, complete.

3 Receiving Basins, complete.  
2,535 cubic yards of rock to be excavated and removed.

10 cubic yards of Concrete, in place, exclusive of concrete in sewer sections, as shown on plan.

1,000 feet (B. M.) of Timber, furnished and laid.

10 linear feet of 12-inch Drain Pipe, furnished and laid.

The time allowed for the completion of the work is 250 working days.

The amount of security required will be Seven Thousand Five Hundred Dollars.

No. 11. FOR CONSTRUCTING SEWER AND APPURTENANCES IN HEATH AVENUE, between Boston avenue and Fort Independence street.

The Engineer's estimate of the work is as follows:

420 linear feet of Pipe Sewer, 18 inches.  
430 linear feet of Pipe Sewer, 15 inches.  
440 linear feet of Pipe Sewer, 12 inches.  
195 Spurs for house connections.

12 Manholes, complete.

1,050 cubic yards of Rock to be excavated and removed.

10 cubic yards of Concrete, in place, exclusive of concrete in sewer sections, as shown on plan.

1,000 feet (B. M.) of Timber, furnished and laid.

25 linear feet of 12-inch Drain Pipe, furnished and laid.

The time allowed for the completion of the work is 200 working days.

The amount of security required will be Five Thousand Dollars.

Blank forms can be obtained upon application therefor and the plans and specifications may be seen and other information obtained at said office.

LOUIS F. HAFFEN, President.

THE CITY OF NEW YORK, January 14, 1904.

*j19.51*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

## BOROUGH OF BROOKLYN.

NOTICE IS HEREBY GIVEN THAT, IN ACCORDANCE with section 432 of the Charter of the City of New York, a meeting of the Heights Local Board of Improvements will be held in the office of the President of the Borough, Borough Hall, on Monday, February 1, 1904, at 2:30 P.M., at which the following petitions will be submitted for action:

No. 1. Columbia Place—To alter the map or plan of The City of New York by laying out Columbia place, between Remsen street and Joralemon street.

No. 2. Columbia Heights—To alter the map or plan of The City of New York by laying out a park bounded by Remsen street, Joralemon street, Furman street and the proposed Columbia place.

MARTIN W. LITTLETON,

President, Borough of Brooklyn.

JOHN A. HEFFERNAN,  
Secretary.

## BROOKLYN DISCIPLINARY TRAINING SCHOOL.

BOARD OF MANAGERS OF THE BROOKLYN DISCIPLINARY TRAINING SCHOOL FOR BOYS (CENTRAL OFFICE), 4 AND 5 COURT SQUARE, BOROUGH OF BROOKLYN, NEW YORK CITY.

TO CONTRACTORS.

PROPOSALS FOR BIDS OR ESTIMATES.

SEALED BIDS OR ESTIMATES WILL BE

received by the Supplies Committee of the

Board of Managers of the Brooklyn Disciplinary Training School for Boys at the above office until 12 o'clock m., on

**FRIDAY, JANUARY 22, 1904.**

FOR FURNISHING AND DELIVERING ROCERIES, VEGETABLES, MEATS, FISH, BREAD, ROLLS AND PIE, MILK AND CREAM, ICE, DRY GOODS AND LOTH, AND TAILORSHOP SUNDRIES, HARDWARE, LEATHER AND SHOESHOP SUNDRIES, LUMBER, ENGINEER'S SUPPLIES, DRUGS, ETC., EDUCATIONAL AND SCHOOL SUPPLIES, PAINTS, OILS, ETC., HAY, GRAIN AND FEED.

The time for the performance of the contract is during the year 1904.

The amount of security required is fifty (50) per cent. of the amount of the bid or estimate.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms may be obtained at the office of the Board of Managers, Nos. 4 and 5 Court square, Borough of Brooklyn.

The bidder will state the price of each item contained in the specifications herein contained or hereto annexed, by which the bids will be tested. The extensions of each class must be made and footed up, as the bids will be read from the total footings and awards made to the lowest bidder on each item, as specified in schedule or annexed specifications.

MORRIS ADLER, President, Board of Managers.

J. HERMAN LINS, Secretary, Board of Managers.

THE CITY OF NEW YORK, December 16, 1903.

*j17.22*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

## OFFICIAL BOROUGH PAPERS.

BOROUGH OF THE BRONX.  
"North Side News," "Bronx Borough Record," "Westchester Globe."

BOROUGH OF RICHMOND.  
"Staten Islander," "Staten Island World," "Staten Island News and Independent," "Staten Island Gazette."

BOROUGH OF QUEENS.  
"Long Island Daily Star," "Flushing Daily Times," "Flushing Evening Journal," "Newtown Register," "Jamaica Standard," "Rockaway News," "Long Island Farmer."

BOROUGH OF BROOKLYN.  
"Brooklyn Eagle," "Brooklyn Times," "Brooklyn Citizen," "Brooklyn Standard Union," "Brooklyn Freie Presse," "Brooklyn Weekly News," "Flatbush Weekly News."

BOROUGH OF MANHATTAN.  
"Harlem Local Reporter" (Harlem District), "Harlem Local and Life" (Washington Heights, Morningside Heights and Harlem Districts). Amended designation by Board of City Record July 31, 1903, and August 10, 1903.

## DEPARTMENT OF PUBLIC CHARITIES.

DEPARTMENT OF PUBLIC CHARITIES, FOOT OF EAST TWENTY-SIXTH STREET, NEW YORK.

TO CONTRACTORS.

PROPOSALS FOR BIDS OR ESTIMATES.

SEALED BIDS OR ESTIMATES WILL BE received by the Department of Public Charities at the above office until 12 o'clock m., on

**FRIDAY, JANUARY 29, 1904.**

FOR FURNISHING ALL THE WORK, LABOR & SERVICES AND MATERIALS REQUIRED FOR THE EXTERMINATION OF RATS AND MICE, AND FOR THE EXTERMINATION OF ROACHES AND WATER BUGS.

The time for the performance of the contract is during the year 1904.

The amount of security required will be One Hundred and Fifty (\$150) Dollars on each item or line.

The bidder will state the price for each item or line by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item or line, as stated in the specifications.

JAMES H. TULLY, Commissioner.

THE CITY OF NEW YORK, January 18, 1904.

*j19.29*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

DEPARTMENT OF PUBLIC CHARITIES, BOROUGHS OF MANHATTAN AND THE BRONX, FOOT OF EAST TWENTY-SIXTH STREET, NEW YORK, January 18, 1904.

AUCTION SALE.

THE UNDERSIGNED WILL SELL AT PUBLIC AUCTION, at office, foot of east Twenty-sixth Street, on

**FRIDAY, JANUARY 29, 1904.**

at 11 A.M. the following, viz:

Bones (estimated), 50,000 pounds.

To be collected and removed from Blackwell's Island three times a week.

Grease (estimated), 15,000 pounds. To be collected monthly from Blackwell's Island.

Old iron estimated, 75,000 pounds. To be collected twice a year at Pier on Metropolitan Hospital grounds, east side, near north end of Blackwell's Island, in a lighter to be provided by the buyer upon being notified.

Rags (estimated), 20,000 pounds.

Iron-bound barrels (estimated), 300.

Kerosene barrels (estimated), 100.

Pork barrels (estimated), 100.

All the above, except as otherwise mentioned, to be received by the purchaser monthly at the pier foot of East Twenty-sixth street, and removed upon being notified that the same are ready for delivery.

Quantities marked "estimated" are for the accumulation of year 1904, and contracts based on such quantities are for such period of time.

All quantities to be more or less and estimated only.

All qualities to be "as are."

Assignments of contracts will not be recognized unless approved by the Commissioner.

Each successful bidder will be required to pay Twenty-five Per Cent. of the estimated amount of his purchase to me at the time and place of sale, and the balance to the General Storekeeper, at Blackwell's Island, in cash or a certified check on a New York City bank, upon delivery of the goods.

The Commissioner reserves the right to order resale of any goods that shall NOT have been removed by the purchaser within 120 days after he shall have been notified that they are ready, and in case of such resale to forfeit to the use of the Department of Public Charities the TWENTY-FIVE PER CENT. paid in at the time and place of sale. Goods can be examined at Blackwell's Island by intending bidders on any week-day before the day of sale.

JAMES H. TULLY,

Commissioner of Public Charities.

*j19.29*

## DEPARTMENT OF CORRECTION.

DEPARTMENT OF CORRECTION, NO. 148 EAST TWENTIETH STREET, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the Commissioner of Correction at the above office until 12 o'clock a.m., on

**TUESDAY FEBRUARY 2, 1904.**

Borough of Brooklyn.

NO. 1. FOR FURNISHING AND DELIVERING SUPPLIES FOR MANUFACTURING PURPOSES.

The time for the delivery of the articles, materials and supplies and the performance of the contract is by or before 30 days.

The amount of security required is fifty per cent. (50%) of the amount of the bid or estimate.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms may be obtained at the office of the Board of Managers, Nos. 4 and 5 Court square, Borough of Brooklyn.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item.

The amount of security required is fifty per cent. (50%) of the amount of the bid or estimate.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms and further information may be obtained at the office of the Board of Managers, Nos. 4 and 5 Court square, Borough of Brooklyn.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item.

The amount of security required is fifty per cent. (50%) of the amount of the bid or estimate.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total and awards made to the lowest bidder on each item.

Works, Nos. 13-21 Park row, Bureau of Sewers, Borough of Manhattan.

JOHN F. AHEARN,  
Borough President.  
THE CITY OF NEW YORK, January 14, 1904.

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

#### MUNICIPAL CIVIL SERVICE COMMISSION.

MUNICIPAL CIVIL SERVICE COMMISSION, No. 61, ELM STREET, CITY OF NEW YORK.

PUBLIC NOTICE WILL BE GIVEN OF ALL competitive examinations two weeks in advance of the date upon which the receipt of applications for any scheduled examination will be. Applications will be received for only such examinations as are scheduled.

When an examination is advertised, a person desiring to compete in the same may obtain an application blank upon request made in writing, or by personal application at the office of the Commission.

All notices of examinations will be posted in the office of the Commission, City Hall, Municipal Building, Brooklyn, and advertised in the "City Record" for two weeks in advance of the date upon which the receipt of applications will close for any stated position.

Public notice will also be given by advertisement in most of the City papers.

Wherever an examination is of a technical character, due notice is given by advertisement in the technical journals appertaining to the particular profession for which the examination is called.

Such notices will be sent to the daily papers as matters of news, and to the General Postoffice and stations thereof. The scope of the examination will be stated, but for more general information application should be made at the office of the Commission.

Unless otherwise specifically stated the minimum age requirement for all positions is 21.

HENRY BERLINGER, Secretary.

12-24-03

#### DEPARTMENT OF DOCKS AND FERRIES.

OFFICE OF THE DEPARTMENT OF DOCKS AND FERRIES, DEPARTMENT OF DOCKS AND FERRIES, PIER "A," FOOT OF BATTERY PLACE, NORTH RIVER, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE RECEIVED by the Commissioner of Docks at the above office until 2 o'clock P. M., on

TUESDAY, JANUARY 26, 1904.

Borough of Manhattan.

CONTRACT NO. 821 (CLASS 2).

FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR FURNISHING AND DELIVERING RIP-RAP STONE.

The time for the completion of the work and the full performance of the contract is on or before the expiration of 80 calendar days.

The amount of security required is Three Thousand Five Hundred Dollars.

CONTRACT NO. 826.

FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR FURNISHING AND DELIVERING SAWED NEW YELLOW PINE.

The time for the completion of the work and the full performance of the contract is on or before the expiration of 90 calendar days.

The amount of security required is Four Thousand Dollars.

*The bids will be compared and the contract awarded at a lump or aggregate sum for each contract.*

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms and further information may be obtained and the plans and drawings may be seen at the office of the said Department.

MAURICE FEATHERSON,

Commissioner of Docks.

Dated JANUARY 13th, 1904. *j15, 26*  
See General Instructions to Bidders on the last column of the last page of the "City Record."

#### DEPARTMENT OF HEALTH.

DEPARTMENT OF HEALTH OF THE CITY OF NEW YORK, SOUTHWEST CORNER FIFTY-FIFTH STREET AND SIXTH AVENUE, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE RECEIVED by the Board of Health at the above office until 10 o'clock A. M. on

MONDAY, FEBRUARY 1, 1904.

FOR FURNISHING AND DELIVERING ICE AS REQUIRED TO THE WILLARD PARKER AND RECEPTION HOSPITALS, AT THE FOOT OF EAST SIXTEENTH STREET, BOROUGH OF MANHATTAN; THE RIVERSIDE HOSPITAL, AT NORTH BROOKLYN ISLAND BOROUGH OF THE Bronx; THE KINGSTON AVENUE HOSPITAL, AT KINGSTON AVENUE AND FENNIKINN STREET, BOROUGH OF BROOKLYN, AND THE LABORATORIES AND OFFICE BUILDINGS OF THE DEPARTMENT IN THE DIFFERENT BOROUGHS, NEW YORK CITY, DURING THE YEAR 1904.

The time for the delivery of the articles, materials and supplies and the performance of the contract is by or before December 31, 1904.

The amount of security required shall be fifty per cent. (50%) of the amount of the bid or estimate.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be from the total for each class and line and awards made to the lowest bidder on each class and line as shown in the schedules.

The weight, measure, etc., will be allowed as received at the respective places of delivery.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed at the respective places set forth in the specifications.

Blank forms may be obtained at the office of the Board of Health, the Borough of Manhattan, south-west corner of Fifty-fifth street and sixth avenue.

THOMAS DARLINGTON, M. D., President; ALVAH H. DOTY, M. D., WILLIAM MCADOO, Board of Health.

Dated JANUARY 18, 1904. *j19, 26*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

DEPARTMENT OF HEALTH OF THE CITY OF NEW YORK, SOUTHWEST CORNER FIFTY-FIFTH STREET AND SIXTH AVENUE, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE RECEIVED by the Board of Health of the Department of Health until 10 o'clock A. M., on

MONDAY, FEBRUARY 1, 1904.

FOR FURNISHING ALL THE LABOR AND FURNISHING ALL THE MATERIALS NECESSARY OR REQUIRED FOR THE REMOVAL OF NIGHT SOIL, OFFAL AND DEAD ANIMALS FROM THE BOROUGH OF QUEENS, CITY OF NEW YORK.

The time for the completion of the work and the full performance of the contract is during the year 1904, with optional renewals for four years.

The amount of security required is Fifteen Thousand Dollars (\$15,000).

Bids will be compared and the contract awarded at a lump or aggregate sum.

Blank forms and further information may be obtained at the office of the Chief Clerk of the Department of Health, southwest corner of Fifty-fifth street and Sixth avenue, Borough of Manhattan.

THOMAS DARLINGTON, M. D., President; ALVAH H. DOTY, M. D., WILLIAM MCADOO,

Board of Health.

Dated JANUARY 18, 1904. *j19, 26*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

#### SHERIFF, KINGS COUNTY.

OFFICE OF THE SHERIFF OF THE COUNTY OF KINGS, KING'S COUNTY COURT-HOUSE, BOROUGH OF BROOKLYN, CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE RECEIVED by the Sheriff of the County of Kings, at the above office, until 11 o'clock A. M. on

THURSDAY, JANUARY 28, 1904.

FOR FURNISHING AND DELIVERING GROceries, PROVISIONS, MEAT, EISH, DAIRY PRODUCTS, VEGETABLES, FRUITS, OAP, PAI-ES, OILS, FORAG-ETC., TO THE KING'S COUNTY JAIL, IN THE STATE OF NEW YORK.

The time for the delivery of the articles, materials and supplies and the performance of the contract is 200 days.

The amount of security required is fifty per cent. (50%) of the amount of the bid or estimate.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard, or other unit of measure by which the bids will be tested. The extensions must be made and footed up, as the bids will be from the totals and awards made to the lowest bidder on each item.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms and further particulars may be obtained and the plans and drawings may be seen at the office of the Sheriff of the County of Kings, Kings County Court-House, Borough of Brooklyn, City of New York.

HENRY HESTERBERG, Sheriff.

Dated, JANUARY 15, 1904. *j10, 28*

*See General Instructions to Bidders on the last page, last column, of the "City Record."*

#### BOARD OF ESTIMATE AND APPORTIONMENT.

NOTICE IS HEREBY GIVEN THAT THE Board of Estimate and Apportionment of the City of New York, deeming it for the public interest so to do, proposes to change the map or plan of the City of New York so as to lay out and establish grades of East Two Hundred and Forty-first street (Becker avenue), from the New York and Harlem Railroad to the centre line of the Bronx river, as an approach to the bridge over the Bronx river opposite Wakefield, City of Yonkers, Twenty-fourth Ward, in the Borough of the Bronx, City of New York, on the 29th day of January, 1904, at 10:30 o'clock A. M., at which such proposed change will be considered by said Board, all of which is more particularly set forth and described in the following resolutions, adopted by the Board on January 15, 1904, notice of the adoption of which is hereby given, viz.:

Resolved, That the Board of Estimate and Apportionment of the City of New York in pursuance of the provisions of section 442 of the Greater New York Charter as amended, deeming it for the public interest so to do, proposes to change the map or plan of the City of New York by laying out and establishing grades of East Two Hundred and Forty-first street (Becker avenue), from the New York and Harlem Railroad to the centre line of the Bronx river, as an approach to the bridge over the Bronx river opposite Wakefield, City of Yonkers, in the Twenty-fourth Ward, Borough of the Bronx, City of New York, more particularly described as follows:

##### 1. Location of Street.

The centre line of East Two Hundred and Forty-first street, from the New York and Harlem Railroad to the Bronx river to be prolonged westerly of the centre line of Becker avenue, as the same is located on the ground from White Plains road to First street.

##### 2. Grades of East Two Hundred and Forty-first Street.

The elevation of Fast Two Hundred and Forty-first street at the western property line of the New York and Harlem Railroad to be 68 feet above mean high-water datum.

The elevation at the intersection of the northern line of Fast Two Hundred and Forty-first street with the eastern line of the Bronx river, which point is 311.36 feet westerly of the New York and Harlem Railroad, to be 71 feet above mean high-water datum.

Resolved, That the President of the Borough of the Bronx cause to be prepared for submission to this Board three similar maps or plans for certification and filing in the manner required by law, showing as nearly as possible the nature and extent of the proposed change and the location of the immediate adjacent or of intersecting open or established streets, roads, squares, or place, sufficient for the identification and location thereof.

Resolved, That this Board consider the proposed change at a meeting of this Board to be held in the Old Council Chamber (Room 16) City Hall, Borough of Manhattan, City of New York, on the 29th day of January, 1904, at 10:30 o'clock A. M.

Resolved, That the Secretary of this Board cause these resolutions and a notice to all persons affected thereby that the proposed change will be considered at a meeting of the Board to be held at the aforesaid time and place, to be published in the City Record for ten days continuously, Sundays and legal holidays excepted, prior to the 29th day of January, 1904.

J. H. MOONEY,  
Assistant Secretary.

*j16, 27*

#### OFFICIAL PAPERS.

Morning—"The American," "The Morning Telegraph."

Evening—"The Evening Journal," "The Daily News."

Weekly—"The Freeman's Journal," "The New York Reality Journal."

German—"The Deutscher Herald."

Designated by the Board of City Record, January 19, 1904.

#### BOARD OF ASSESSORS.

PUBLIC NOTICE IS HEREBY GIVEN TO the owner or owners of all houses and lots, improved or unimproved lands affected thereby, that the following proposed assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

##### BOROUGH OF BROOKLYN.

List 7703, No. 1. Laying cement sidewalk on the south side of Chauncey street, between Howard and Saratoga avenues.

List 7704, No. 2. Laying cement sidewalk on the north side of Halsey street, between Saratoga avenue and Broadway.

List 7705, No. 3. Laying cement sidewalk on the south side of Halsey street, between Saratoga avenue and Broadway.

List 7706, No. 4. Laying cement sidewalk on the east side of Howard avenue, between Chauncey and Bainbridge streets.

List 7708, No. 6. Laying cement sidewalk on the east side of Howard avenue, between Fulton and McDougal streets.

List 7709, No. 7. Laying cement sidewalk on the east side of Howard avenue, between Madison and Monroe streets.

List 7710, No. 8. Laying cement sidewalk on the east side of Howard avenue, between McDonough and Macon streets.

List 7711, No. 9. Laying cement sidewalk on the west side of Howard avenue, between McDougal and Sumpter streets.

List 7712, No. 10. Laying cement sidewalk on the east side of Howard avenue, between Sumpter and Marion streets.

List 7713, No. 11. Laying cement sidewalk on the west side of Saratoga avenue, between Fulton and Hill streets, and on the north side of Fulton street.

List 7714, No. 12. Laying cement sidewalk on the northeast corner of Saratoga avenue and Halsey street.

List 7715, No. 13. Laying cement sidewalk on the west side of Saratoga avenue, between Halsey and Hancock streets.

BOROUGH OF MANHATTAN.

List 7513, No. 14. Sewers in One Hundred and Eighty-first street, between Boulevard Lafayette and Fort Washington avenue, and in Fort Washington avenue, between One Hundred and Eighty-first street and summit north.

List 7517, No. 15. Alteration and improvement to sewer in One Hundred and Second street at Harlem river, with new curves in marginal street.

The limits within which it is proposed to lay the said assessments include all the several houses and lots of ground, vacant lots, pieces and parcels of land situated on—

No. 1. South side of Chauncey street, between Howard and Saratoga avenues, on Block 1514, Lots Nos. 1, 11 and 12.

No. 2. North side of Halsey street, between Saratoga avenue and Broadway, on Block 1492, Lots Nos. 28 and 31.

No. 3. South side of Halsey street, between Saratoga avenue and Broadway, on Block 1495, Lots Nos. 12 and 26.

No. 4. East side of Howard avenue, between Chauncey and Bainbridge streets, Block 1509, Lots Nos. 1 and 6.

No. 5. West side of Howard avenue, between Chauncey and Bainbridge streets, on Block 1508, Lots Nos. 49.

No. 6. East side of Howard avenue, from Fulton to McDougal street.

No. 7. East side of Howard avenue, between Madison street and Broadway, on Block 1482, Lots No. 1.

No. 8. East side of Howard avenue, between McDonough and Macon streets, on Block 1497, Lots No. 1.

No. 9. West side of Howard avenue, between McDougal and Sumpter streets, on Block 1

## FIRE DEPARTMENT.

HEADQUARTERS OF THE FIRE DEPARTMENT OF THE CITY OF NEW YORK, NOS. 157 AND 159 EAST SIXTY-SEVENTH STREET, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the Fire Commissioner, at the above office until 11 o'clock A. M. on

MONDAY, JANUARY 25, 1904.

Borough of Manhattan.  
No. 1, FOR FURNISHING AND DELIVERING

1,225,000 pounds No. 1 Hay,  
250,000 pounds No. 1 Rye Straw,  
925,000 pounds No. 1 White Clipped Oats,  
60,000 pounds Bran.

The time for the delivery of the articles, materials and supplies and the performance of the contract is 180 days.

The amount of security required is Twelve Thousand Dollars (\$12,000).

Borough of Manhattan and The Bronx.  
No. 2, FOR FURNISHING AND DELIVERING THREE HUNDRED TONS ANTHRACITE COAL, PEA SIZE, AT HEADQUARTERS BUILDING.

The time for the delivery of the articles, materials and supplies and the performance of the contract is two hundred days.

The amount of security required is Four Hundred Dollars (\$400).

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total. The bids will be compared and the contracts awarded at a lump or aggregate sum.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms and further information may be obtained at the office of the Fire Department, Nos. 157 and 159 East Sixty-seventh Street, Manhattan.

NICHOLAS J. HAYES,  
Fire Commissioner.

Dated January 12, 1904. j13,25

See General Instructions for Bidders on the last column of the last page of the "City Record."

HEADQUARTERS OF THE FIRE DEPARTMENT OF THE CITY OF NEW YORK, NOS. 157 AND 159 EAST SIXTY-SEVENTH STREET, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the Fire Commissioner at the above office until 11 o'clock A. M. on

MONDAY, JANUARY 25, 1904.

Boroughs of Manhattan and The Bronx.  
No. 1, FOR FURNISHING AND DELIVERING TWO THOUSAND TONS OF ANTHRACITE COAL FOR APPARATUS HOUSES.

The time for the delivery of the articles, materials and supplies and the performance of the contract is one hundred and eighty days. The amount of security required is Five Thousand Dollars.

The bidder will state the price of each item or article contained in the specifications or schedules herein contained or hereto annexed, per pound, ton, dozen, gallon, yard or other unit of measure, by which the bids will be tested. The extensions must be made and footed up, as the bids will be read from the total. The bids will be compared and the contract awarded at a lump or aggregate sum.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Blank forms and further information may be obtained at the office of the Fire Department, Nos. 157 and 159 East Sixty-seventh Street, Manhattan.

NICHOLAS J. HAYES,  
Fire Commissioner.

Dated January 12, 1904. j13,25

See General Instructions for Bidders on the last column of the last page of the "City Record."

## BOARD OF TRUSTEES OF BELLEVUE AND ALLIED HOSPITALS.

BELLEVUE AND ALLIED HOSPITALS DEPARTMENT OF NEW YORK CITY, TWENTY-SIXTH STREET AND FIRST AVENUE, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the President of Board of Trustees at the above office until 3:30 o'clock p. m. on

TUESDAY, JANUARY 26, 1904.

FOR ALL THE LABOR AND MATERIALS REQUIRED FOR THE TEARING DOWN AND REMOVAL, EXCAVATION, PILING, MASONRY, STEEL AND IRON, CARPENTRY, PLUMBING, ELECTRIC HEATING AND VENTILATING, AND ALL OTHER WORK FOR COMPLETING THE CONSTRUCTION OF THE GOUVERNEUR HOSPITAL SITUATED AT GOUVERNEUR SLIP, BETWEEN FRONT STREET AND WATER STREET, IN THE BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

The time for the completion of the work and the full performance of the contract is within five hundred and forty (540) days.

The amount of security required is sixty thousand dollars (\$60,000).

The bids will be compared and the contract awarded at a lump or aggregate sum.

Blank forms may be obtained and the plans and drawings may be seen at the office of the Auditor and Contract Clerk, No. 419 East Twenty-sixth street, Borough of Manhattan.

JOHN W. BRANNAN, President of the Board of Trustees Bellevue and Allied Hospitals.

Dated December 31, 1903. j2,26

See General Instructions for Bidders on the last page, last column, of the "City Record."

## DEPARTMENT OF PARKS.

OFFICE OF THE DEPARTMENT OF PARKS, ARSENAL BUILDING, FIFTH AVENUE AND SIXTY-FOURTH STREET, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the Park Board, at the above office of the Department of Parks until 3 o'clock P. M. on

THURSDAY, JANUARY 21, 1904,

Borough of the Bronx.  
No. 1.—FOR FURNISHING AND DELIVERING ONE HUNDRED (100) TONS WHITE-ASH ANTHRACITE COAL FOR PARKS IN THE BOROUGH OF THE BRONX.

The time for delivery of the materials and the full performance of the contract is as required before May 1st, 1904.

The amount of security required is Six Hundred Dollars (\$600).

No. 2.—FOR FURNISHING AND DELIVERING 15,000 POUNDS WHITE CLIPPED OATS, 15,000 POUNDS RYE STRAW, AND 2,000 POUNDS BRAN, FOR PARKS, BOROUGH OF THE BRONX.

The time for the delivery of the materials and the full performance of the contract is as required before March 1st, 1904.

The amount of security required is Three Hundred Dollars (\$300).

The bids will be compared and the contracts awarded at a lump or aggregate sum for each contract. Blank forms may be obtained at the office of the Department of Parks, the Borough of the Bronx, Zoroiski Mansion, Claremont Park.

JOHN J. PILLAS, WILLIAM P. SCHMITT, MICHAEL KENNEDY, Commissioners.

Dated January 8th, 1904.

See General Instructions for Bidders on the last page, last column, of the "City Record."

## DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY.

DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY, ROOM 1536, NOS. 3-21 PARK ROW, BOROUGH OF MANHATTAN, THE CITY OF NEW YORK.

SEALED BIDS OR ESTIMATES WILL BE received by the Commissioner of Water Supply, Gas and Electricity at the above office until 2 o'clock p. m., on

WEDNESDAY, JANUARY 27, 1904.

Boroughs of Manhattan and The Bronx.

No. 1, FOR FURNISHING, DELIVERING AND STORING EIGHTEEN THOUSAND AND FOUR HUNDRED GRASS TONS (2,240 POUNDS TO A TON) EGG SIZE WHITE ASH ANTHRACITE COAL.

The time allowed for completing the contract will be three hundred and sixty (360) calendar days.

The amount of security required will be Twenty Thousand Dollars (\$20,000).

No. 2, FOR FURNISHING AND DELIVERING LEAD-LINED IRON PIPE, UNIONS AND ELBOWS.

The time allowed for completing the contract will be sixty (60) calendar days.

The amount of security required will be Three Thousand Dollars (\$3,000).

Borough of Richmond.

FOR FURNISHING, DELIVERING AND STORING FIVE HUNDRED GROSS TONS (2,240 POUNDS TO A TON) OF NO. 1 PEA SIZE WHITE ASH ANTHRACITE COAL.

The time allowed for completing the contract will be three hundred and sixty (360) calendar days.

The amount of security required will be Five Hundred Dollars (\$500).

The bidder will state the price of each item or article contained in the specifications or schedules therein contained or thereto annexed, per linear foot, ton or other unit of measure, by which the bids will be tested.

Delivery will be required to be made at the time and in the manner and in such quantities as may be directed.

Bids will be compared and the contract awarded at a lump or aggregate sum.

Blank forms may be obtained at the office of the Department of Water Supply, Gas and Electricity, Borough of Manhattan, Nos. 3-21 Park Row.

JOHN T. O'KLEWY, Commissioner.

Dated January 14, 1904. j14,27

See General Instructions for Bidders on the last page, last column, of the "City Record."

## FINANCE DEPARTMENT.

NOTICE OF ASSESSMENTS FOR OPENING STREETS AND PARKS.

IN PURSUANCE OF SECTION 1018 OF THE Greater New York Charter, the Comptroller of the City of New York hereby gives public notice of the confirmation by the Supreme Court, and the entering in the Bureau for the Collection of Assessments and Arrears, of the assessments for OPENING AND ACQUIRING TITLE to the following-named street in the BOROUGH OF RICHMOND:

SECOND WARD.

A NEW STREET-OPENING, between Richmond turnpike and Ward avenue. Confirmed October 21, 1903; entered January 19, 1904. Area of assessment includes: All those lands, tenements and hereditaments and premises situate, lying and being in the Borough of Richmond, in the City of New York, which, taken together, are bounded and described as follows, viz:

Beginning at the point of intersection of the centre line of Marion avenue with a line drawn parallel to and distant 100 feet southwesterly from the southwesterly line of Cebra avenue; running thence northwesterly along said parallel line to the southwesterly line of Oxford place; thence southwesterly along said parallel line to its intersection with its southwesterly prolongation to its intersection with a line drawn parallel to and distant 100 feet southwesterly from the southwesterly line of Woodstock place; thence southwesterly along said parallel line to its intersection with a line drawn parallel to and distant 100 feet northwesterly from the northwesterly line of Richmond turnpike; thence southwesterly along said parallel line to its intersection with the northwesterly prolongation of a line drawn parallel to and distant 100 feet southwesterly from the southwesterly line of Lewis avenue; thence southwesterly along said prolongation and parallel line to its southwesterly prolongation to its intersection with the southwesterly line of Sunrise terrace; thence southwesterly along the southwesterly line of Sunrise terrace to its intersection with the centre line of Marion avenue (Ocean terrace); thence easterly and northeasterly along the centre line of Marion avenue to the point or place of beginning.

The above-entitled assessment was entered on the date hereinbefore given in the Record of Titles of Assessments, kept in the Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents. Unless the amount assessed for benefit on any person or property shall be paid within sixty days after the date of said entry of the assessment, interest will be collected thereon, as provided in section 1006 of the Greater New York Charter.

Said section provides that "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

Said section provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

Said section provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

Said section provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

Said section provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

Said section provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated and collected from the date when such assessment became a lien, as provided by section 1019 of said Greater New York Charter.

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to the extent of half the block at the intersecting and terminating avenues.

SEVENTY-THIRD STREET—REGULATING, GRADING, CURBING AND LAYING SIDEWALKS, between Third and Fourth avenues. Area of assessment: Both sides of Seventy-third street, from 11th avenue to Fourth avenue, and to the extent of half the block at the intersecting and terminating avenues.

—that the same were confirmed by the Board of Assessors on January 7, 1904, and entered on January 8, 1904, in the Record of Titles of Assessments, kept in the Bureau for the Collection of Assessments, and Arrears of Taxes and Assessments and of Water Rents, and unless the amount assessed for benefit on any person or property shall be paid within sixty days after the date of said entry of the assessments interest will be collected thereon, as provided in section 109 of said Greater New York Charter.

Said section provides that "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof on the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment to charge, collect and receive interest thereon at the rate of seven per centum per annum, to be calculated to the date of payment from the date when such assessment became a lien, as provided by section 159 of this act."

Section 159 of this act provides " \* \* \* " An assessment shall become a lien upon the real estate affected thereby ten days after its entry in the said record." \* \* \*

The above assessments are payable to the Collector of Assessments and Arrears, at the Bureau

for the Collection of Assessments, and Arrears of Taxes and Assessments and of Water Rents, in the Municipal Building, Borough of Brooklyn, between the hours of 9 a.m. and 2 p.m., and on Saturdays from 9 a.m. until 12 m., and all payments made thereon on or before March 8, 1904, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per centum per annum from the date when the above assessments became liens to the date of payment.

EDWARD M. GROUT, Comptroller.  
CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE, January 8, 1904. 19,22

DEPARTMENT OF FINANCE, CITY OF NEW YORK,  
March 26, 1903.

UNTIL FURTHER NOTICE AND UNLESS otherwise directed in any special case, one surety company will be accepted as sufficient upon all contracts for supplies for furniture, and for gas and electric lighting to any amount, and upon the following contracts to the amounts named:

For supplies and furniture, with patented articles	\$5,000
Regulating, grading, paving (other than asphalt)	Not over 2 years.....
	15,000
	Over 2 years.....
	5,000
School building repairs	10,000
Heating and lighting apparatus	5,000
New buildings—New docks	25,000
Sewers—Dredging and water mains—	
Not over 2 years.....	10,000
Over 2 years.....	5,000

EDWARD M. GROUT, Comptroller.

PROPOSALS FOR \$10,000,000 OF THREE AND ONE-HALF PER CENT. CORPORATE STOCK OF THE CITY OF NEW YORK.

PRINCIPAL AND INTEREST PAYABLE IN GOLD.

EXEMPT FROM ALL TAXATION IN THE STATE OF NEW YORK, EXCEPT TAXATION FOR STATE PURPOSES.

EXECUTORS, ADMINISTRATORS, GUARDIANS AND OTHERS HOLDING TRUST FUNDS ARE AUTHORIZED BY SECTION 9 OF ARTICLE 1 OF CHAPTER 417 OF THE LAWS OF 1897, AS AMENDED, TO INVEST IN THIS STOCK.

SEALED PROPOSALS WILL BE RECEIVED BY THE COMPTROLLER OF THE CITY OF New York, at his office, No. 280 Broadway, Borough of Manhattan, in the City of New York, until

WEDNESDAY, THE 20TH DAY OF JANUARY, 1904.

at 2 o'clock p.m., when they will be publicly opened in the presence of the Commissioners of the Sinking Fund, or such of them as shall attend as provided by law, for the whole or a part of the following-described Registered Stock of The City of New York, bearing interest at the rate of three and one-half per cent. per annum, from and including the date of payment therefor, to wit:

Amount.	Title.	Authority.	Principal Payable.	Interest Payable Semi- annually on			
\$3,000,000 00	Corporate Stock of The City of New York, for the Construction of the Rapid Transit Railroad .....	Authorized by chapter 4 of the Laws of 1891, as amended; sections 45, 169 and 170 of chapter 378 of the Laws of 1897, as amended; chapter 7 of the Laws of 1900; and resolutions of the Board of Estimate and Apportionment, adopted March 1, 1900, and September 12, 1902.....	November 1, 1953.	May 1 and November 1.			
1,010,000 00	Corporate Stock of The City of New York, for Replenishing the Fund for Street and Park Openings.	Authorized by sections 169 and 174 of the Greater New York Charter, as amended, and resolutions of the Board of Estimate and Apportionment, adopted April 24, 1903; May 22, 1903; June 5, 1903; June 12, 1903; July 22, 1903, and September 2, 1903.....	November 1, 1953.	May 1 and November 1.			
1,000,000 00	Corporate Stock of The City of New York, for School houses and Sites therefor .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted April 18, 1902, and November 7, 1902, and ordinances of the Board of Aldermen, approved by the Mayor May 6, 1902, and December 2, 1902.....	November 1, 1953.	May 1 and November 1.			
1,000,000 00	Corporate Stock of The City of New York, for the New East River Bridge .	Authorized by chapter 789 of the Laws of 1895, as amended; sections 169 and 170 of chapter 378 of the Laws of 1897, as amended; resolutions of the Board of Estimate and Apportionment, adopted May 25, 1899, and May 1, 1900, and ordinances of the Board of Aldermen, approved by the Mayor July 18, 1899, and November 7, 1900.....	November 1, 1953.	May 1 and November 1.			
250,000 00	Corporate Stock of The City of New York, for a Bridge over the East River, between the Boroughs of Manhattan and Brooklyn .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolution of the Board of Estimate and Apportionment, adopted July 25, 1902, and an ordinance of the Board of Aldermen, approved by the Mayor October 27, 1902.....	November 1, 1953.	May 1 and November 1.			
250,000 00	Corporate Stock of The City of New York, for a Bridge over the East River, between the Boroughs of Manhattan and Queens .....	Authorized by sections 48 and 169 of chapter 378 of the Laws of 1897, as amended; resolutions of the Board of Estimate and Apportionment, adopted December 5, 1899, and March 29, 1901, and ordinances of the Municipal Assembly, approved by the Mayor January 8, 1900, and May 21, 1901....	November 1, 1953.	May 1 and November 1.			
250,000 00	Corporate Stock of The City of New York, for Acquiring Land for the Approaches to the Bridge over the Harlem River, from 145th street to 149th street .....	Authorized by chapter 986 of the Laws of 1895; sections 169 and 170 of the Greater New York Charter, as amended, and a resolution of the Board of Estimate and Apportionment, adopted December 4, 1903 .....	November 1, 1953.	May 1 and November 1.			
550,000 00	Corporate Stock of The City of New York, to Provide for an Additional Supply of Water..	Authorized by sections 169 and 178 of the Greater New York Charter, as amended, and resolutions of the Board of Estimate and Apportionment, adopted October 29, 1902, as amended June 5, 1903; September 5, 1902, and December 19, 1902.....	November 1, 1953.	May 1 and November 1.			
750,000 00	Corporate Stock of The City of New York, for the Repaving of Streets .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolution of the Board of Estimate and Apportionment, adopted February 20, 1903, and an ordinance of the Board of Aldermen, approved by the Mayor April 13, 1903.....	November 1, 1953.	May 1 and November 1.			

350,000 00	Corporate Stock of The City of New York, for Acquiring Land for a Public Park at 76th Street and the East River .....	Authorized by chapter 320 of the Laws of 1887, as amended by chapter 69 of the Laws of 1895; sections 169 and 170 of the Greater New York Charter, as amended, and a resolution of the Board of Estimate and Apportionment, adopted December 4, 1903.....	November 1, 1953.	May 1 and November 1.
300,000 00	Corporate Stock of The City of New York, for the Improvement of Parks, Parkways and Drives in The City of New York .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted May 8, 1903; July 1, 1903, and October 8, 1903, as amended November 13, 1903, and ordinances of the Board of Aldermen, approved by the Mayor June 22, 1903; August 12, 1903, and November 24, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for New Buildings, etc., for the Department of Public Charities .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted February 20, 1903, and July 1, 1903, and ordinances of the Board of Aldermen, approved by the Mayor March 30, 1903, and July 20, 1903 .....	November 1, 1953.	May 1 and November 1.
250,000 00	Corporate Stock of The City of New York, for New Buildings, etc., for the Department of Health .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted June 6, 1902, and an ordinance of the Board of Aldermen, approved by the Mayor July 2, 1902 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for Purchase of New Stock or Plant for the Department of Street Cleaning .....	Authorized by sections 47, 169 and 546 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted July 28, 1902, and June 5, 1903, and ordinances of the Board of Aldermen, approved by the Mayor November 17, 1902, and July 20, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for Armories and Sites therefor..	Authorized by chapter 212 of the Laws of 1898; section 169 of the Greater New York Charter, as amended, and a resolution of the Commissioners of the Sinking Fund, adopted February 25, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for the Improvement of that Portion of the Bronx Park allotted to and set apart for the New York Zoological Society .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted April 18, 1902, and February 20, 1903, and July 1, 1903, and ordinances of the Board of Aldermen, approved by the Mayor May 19, 1902, and April 13, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for Interior Public Baths .....	Authorized by sections 47 and 169 of the Greater New York Charter, as amended; resolutions of the Board of Estimate and Apportionment, adopted February 20, 1903, and July 1, 1903, and ordinances of the Board of Aldermen, approved by the Mayor March 30, 1903, and August 12, 1903 .....	November 1, 1953.	May 1 and November 1.
90,000 00	Corporate Stock of The City of New York, for Acquiring Sites for the Carnegie Libraries...	Authorized by chapter 580 of the Laws of 1901; section 169 of the Greater New York Charter, as amended, and a resolution of the Board of Estimate and Apportionment, adopted February 20, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for the Construction of Sewers in the Borough of Brooklyn...	Authorized by sections 169 and 176 of the Greater New York Charter, as amended, and a resolution of the Board of Estimate and Apportionment, adopted December 18, 1903 .....	November 1, 1953.	May 1 and November 1.
100,000 00	Corporate Stock of The City of New York, for the Improvement of Atlantic avenue, in the Borough of Brooklyn .....	Authorized by chapter 499 of the Laws of 1897, as amended by chapter 452 of the Laws of 1902; sections 169 and 170 of the Greater New York Charter, as amended, and a resolution of the Board of Estimate and Apportionment, adopted July 22, 1903 .....	November 1, 1953.	May 1 and November 1.
250,000 00	Corporate Stock of The City of New York, for the New Aqueduct .....	Authorized by chapter 490 of the Laws of 1883 and sections 169 and 170 of chapter 378 of the Laws of 1897, as amended, and a resolution of the Board of Estimate and Apportionment, adopted November 20, 1903 .....	October 1, 1953.	April 1 and October 1.

The said stock is free and exempt from all taxation in the State of New York, except taxation for State purposes, pursuant to the provisions of section 169 of the Greater New York Charter, as amended.

The principal of and interest on said stock are payable in gold coin of the United States of America, of the present standard of weight and fineness, pursuant to a resolution of the Commissioners of the Sinking Fund, adopted June 9, 1898.

CONDITIONS OF SALE.

As provided for by The Greater New York Charter.

1. Proposals containing conditions other than those herein set forth will not be received or considered.

2. No proposal for stock shall be accepted for less than the par value of the same.

3. Every bidder, as a condition precedent to the reception or consideration of his proposal, shall deposit with the Comptroller in money, or by a certified check drawn to the order of said Comptroller upon one of the State or National Banks of The City of New York, two per cent. of the par value of the stock bid for in said proposal.

No proposal will be received or considered which is not accompanied by such deposit.

All such deposits shall be returned by the Comptroller to the persons making the same within three days after the decision has been rendered as to who is or are the highest bidder or bidders, except the deposit made by the highest bidder or bidders.

4. If said highest bidder or bidders shall refuse or neglect, within five days after service of written notice of the award to him or them, to pay to the City Chamberlain the amount of the stock awarded to him or them, at its par value, together with the premium thereon, less the amount deposited by him or them, the amount or amounts of deposit thus made shall be forfeited to and retained by said City as liquidated damages for such neglect or refusal, and shall thereafter be paid into the Sinking Fund of The City of New York for the Redemption of the City Debt.

5. Upon the payment into the City Treasury of the amounts due by the persons whose bids are accepted, respectively, certificates thereof shall be issued to them as authorized by law, and in such denominations as they may desire.

6. It is required by the Charter of the City that "every bidder may be required to accept a portion of the whole amount of stock bid for by him at the same rate or proportional price as may be specified in his bid; and any bid which conflicts with this condition shall be rejected." Under this provision, the condition that the bidder will accept only the whole amount of stock bid for by him, and not any part thereof, cannot be inserted in any bid.

7. It is also provided by the Charter that these bonds, being registered, may be issued in denominations of ten dollars or any multiple thereof; and that "preference shall, so far as practicable, and without pecuniary disadvantage to the City, be given to applicants for the smallest amounts and smallest denominations of said bonds in issuing the same."

8. The proposals, together with the security deposits, should be inclosed in a sealed envelope, indorsed "Proposals for Bonds of The City of New York," and said envelope inclosed in another sealed envelope, addressed to the Comptroller of The City of New York.

EDWARD M. GROUT, Comptroller.

The City of New York, Department of Finance—Comptroller's Office, January 7, 1904.

## DEPARTMENT OF TAXES AND ASSESSMENTS.

THE CITY OF NEW YORK, DEPARTMENT OF TAXES AND ASSESSMENTS, MAIN OFFICE, BOROUGH OF MANHATTAN, NO. 280 BROADWAY, STEWART BUILDING, January 8, 1904.

NOTICE IS HEREBY GIVEN, AS REQUIRED BY THE GREATER NEW YORK CHARTER, THAT THE BOOKS CALLED "THE ANNUAL RECORD OF THE ASSESSED VALUATION OF REAL AND PERSONAL ESTATE OF THE BOROUGHS OF MANHATTAN, THE BRONX, BROOKLYN, QUEENS AND RICHMOND, COMPRISING THE CITY OF NEW YORK" WILL BE OPEN FOR EXAMINATION AND CORRECTION ON THE SECOND MONDAY OF JANUARY, AND WILL REMAIN OPEN UNTIL THE FIRST DAY OF APRIL, 1904.

DURING THE TIME THAT THE BOOKS ARE OPEN TO PUBLIC INSPECTION, APPLICATION MAY BE MADE BY ANY PERSON OR CORPORATION CLAIMING TO BE AGRIFFEYED BY THE ASSESSED VALUATION OF REAL OR PERSONAL ESTATE TO HAVE THE SAME CORRECTED.

IN THE BOROUGH OF MANHATTAN, AT THE MAIN OFFICE OF THE DEPARTMENT OF TAXES AND ASSESSMENTS, NO. 280 BROADWAY.

IN THE BOROUGH OF THE BRONX, AT THE OFFICE OF THE DEPARTMENT, MUNICIPAL BUILDING, ONE HUNDRED AND SEVENTY-SEVENTH STREET AND THIRD AVENUE.

IN THE BOROUGH OF BROOKLYN, AT THE OFFICE OF THE DEPARTMENT, MUNICIPAL BUILDING.

IN THE BOROUGH OF QUEENS, AT THE OFFICE OF THE DEPARTMENT, HACKETT BUILDING, JACKSON AVENUE AND FIFTH STREET, LONG ISLAND CITY.

IN THE BOROUGH OF RICHMOND, AT THE OFFICE OF THE DEPARTMENT, MASONIC BUILDING, STAPLETON.

CORPORATIONS IN ALL THE BOROUGHS MUST MAKE APPLICATION ONLY IN THE MAIN OFFICE IN THE BOROUGH OF MANHATTAN.

APPLICATIONS IN RELATION TO THE ASSESSED VALUATION OF PERSONAL ESTATE MUST BE MADE BY THE PERSON ASSESSED AT THE OFFICE OF THE DEPARTMENT IN THE BOROUGH WHERE SUCH PERSON RESIDES, AND IN THE CASE OF A NON-RESIDENT CARRYING ON BUSINESS IN THE CITY OF NEW YORK, AT THE OFFICE OF THE DEPARTMENT OF THE BOROUGH WHERE SUCH PLACE OF BUSINESS IS LOCATED, BETWEEN THE HOURS OF 10 A.M. AND 2 P.M., EXCEPT ON SATURDAY, WHEN ALL APPLICATIONS MUST BE MADE BETWEEN 10 A.M. AND 12 NOON.

FRANK A. O'DONNELL,  
President,  
JAMES B. BOUCK,  
JOHN J. BRADY,  
EDWARD TODD,  
SAMUEL STRASBOURGER,  
Commissioners of Taxes and Assessments.

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## BOROUGH OF QUEENS.

OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, THIRD FLOOR OF THE BOROUGH HALL, FIFTH STREET AND JACKSON AVENUE, LONG ISLAND CITY, BOROUGH OF QUEENS, CITY OF NEW YORK. SEALED BIDS OR ESTIMATES WILL BE RECEIVED BY THE PRESIDENT OF THE BOROUGH OF QUEENS AT THE ABOVE OFFICE, UNTIL 11 O'CLOCK A.M., ON

MONDAY, FEBRUARY 1, 1904.

NO. 1. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN SEVENTH STREET, FROM ORCHARD STREET TO LUDLOW AVENUE, SECOND WARD.

600 linear feet of brick sewer, 2 feet 6 inches, circular.

890 linear feet of 8-inch vitrified salt-glazed sewer pipe.

50 linear feet of 10-inch vitrified salt-glazed sewer pipe.

35 linear feet of 12-inch vitrified salt-glazed sewer pipe.

17 manholes, complete.

30 cubic yards rock excavated and removed.

20,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS THREE THOUSAND FIVE HUNDRED DOLLARS.

NO. 2. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN SIXTH STREET, BETWEEN ORCHARD AND LUDLOW AVENUES, SECOND WARD.

840 linear feet 8-inch vitrified salt-glazed sewer pipe.

625 linear feet 10-inch vitrified salt-glazed sewer pipe.

495 linear feet 12-inch vitrified salt-glazed sewer pipe.

16 manholes, complete.

50 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS TWO THOUSAND DOLLARS.

NO. 3. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN LUDLOW AVENUE, BETWEEN 11TH AVENUE AND EIGHTH STREET, AND IN EIGHTH STREET, BETWEEN LUDLOW AVENUE AND LAMONT AVENUE, SECOND WARD.

520 linear feet, 8-inch vitrified salt-glazed sewer pipe.

980 linear feet 12-inch vitrified salt-glazed sewer pipe.

1,105 linear feet 15-inch vitrified salt-glazed sewer pipe.

16 manholes, complete.

50 cubic yards rock excavated and removed.

10,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS THREE THOUSAND DOLLARS.

NO. 4. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN FOURTH STREET, BETWEEN ORCHARD AND LUDLOW AVENUES, SECOND WARD.

490 linear feet 12-inch vitrified salt-glazed sewer pipe.

1,054 linear feet 8-inch vitrified salt-glazed sewer pipe.

12 manholes, complete.

25 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS ONE THOUSAND SEVEN HUNDRED FIVE DOLLARS.

NO. 5. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN NINTH STREET, FROM ELMHURST AVENUE TO A POINT 350 FEET SOUTH OF LAMONT AVENUE, IN TENTH STREET, FROM ELMHURST AVENUE TO A POINT 125 FEET SOUTH OF LAMONT AVENUE, SECOND WARD.

2,780 linear feet 8-inch vitrified salt-glazed sewer pipe.

40 linear feet 12-inch vitrified salt-glazed sewer pipe.

23 manholes, complete.

40 cubic yards rock excavated and removed.

10,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS TWO THOUSAND FIVE HUNDRED DOLLARS.

NO. 6. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN ELEVENTH STREET, BETWEEN ELMHURST AND LAMONT AVENUES, SECOND WARD.

1,255 linear feet 8-inch vitrified salt-glazed sewer pipe.

45 linear feet 12-inch vitrified salt-glazed sewer pipe.

9 manholes, complete.

20 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 30 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS ONE THOUSAND TWO HUNDRED AND FIFTY DOLLARS.

NO. 7. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN VIETOR PLACE, FROM BROADWAY TO THIRD STREET, SECOND WARD.

700 linear feet 10-inch vitrified salt-glazed sewer pipe.

5 manholes, complete.

20 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 30 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS EIGHT HUNDRED DOLLARS.

NO. 8. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN ACADEMY STREET, FROM BROADWAY TO JAMAICA AVENUE, FIRST WARD.

985 linear feet 12-inch vitrified salt-glazed sewer pipe.

6 manholes, complete.

25 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 30 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS ONE THOUSAND SEVEN HUNDRED AND FIFTY DOLLARS.

NO. 9. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER ON LAWRENCE STREET, 360 FEET TO THE CROWN SOUTH OF SANFORD AVENUE, FLUSHING, THIRD WARD.

360 linear feet 10-inch vitrified salt-glazed sewer pipe.

2 manholes, complete.

20 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 30 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS EIGHT HUNDRED DOLLARS.

NO. 10. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER ON LAWRENCE STREET, 360 FEET TO THE CROWN SOUTH OF SANFORD AVENUE, FLUSHING, THIRD WARD.

360 linear feet 10-inch vitrified salt-glazed sewer pipe.

2 manholes, complete.

20 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 30 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS EIGHT HUNDRED DOLLARS.

NO. 11. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN SEVENTH STREET, FROM ORCHARD STREET TO LUDLOW AVENUE, SECOND WARD.

600 linear feet 8-inch vitrified salt-glazed sewer pipe.

890 linear feet 10-inch vitrified salt-glazed sewer pipe.

50 linear feet 12-inch vitrified salt-glazed sewer pipe.

35 linear feet 15-inch vitrified salt-glazed sewer pipe.

17 manholes, complete.

30 cubic yards rock excavated and removed.

20,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS THREE THOUSAND FIVE HUNDRED DOLLARS.

NO. 12. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN SIXTH STREET, BETWEEN ORCHARD AND LUDLOW AVENUES, SECOND WARD.

840 linear feet 8-inch vitrified salt-glazed sewer pipe.

625 linear feet 10-inch vitrified salt-glazed sewer pipe.

495 linear feet 12-inch vitrified salt-glazed sewer pipe.

16 manholes, complete.

50 cubic yards rock excavated and removed.

5,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS ONE THOUSAND SEVEN HUNDRED FIVE DOLLARS.

NO. 13. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN LUDLOW AVENUE, BETWEEN 11TH AVENUE AND EIGHTH STREET, AND IN EIGHTH STREET, BETWEEN LUDLOW AVENUE AND LAMONT AVENUE, SECOND WARD.

520 linear feet, 8-inch vitrified salt-glazed sewer pipe.

980 linear feet 12-inch vitrified salt-glazed sewer pipe.

1,105 linear feet 15-inch vitrified salt-glazed sewer pipe.

16 manholes, complete.

50 cubic yards rock excavated and removed.

10,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS TWO THOUSAND DOLLARS.

NO. 14. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN ELEVENTH STREET, FROM ELMHURST AVENUE TO A POINT 350 FEET SOUTH OF LAMONT AVENUE, IN TENTH STREET, FROM ELMHURST AVENUE TO A POINT 125 FEET SOUTH OF LAMONT AVENUE, SECOND WARD.

2,780 linear feet 8-inch vitrified salt-glazed sewer pipe.

40 linear feet 12-inch vitrified salt-glazed sewer pipe.

23 manholes, complete.

40 cubic yards rock excavated and removed.

10,000 B.M. feet timber for bracing and sheet piling.

THE TIME FOR THE COMPLETION OF THE WORK AND THE FULL PERFORMANCE OF THE CONTRACT IS BY OR BEFORE 60 DAYS.

THE AMOUNT OF SECURITY REQUIRED IS ONE THOUSAND SEVEN HUNDRED FIVE DOLLARS.

NO. 15. FOR FURNISHING ALL THE LABOR AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF A SEWER IN VIETOR PLACE, FROM BROADWAY TO THIRD STREET



