

# THE CITY RECORD.

## OFFICIAL JOURNAL.

VOL. XX

NEW YORK, SATURDAY, APRIL 2, 1892.

NUMBER 5,747.



### DEPARTMENT OF PUBLIC WORKS.

#### Report for the Quarter and Year ending December 31, 1891.

DEPARTMENT OF PUBLIC WORKS—COMMISSIONER'S OFFICE,  
No. 31 CHAMBERS STREET,  
NEW YORK, February 1, 1892.

Hon. HUGH J. GRANT, Mayor :

DEAR SIR—In accordance with section 49 of the New York City Consolidation Act of 1882, I have the honor to present the following report of the transactions of the Department of Public Works for the quarter ended December 31, 1891, with a brief review of the operations of the Department for the past year :

#### SUMMARY OF EXPENDITURES.

(Being amount of requisitions drawn on the Comptroller.)

On account of appropriations raised by taxation (Consolidation Act of 1882, section 189) .....	\$795,600 12
On account of Local Improvement Fund for Street Improvements (Consolidation Act, sections 144 and 150).....	388,351 09
On account of Funded Debt, for improvement and extension of water supply (Consolidation Act, section 141).....	60,777 81
On account of Repavement Fund (chapter 346, Laws of 1889).....	371,233 84
On account of Criminal Court-house Fund (chapter 371, Laws of 1887, section 8) ..	114,633 00
On account of Fund for One Hundred and Fifty-fifth Street Viaduct (Consolidation Act, section 144 and chapter 576, Laws of 1887).....	9,991 60
On account of Special Fund, for restoring pavements over street openings (Revised Ordinances of 1880, sections 354 to 357).....	12,239 26
On account of Revenue Bonds, for furnishing and setting water-meters (Consolidation Act, sections 161 and 352).....	2,913 69
On account of Fund for Public Building, Twelfth Ward (chapter 487, Laws of 1890)	20,451 00
Total .....	\$1,776,191 41

#### SUMMARY STATEMENT OF CONTRACTS.

##### Contracts Entered Into during the Quarter.

25 sewer contracts, estimated cost.....	\$113,029 46
20 contracts for regulating, grading, curbing and flagging streets and sidewalks, estimated cost.....	50,732 10
26 paving contracts, payable by local assessments, estimated cost.....	130,289 15
3 repaving contracts, estimated cost.....	10,041 00
2 contracts for laying water-mains, estimated cost.....	12,133 43
1 contract for improvement of old reservoir in Central Park, estimated cost.....	56,000 00
10 miscellaneous contracts, estimated cost.....	24,200 89
87 contracts, total estimated cost.....	\$396,426 03

##### Contracts Completed during the Quarter.

28 sewer contracts, cost.....	\$159,990 81
19 contracts for regulating, grading, curbing and flagging streets and sidewalks, cost.....	299,303 10
19 paving contracts, payable by local assessments, cost.....	82,744 64
12 repaving contracts, cost.....	336,716 25
4 contracts for water-mains, cost.....	54,629 18
1 contract for furnishing cast-iron water pipe, branch pipe and special castings, cost.....	49,275 28
1 contract for furnishing and putting up pumping engine and boilers at the Ninety-eighth Street High Service Works, cost.....	52,000 00
1 contract for resurfacing Seventh avenue, between One Hundred and Tenth and One Hundred and Forty-fifth streets, cost.....	39,639 93
20 miscellaneous contracts, cost.....	82,670 30
105 contracts, total cost.....	\$1,156,969 49

#### BUREAU OF CHIEF ENGINEER OF THE CROTON AQUEDUCT.

During the quarter the rainfall in the Croton water-shed, Bronx river water-shed and the Central Park reservoir, where rain-gauges are kept by this Department, was as follows :

LOCATION.	OCTOBER. INCHES.	NOVEMBER. INCHES.	DECEMBER. INCHES.	TOTAL INCHES.
Boyd's Corners Reservoir.....	2.15	3.86	5.65	11.66
South East Reservoir.....	2.37	3.26	5.51	11.04
Kensico Reservoir.....	2.31	3.17	5.02	10.50
Croton Dam.....	2.24	3.31	4.99	10.54
Central Park Reservoir.....	2.57	1.60	3.30	7.47

The quantity of water furnished the city from the Croton water-shed was 150,000,000 gallons per day, except during the period from November 4 to November 24, when the protracted drought and an impending water famine made it imperatively necessary to reduce the supply to 120,000,000 gallons per day, and even to secure this reduced supply it was necessary to draw water from all available sources. The rainfalls on November 17, 23 and 24, and on December 5, 7, 23, 24 and 25 replenished the storage reservoirs to such an extent as to warrant the Department in restoring the former liberal supply. The condition of the water supply during the month of November demonstrated that an additional storage capacity was necessary to insure to the city an uninterrupted supply of 150,000,000 gallons daily.

The average daily supply of water now received and distributed is 130,000,000 gallons through the New Aqueduct, 25,000,000 gallons through the Old Aqueduct, and 8,000,000 gallons through the Bronx river conduit, making a total daily supply of 163,000,000 gallons. It is still necessary to take advantage of every available means to prevent waste of water, and to that end this Department will be as vigilant as heretofore.

The demands on the high-service water supply are steadily increasing. With the aid of the new ten-million-gallon pumping engine 20,000 gallons of water are now supplied daily, but this is inadequate to meet the requirements of the high-service district in which increase in buildings and population is exceedingly rapid. In view of the imperative necessity of procuring additional pumping machinery, for which there is no available appropriation in this Department, the Chief Engineer of the Croton Aqueduct recommends that the Legislature be requested to enact a law providing for an expenditure of \$500,000 for this purpose.

In extending and improving the water supply throughout the city 10,560 lineal feet of 12-inch water-mains, and 10,971 lineal feet of 6-inch water-mains were laid during the quarter. To the water-meters formerly in use 360 were added, making a total of 24,264.

All the abutments and foundations for piers for the One Hundred and Fifty-fifth Street Viaduct have been completed, except 3 adjoining the abutment of the new bridge to be built across the Harlem river in place of McComb's Dam Bridge. These 3 foundations cannot safely be placed until the foundations of the new bridge abutment are laid. The erection of the iron superstructure has been commenced and will be carried on without interruption. It is estimated that by the beginning of May next the paving and other work can be proceeded with and a roadway completed to McComb's Dam road during 1892. The Chief Engineer recommends that measures be taken to have an amended grade established for McComb's Dam road, and that the grading work be contracted for with the stipulation that it shall be completed by September 1, 1892.

#### BUREAU OF WATER FURVEYOR.

Paving work has been actively prosecuted on up-town streets where no pavements have been laid heretofore, and where the cost is assessed on the property benefited. Many old pavements have been replaced with new under the annual appropriation for repavements and under the \$1,000,000 appropriation authorized by chapter 346, Laws of 1889.

The following is a summary of the area of new pavements laid during the quarter under completed contracts :

Pavements payable by assessments—	Square Yards
Granite blocks.....	17,401.9
Pavements within limits of water grants, and payable by assessments—	
Granite blocks.....	14,684.8
Repavements under annual appropriation—	
Granite blocks.....	15,442.0
Repavements under chapter 346, Laws of 1889—	
Granite blocks.....	68,677.9
Asphalt.....	54,752.9
Total square yards of new pavements completed.....	170,959.5

In addition to the above, 59,555 square yards of granite-block pavement were laid under two uncompleted contracts chargeable to the \$1,000,000 appropriation, and 17,500 square yards of granite-block pavement were laid under an uncompleted contract within the limits of grants of land under water, making a total area of 248,014 square yards of pavement laid during the quarter.

The average force employed in repairing defective pavements during the quarter was : 230 mechanics, 49 laborers, 73 carts and 3 teams. By this force 107,888 square yards of pavement were taken up and relaid.

Under orders and special contracts 925 square yards of granite-block pavement and 2,818 square yards of asphalt pavement were renewed, making a total of 111,631 square yards of pavement repaired and renewed during the quarter.

An average force of 34 mechanics, 85 laborers and 14 carts was employed in repairing and maintaining the distributing system of the city's water supply. In addition to the ordinary repairs of water-mains, stop-cocks and fire-hydrants, 162 new fire-hydrants were substituted for old ones, and 6 new fire-hydrants were placed.

#### OFFICE OF THE ENGINEER IN CHARGE OF SEWERS.

The work completed during the quarter comprises 19 contracts for the construction of sewers and 7 contracts for receiving-basins.

Work is now in progress under 28 contracts for new sewers and two contracts for receiving-basins.

1,540 receiving-basins and 76,584 lineal feet of sewer have been cleaned ; 10,950 lineal feet of new sewers and 12 receiving-basins connected therewith have been built, making the present total length of sewers in the city, 2,345,881 lineal feet, or 444.39 miles, with 5,314 receiving-basins.

The work done in repairing and cleaning sewers includes 370,771 lineal feet of sewers examined, 149 manhole-heads reset, 945 cubic yards of brickwork built, 295 square feet of flagging relaid, 381 square yards of pavement relaid, 4,636 cubic feet of earth excavated and refilled, and 4,957 cart-loads of sewer deposit removed.

#### BUREAU OF STREET IMPROVEMENTS.

During the quarter, work was in progress under 38 contracts for regulating and grading streets, setting and resetting curb-stones, flagging and reflagging sidewalks and fencing vacant lots. The following quantities of work were done :

13,321 cubic yards earth excavated.  
33,280 cubic yards rock excavated.  
39,887 cubic yards filling furnished.  
14,736 lineal feet curb-stones set.  
3,879 lineal feet curb-stones reset.  
128,260 square feet flagging laid.  
12,432 square feet flagging relaid.  
1,514 lineal feet picket fence built.



## BUREAU OF STREETS AND ROADS.

In the maintenance and repairs of the 22.25 miles of macadam roadways, under the charge of this Bureau, the following work was done during the quarter :

- 3,692 square yards of roadway resurfaced.
- 924 square yards gravel roadway repaired.
- 80 square yards of gutters paved with stone blocks.
- 1,189 truck-loads of dirt and surplus material removed.

In this work the following quantities of material were used :

- 1,526 cubic yards broken stone.
- 762 cubic yards gravel.
- 170 cubic yards of stone screenings.
- 370 truck-loads of stone for roadway foundation and filling.

The principal items of work done on the unpaved streets and country roadways under the care of this Bureau are :

- 3 miles of roadway surfaced with broken stone and clay.
- 400 square yards of Telford and macadam pavement laid.
- 400 square yards of rubble roadway laid.
- 600 cubic yards of rock filling placed.
- 950 truck-loads of earth filling placed.

- 1,203 truck-loads of broken limestone, gneiss and other road material placed.

The Fort Washington Depot road, from the railroad station at the Hudson river to Kingsbridge road, has been improved by placing upon it a complete covering of broken limestone, thus affording a more firm and convenient road surface.

## BUREAU OF LAMPS AND GAS.

The following is a record of the additions and changes in the public street lamps for the quarter :

	GAS LAMPS.	ELECTRIC LAMPS.	NAPHTHA LAMPS.
In use September 30.....	26,557	1,165	138
New lamps placed.....	657	32	2
Old lamps relighted.....	129	4	...
Lamps discontinued.....	260	2	...
In use December 31.....	27,083	1,199	140

## BUREAU OF REPAIRS AND SUPPLIES.

While the work on the New Criminal Court building has hitherto not progressed as rapidly as desirable, principally on account of the delays in obtaining the proper quality and dimensions of stone for the heavy granite work, considerable improvement in the rate of progress has been made towards the close of the quarter, and it is estimated that if the contractors interpose no further delays through failure to employ a sufficient force in making ready and placing the material, the entire work, as now contracted for, may be completed in about 150 days.

In the report of the Superintendent of Repairs and Supplies will be found a detailed account of the work done in repairing, altering and improving the numerous public buildings under the charge of this Department.

The progress in the construction of the Harlem Court building has been satisfactory, giving promise that the building will be completed within the contract time.

## BUREAU OF INCUMBRANCES.

The operations of this Bureau for the quarter are summarized as follows :

- 1,184 complaints of obstructions received and attended to.
- 1,196 seizures and removals of obstructions made.
- 1,480 building permits issued.
- 5 permits issued to cut down shade-trees.
- 219 miscellaneous permits issued.
- 7 notices issued to repair defective vault covers.
- 278 cart-loads of dirt, stone and refuse material removed from streets.
- 199 dead and dangerous shade-trees, posts and stumps removed.
- 532 telegraph poles and about 577 miles of electric wires removed.

## BUREAU OF WATER REGISTER.

The following is the amount of revenue from the water service collected and paid into the City Treasury during the quarter :

For water rents.....	\$565,522 38
For penalties on water rents.....	5,782 10
For permits to tap water-mains.....	3,321 00
Total.....	\$574,625 48

## MISCELLANEOUS REVENUE.

The Department has also collected and paid into the City Treasury during the quarter the following amounts from various sources :

For sewer permits.....	\$7,108 18
For vault permits.....	27,380 69
For redemption of street obstructions.....	571 25
For work and materials furnished citizens.....	17,955 24
For use of road roller.....	22 50
For articles sold at auction.....	5,761 23
For restoration of pavements over street openings.....	13,623 50
For furnishing and setting water-meters.....	2,963 11
Total.....	\$75,385 70

## REVIEW OF THE OPERATIONS OF THE DEPARTMENT FOR THE YEAR 1891.

## Summary of Expenditures.

Requisitions on appropriations for 1891, exclusive of repavements under chapter 346, Laws of 1889.....	\$2,657,513 72
Liabilities on above appropriations, estimated.....	442,800 00
Requisitions on appropriations for repavements, under chapter 346, Laws of 1889, for the year 1891.....	579,271 13
Liabilities on above appropriation, estimated.....	420,728 87
Requisitions on Fund for Local Improvements.....	1,421,081 93
Requisitions on Croton Water Fund.....	213,231 51
Requisitions on Fund for New Criminal Court-house.....	336,581 10
Requisitions on Fund for Public Buildings, Twelfth Ward.....	88,282 44
Requisitions on Fund for One Hundred and Fifty-fifth Street Viaduct.....	119,706 55
Requisitions on Special Fund for restoring pavements over street openings.....	41,021 17
Requisitions on Revenue Bonds for furnishing and setting water-meters.....	15,055 69
Total.....	\$6,335,274 11

## SUMMARY STATEMENT OF CONTRACTS FOR THE YEAR 1891.

## Contracts Entered Into.

69 sewer contracts, estimated cost.....	\$377,925 72
87 regulating and grading contracts, estimated cost.....	311,073 40
75 paving contracts, estimated cost.....	618,958 20
46 repaving contracts, estimated cost.....	1,260,119 65
9 contracts for water-mains, estimated cost.....	232,859 82
76 miscellaneous contracts, estimated cost.....	555,892 95
362 contracts; total estimated cost.....	\$3,356,829 74

## Contracts Completed.

76 sewer contracts, cost.....	\$507,207 77
65 regulating and grading contracts, cost.....	364,620 50
91 paving contracts, cost.....	619,338 83
60 repaving contracts, cost.....	1,063,708 01
13 contracts for water-mains, cost.....	371,304 66
53 miscellaneous contracts, cost.....	256,413 26
358 contracts, total cost.....	\$3,182,593 03

## WATER SUPPLY.

The year 1891 marks a new epoch in the history of the city's water supply inasmuch as it first brought into use the New Aqueduct to the extent admissible with the present storage facilities in the Croton water-shed, and thus reversed the previously existing relations between the conduit capacity and the capacity for storing and supplying water at the sources. The reversal of these relations consists in the fact that, prior to the completion and use of the New Aqueduct, the water-shed, with the existing storage facilities, was capable of furnishing a considerably larger supply than the Old Aqueduct could carry. Now the combined capacity of the two aqueducts, or, in fact, the capacity of the New Aqueduct alone, is considerably more than double the quantity of supply which can normally be obtained at the Croton Dam at all seasons, with the present limit of storage capacity.

The projectors and builders of the Old Aqueduct designed it for a normal maximum delivery of 60,000,000 gallons of water per day, but the demands of the city had outgrown that limit more than twenty years ago, and it became necessary to increase the strain on the old structure from time to time, until the delivery was finally increased to 98,000,000 gallons per day, or more than sixty per cent. above its maximum safe capacity. Even with this great and extremely hazardous strain on the Old Aqueduct, after it had been in use for more than forty-five years, the supply became inadequate to meet the constant increase in the demands upon the water service caused by the rapid growth of the city in population, buildings, commerce and manufactures.

The present storage capacity in the water-shed underwent a very severe strain and was tested to its utmost limits during the past year in the endeavor to keep up throughout the year a daily flow of 150,000,000 gallons through the two aqueducts; and from the early part of May to the latter part of November the rainfall and volume of flow in the streams were so irregular and deficient that by November 4 the storage reservoirs, lakes and ponds were actually depleted, and it became necessary to reduce the delivery through the aqueducts by twenty per cent. for a period of twenty days. From that time forward the full delivery of 150,000,000 gallons per day was resumed, and by the end of the year the rainfall was sufficient to replace 3,110,000,000 gallons of water in the depleted storage reservoirs and lakes.

On May 14, when all the storage reservoirs, lakes and ponds tributary to the city's water supply were full to high-water mark, and the natural flow of the Croton river first ceased to send a surplus over the Croton Dam beyond the 150,000,000 gallons daily supply, the total quantity of water in storage was 13,000,000,000 gallons. The draughts upon the stored water began May 17 and continued with brief intermissions until December 11. During this period 17,000,000,000 gallons of water were drawn from storage to supplement the natural flow of the river, or 4,000,000,000 gallons more than were in storage at the beginning of the dry season, that quantity having been replaced in the reservoirs and lakes on the few occasions of abundant rainfall.

From the above it will be seen that the draughts on stored water for the period mentioned, May 17 to December 11, averaged nearly 82,000,000 gallons per day, and that the natural flow of the Croton river for that period, unaided by draughts upon storage, averaged only 68,000,000 gallons per day.

Any cause for apprehension that it will again become necessary to reduce the supply from the Croton water-shed below 150,000,000 gallons per day in the near future will be allayed if the construction of the East Branch and Bog Brook Reservoirs progresses sufficiently to allow these reservoirs to be filled next spring, as that will add 4,000,000,000 gallons to the present storage capacity, and increase it to a total of 17,000,000,000 gallons.

The needs of the city in respect to its water supply thereafter for a period of at least 20 years will be fully met and assured by the gradual completion of additional storage reservoirs now in course of construction and in contemplation in the Croton water-shed, which will increase the total storage capacity to about 39,000,000,000 gallons, without the construction of the Cornell Dam, below the Croton Dam, which has recently been decided upon by the Aqueduct Commissioners. The construction of that dam, which involves a very large expenditure, is, therefore, not a matter of immediate or impending necessity, but it will add 30,000,000,000 gallons to the storage capacity of the reservoirs already in use, and those under construction and in contemplation, and give assurance of adequate supply for the city's needs for the next 50 years. These estimates as to the city's future requirements in respect to its water supply are made upon the most liberal basis of the city's anticipated growth in population.

Satisfactory progress has been made during the year on the construction of Reservoir A on the Muscoot Branch of the Croton river, under the direction of this Department, and it is expected that in 1893 this work will have sufficiently progressed to store 2,000,000,000 gallons of water in this reservoir.

Fallacious ideas prevail among the public generally, and even among very intelligent people who have no special knowledge of the subject, as to the proportions of rainfall which find their way into streams at different seasons of the year, and it seems incredible to them that of all the rain water which gets into the streams in the course of the year, ninety-five per cent. gets there during the months of December, January, February, March and April, and only five per cent. during the other seven months, when this large difference is absorbed by the soil, vegetation and evaporation. I must confess that when this statement was first made to me by the Chief Engineer of the Croton Aqueduct, it astounded me, and I could hardly credit it without actual demonstration by facts and figures. An exact demonstration of it by figures is very difficult, but the experience of last year has furnished all the requisite proof. To convince the most skeptical on this point, I will cite two cases when there was opportunity of measuring with all practical exactitude the quantity of water gathered into the Middle Branch Reservoir from its twenty-one square miles of water-shed during two separate brief periods at different seasons of the year, when there was comparatively abundant rainfall. For 13 days, from August 21 to September 3, the outlet of this reservoir was absolutely closed, and the water of all the streams within its water-shed was collected in it. The rainfall for these 13 days was 5 inches, which must be called exceptionally large for this brief summer period. It amounted to a total of 1,830,000,000 gallons, and of all this only 42,000,000 gallons, or about 2 1/2 per cent. found its way into the streams and reservoir. This same reservoir was again closed at its outlet for 30 days, from November 23 to December 22, during which the rainfall was 3.39 inches, amounting to 1,240,000,000 gallons for the 21 miles of water-shed. Of this much smaller rainfall, distributed over a much longer period, 332,000,000 gallons, or about 25 per cent. was gathered into the streams and reservoir, thus showing the vast difference between the absorption by soil, vegetation and evaporation in summer seasons and in winter seasons.



The natural deductions from the experience of the past year, as above related, are:

1. That the average daily flow of the Croton river, unaided by draughts from storage, from May to December, amounts to 48,000,000 gallons, or less, and
2. That all the stored water required to supplement that flow to any given quantity required for the city's daily supply must be gathered in the reservoirs during the months of December, January, February, March and April, and that storage reservoirs must be had of sufficient capacity to gather all the water required for the whole year during those five months.

The New Aqueduct, which was transferred to the care and custody of this Department on July 1 of last year, delivered an average daily supply of 84,000,000 gallons during the year, with brief interruptions on account of necessary repairs on January 13 and 14 and April 12 to 19. The Old Aqueduct furnished the remainder of the daily supply from the Croton water-shed, except from October 11 to November 19, when it was shut off for the purpose of thoroughly cleansing it and repairing it from the interior. Since these interior repairs were made there have been no noticeable leaks in the structure. The report of the Chief Engineer of the Croton Aqueduct, hereto annexed, gives a detailed account of the work of repairs and maintenance on this structure.

In extending the water service into new streets and districts and improving the distribution of water throughout the city 18.29 miles of additional water-mains, with 181 stop-cocks and 179 fire-hydrants were placed. The entire distributing system now includes 685.48 miles of water-mains with 7,129 stop-cocks and 8,752 fire-hydrants.

The increase in the water supply received and distributed in the city does not preclude or diminish the necessity of vigilant measures to prevent waste of water. Waste, if allowed to go on indiscriminately and without check, would exhaust even the most abundant supply and would at all times be an injustice to honest and careful consumers by depriving them of the supply and pressure in the delivery of water to which they are entitled. The Department is, therefore, continuously extending the water-meter system which is the most effective preventative of waste. During the past year 2,192 additional water meters have been placed and the total number of meters now in use is 24,264. An average of 30,470,000 gallons of water now daily passes through water meters and is paid for by meter measurement at the established rates.

#### STREET PAVEMENTS.

During the past year much progress has been made in improving the thoroughfares of this city by laying new pavements thereon. The streets selected for repavement were those on which the old pavements were in poor condition and in urgent need of replacement with new. On streets subjected to very heavy traffic granite-block pavements on concrete foundation and with tar and gravel in the interstices have been laid. On streets where the traffic is less heavy the same class of pavement, on sand foundation, has been used, while on comparatively residential streets, where traffic is light, asphalt pavements have been laid. The area of the different kinds of pavement laid during the year under the annual appropriation for repavements, the one million dollar appropriation authorized by chapter 346 of the Laws of 1889 and the Land Grant Act (chapter 449, Laws of 1889), together with assessment work, is as follows:

##### On Up-town Streets, Cost Assessed on Abutting Property.

Granite block.....	61,972.80 square yards.
Trap block.....	3,305.30 "
Asphalt.....	9,488.00 "
Total.....	74,766.10 square yards.

##### Repavements Under Annual Appropriation, Consolidation Act.

Granite block.....	82,071.60 square yards.
Asphalt.....	4,284.90 "
Total.....	86,356.50 square yards.

##### Repavements Under Chapter 346, Laws of 1889.

Granite block.....	155,469.00 square yards.
Asphalt.....	132,781.00 "
Total.....	288,250.00 square yards.

##### Repavements Under Chapter 449, Laws of 1889, Assessed on Abutting Property.

Granite block.....	71,026.14 square yards.
Trap block.....	1,895.00 "
Asphalt.....	3,300.70 "
Total.....	76,221.84 square yards.

##### Under Appropriation for "Boulevards, Roads and Avenues—Maintenance of"—Resurfacing Seventh Avenue.

Macadam.....	70,171.60 square yards.
--------------	-------------------------

#### SUMMARY OF PAVEMENTS LAID IN 1891.

Granite block.....	370,539.54 square yards.
Trap block.....	5,200.30 "
Asphalt.....	149,854.60 "
Macadam.....	70,171.60 "
Total.....	595,766.04 square yards.

—or 27.42 miles in length.

In addition to the foregoing, contracts have been awarded for repaving Park Row, from Frankfort street to and including Chatham square; Third avenue, from Sixth to Twenty-third street; Park Row, from Frankfort street to Broadway; Beekman street, from Park Row to Pearl street, and the Bowery, from Chatham square to Sixth street. The commencement of the work under these contracts has been postponed until the completion by the Third Avenue Railroad Company of its cable road, from Broadway through Park Row, Chatham square, the Bowery and Third avenue to the Harlem river. The cable construction is practically finished from Ninth to One Hundred and Twenty-fourth street, and the entire work ought to be completed before the first of July next. This Department has done all in its power to expedite this work and will continue to exercise its authority to that end.

Contracts for paving the following streets, by assessment on the property benefited, were awarded too late in the season to admit of the work being done before next spring:

- Amsterdam avenue, from One Hundred and Thirtieth to One Hundred and Fortieth street.
- Ninety-eighth street, from Amsterdam avenue to the Boulevard.
- One Hundred and Nineteenth street, from Seventh to Lenox avenue.
- Bradhurst avenue, from One Hundred and Forty-second to One Hundred and Forty-fifth street.
- Edgecombe avenue, from One Hundred and Thirty-eighth to One Hundred and Forty-fifth street.
- One Hundred and First street, from First to Second avenue.
- One Hundredth street, from Third to Lexington avenue.
- One Hundred and First street, from Third to Lexington avenue.

- One Hundred and Twenty-second street, from Avenue A to Harlem river.
- One Hundred and Seventeenth street, from Madison to Fifth avenue.
- Ninetieth street, from First to Second avenue.
- Ninety-sixth street, from Lexington to Fourth avenue.
- One Hundred and Third street, from First avenue to East river.
- Fifty-eighth street, from Eleventh avenue to the Hudson river.
- One Hundred and Fourteenth street, from Manhattan to Columbus avenue.
- One Hundred and Seventeenth street, from Eighth to Columbus avenue.
- One Hundred and Twenty-second street, from Manhattan to Columbus avenue.

Work under these contracts will be begun early next spring.

In the report of the Water Purveyor, hereto annexed, will be found a detailed list of streets where the present condition of the pavements is such as to require the laying of new pavements. A large proportion of these streets is within the limits of grants of land under water, where the cost of repavements must be borne by the owners of the abutting property. It is desirable that the necessary resolutions and ordinances be passed by the Common Council to authorize these repavements, under the provisions of chapter 449, Laws of 1889.

All other needed repavements must be met by annual appropriations.

The question of these repavements will, as heretofore, receive careful study in order to determine the character and quality of new pavements which will be most suitable to meet the varying conditions of street traffic, and effect the best possible results in the improvement of the city's pavements which the means appropriated for the purpose can afford.

#### Openings in the Public Streets.

The greatest obstacle to the maintenance of good pavements exists in the innumerable occasions for tearing up the streets for the purposes of placing and repairing underground structures and surface railroads. The Department has relaxed no efforts to protect the city in all rights and interests so far as they are affected by privileges granted to private corporations and individuals to use the public streets for their purposes and benefit. In the pursuance of this object the Department has exercised all the authority vested in it (1) to reduce to the lowest possible limit the disturbance of pavements by the operations of corporations and individuals, and (2) to hold them to the utmost limit of responsibility in respect to the proper restoration of pavements disturbed by them. No permits have been granted by this Department to open any street except where the granting of such permits was made compulsory by law.

The subjoined list of openings in the public streets for the past year shows a considerable reduction except as to cable railway construction:

- 21,407 openings made for connection with gas-mains, steam-pipes, electric subways, etc.
- 41.93 miles of gas-mains laid.
- 36.00 miles of trench opened for electric subways.
- 3,256 lineal feet of steam pipe laid.
- 1,194 lineal feet of salt water-mains laid.
- 25,291 lineal feet of double car tracks laid.
- 2,766 lineal feet of single car tracks laid.
- 13.98 miles of cable railroad track laid by the Third Avenue Railroad Company.
- 9.80 miles of cable railroad laid by Broadway and Seventh Avenue Railroad Company.

In repaving streets traversed by surface railroads much inconvenience and delay has been caused by failure of the railroad companies to comply with orders from this Department to adjust their tracks to the established grades of the new pavements. Unfortunately the Department of Public Works is not vested with power to compel these companies to make their tracks conform to the established grades of streets, to lay rails of an improved pattern, and to maintain in and about their tracks pavements of as good quality as those laid by the City on the other portions of the thoroughfares traversed by surface railroads. Bills were introduced and passed in the Assembly to confer on the Commissioner of Public Works authority to compel railroad companies to make the changes above referred to and to maintain first-class pavements in and about their rail tracks. These bills were stilled in the Senate. It is hoped that the desired and necessary legislation may be obtained during the present session of the Legislature.

The new pavements laid during the past three years have proved a great boon to the community at large, and particularly to those actively engaged in the commerce of the metropolis. This is readily acknowledged by intelligent and impartial citizens. Still greater benefits will be realized when the paving work is further extended. In the interests of commerce, sanitation and the public health, it is undoubtedly economical to lay and maintain good pavements on our thoroughfares. In such public improvements a city of the wealth and commercial importance of New York cannot afford to lag behind Cincinnati, Buffalo, Cleveland, Baltimore and Washington. In these cities millions of dollars have been expended for new pavements within the past few years.

Careful observations have been made of the Sicilian rock asphalt and the Trinidad asphalt pavements laid during the past three years. The result of these observations proves that the Sicilian rock asphalt is subject to a greater degree of compression than the Trinidad asphalt, and that the ultimate compression of the former is postponed over a longer period than that of the latter. By close observation it has also been definitely ascertained that rock asphalt pavement is much more slippery than Trinidad. This is due to the difference in the materials with which the respective asphalts, in their natural state, are mixed for pavements. The Trinidad asphalt pavement contains a large admixture of sand, which affords a rough surface and good foothold for horses. The rock asphalt contains no sand or grit, but a preponderance of carbonate of lime which is assimilated into the plastic mass of the natural asphalt, leaving a comparatively smooth surface which does not afford as good a foothold for horses as the rougher surface of the Trinidad asphalt pavement.

The asphalt pavement laid on Eighth avenue has not been as satisfactory as desired. From Thirteenth to Thirty-fourth street this pavement has been taken up and relaid by order of this Department, and the contractor has promised to relay the pavement on the other section of the avenue, from Thirty-fourth to Fifty-ninth street. As security for the repair and maintenance of the latter section, \$40,667 has been retained from the contractor. Besides this amount, about \$30,000 remains to be certified for payment so that the City is amply secured against loss. Neither of the two contracts for paving Eighth avenue have been accepted as completed, and will not be accepted by this Department until the specifications shall have been strictly complied with.

As Eighth avenue was paved with Trinidad asphalt, an inquiry as to the different grades and qualities of asphalt obtainable on that island naturally suggested itself. Investigation led to the belief that inferior asphalt had been used on Eighth avenue, and, to satisfy myself on this point, I directed Mr. Stevenson Towle, Consulting Engineer on Pavements, to proceed to Trinidad and examine the deposits of asphalt on that island. The result of his examination justifies the conclusion that the comparative failure of the Eighth avenue pavement is due to the use of inferior asphalt from the village plots of La Brea in the Island of Trinidad, instead of from the Pitch Lake. While asphalt is found in different parts of Trinidad, the Pitch Lake is the only place where it can be found in sufficient quantity and of the requisite quality for street pavements. This is demonstrated by the analyses of samples of the different grades of asphalt brought from Trinidad by the Consulting Engineer. I have, therefore, determined to specify in future contracts for asphalt pavements that the asphalt to be used must be from the Pitch Lake or equal in quality to that asphalt. This change in the specifications will not have the effect of stifling competition, inasmuch as the Pitch Lake asphalt is a merchantable commodity, easy of purchase by parties desiring it. In case it should become apparent hereafter that rock asphalt is less slippery than experience and observation have so far shown it to be, and if it should then be determined to lay any more rock asphalt pavements, the specifications therefor should provide for a uniform thickness of 2½ inches, or one-half inch more than the required thickness of Trinidad asphalt, to allow for the greater and continuous compression to which rock asphalt is subject, as compared with Trinidad asphalt.

The report of the Consulting Engineer on Pavements (Document F), hereto annexed, contains much valuable information on the subject of asphalt pavements.



*Repairs of Pavements.*

The work performed during the year by the regular repair force of the Department comprises the taking up and relaying of 351,803 square yards of pavement, repairing 993 crosswalks, laying three new crosswalks and repairing 4,359 pieces of defective pavement.

*Present Length of Paved Streets.*

Stone block, granite and trap.....	319.57 miles.
Cobble.....	1.05 "
Asphalt.....	27.77 "
Macadam.....	22.25 "
Wood.....	.03 "
Total.....	370.67 miles.

## SEWERAGE AND DRAINAGE.

During the year the Department has endeavored to keep pace with the increasing demands for new sewers and improvements of the old sewerage system. Over eight miles of new sewers and 69 receiving-basins have been constructed, making the aggregate length of the sewerage system 444.29 miles, with 5,314 receiving-basins. The work done exceeds that of the preceding year by nearly four miles. The locations in which the sewerage system has been improved and extended indicate that the vacant ground in different parts of the city is being rapidly utilized for building purposes. The most important works completed during the year, exclusive of water-front improvements, include sewers in Amsterdam avenue, between various points, from One Hundred and Thirty-first to One Hundred and Ninetieth street; sewer in Fifth avenue, between One Hundred and Thirty-fifth and One Hundred and Thirty-seventh streets; sewer in One Hundred and Thirty-seventh street, between Fifth and Sixth avenues; sewer in Ninetieth street, between Avenue A and Second avenue; sewer in One Hundred and Fourth street, between First avenue and Harlem river; alterations and improvements to sewers in Park avenue, between Seventy-first and Seventy-third streets; in Seventy-second street, between Park and Madison avenues; in Eighth avenue, between One Hundred and Twenty-fourth and One Hundred and Thirty-seventh streets; in Fifty-fifth street, between Eighth and Ninth avenues; in South Fifth avenue, between Canal and Broome streets.

At the end of the year 4.38 miles of sewers were under construction. The most important of these are the outlet sewers at East and West Eighteenth streets, and Thirty-fourth street and North river; marginal sewers in South street, between Market Slip and Montgomery street, with outlet through Pier 36, East river; sewer in Edgecombe avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets; sewer in One Hundred and Seventieth street, between Tenth avenue and Kingsbridge road, and in Kingsbridge road, between One Hundred and Seventieth and One Hundred and Seventy-third streets; sewer in One Hundred and Twenty-second street, between the Boulevard and Claremont avenue, and in Claremont avenue, between One Hundred and Nineteenth and One Hundred and Twenty-second streets.

The work of building marginal sewers and extending the various outlet sewers in the lower part of the city to the outer end of piers for the purpose of discharging the sewage into the tidal currents has been well advanced, and the water-front is now practically free from the nuisances which have been complained of in past years. More progress has been made on the North than on the East river, owing to the fact that the Department of Docks has not built as many piers on the latter as on the former. On the East river some of the piers through which it is necessary to carry outlets are private property, and legal obstacles have been interposed to prevent the City using the same in extending and improving the sewerage system.

The sewage of Tenth avenue, between One Hundred and Sixty-second and One Hundred and Seventy-third streets, is still without a proper outlet owing to the failure of the Senate to pass a bill which was introduced and passed in the Assembly to amend the laws relating to the condemnation of property for sewerage purposes. Without this amendment it is impossible to obtain the land or right of way through private property for a sewer outlet to the Harlem river. The bill has been introduced again this year, and it is to be hoped it will be speedily passed in order that the work of constructing the necessary outlet may be commenced early in the spring.

A new sewerage district has been laid out according to law, comprising the section bounded south by One Hundred and Seventy-third street; east by Eleventh and Audubon avenues and Kingsbridge road; north by the line of Two Hundred and Fifteenth street; west by Hudson river and Washington Ridge road. Plans for this district are now ready for filing. The outlet will be into the Hudson river at Dyckman street. The grading of this street is in progress, and will be sufficiently advanced to allow the construction of the sewer outlet to be commenced in the spring. The grading and sewerage of Dyckman street will open up that neighborhood to important improvements.

A very perfect system of sewer inspection prevails, by which defects or obstructions to the flow of sewage are detected in advance of damage being done. In this way about 200 miles of sewers were examined, and of this amount about 133,008 lineal feet were cleaned under contract. This work was done for sanitary reasons, as there was not sufficient deposit in any case to impede the free flow of sewage. The cost of this work was \$17,360, or an average of thirteen cents per lineal foot; while in 1890 the same class of work cost the City \$36,792, showing a saving of over \$19,000 in 1891 as compared with the preceding year.

The pipe sewers have been kept in order by the force employed on repairs and maintenance of sewers. During the year this force cleaned 72,297 lineal feet of sewers at a cost of \$6,678.50, or about nine cents per lineal foot. The total length of sewers cleaned during the year by the repair force and by contract is 205,305 lineal feet, at an average of about eleven cents per foot.

About 1½ miles of dilapidated sewers in the old system have been rebuilt, and much similar work remains to be done. The appropriation for repairs being limited, it was not deemed prudent to have much work done until near the end of the season lest an emergency should arise in which extra expenditure would be required. Two contracts for repairs are still unfinished, covering 868 lineal feet of sewer.

A new general plan of the sewerage system has been completed under the direction of the Engineer in Charge of Sewers. The plan comprises eight large sheets, and contains a vast amount of information.

The vigilant efforts of this Department to suppress nuisances caused by the discharge of steam and hot water into the public sewers have been particularly successful. In the early part of the year the Board of Aldermen passed an amended ordinance giving this Department power to close all pipes and house-connections through which steam or hot water may be discharged. Under this ordinance 259 sewer-connections were examined. In 113 cases notices were served on the offending parties and the nuisance at least temporarily abated. In making these examinations both difficulty and danger were encountered, the heat of the steam sometimes reaching 200 degrees Fahrenheit, and the foetid atmosphere being almost suffocating. Experience shows that it will be impossible to completely eradicate the nuisance without the aid and co-operation of the Police Department and the Health Department.

## REGULATING AND GRADING STREETS.

The first improvement on any public street or highway is to regulate and grade it to its legally established grade by excavation or building of embankment as the case may be, and to set the curb-stones demarking the carriageway from the sidewalks, and lay flagging on the sidewalks of sufficient width for the convenience of pedestrian travel. In the course of the year, 65 regulating and grading works were completed, and at the present time work is in progress on 21 uncompleted works. The following are the aggregate quantities of work done under the several contracts during the year:

37,932 cubic yards of earth excavated.  
82,653 cubic yards of rock excavated.  
181,836 cubic yards of filling placed in embankments.

35,295 lineal feet of new curb-stones set.  
257,883 square feet new flagging laid.  
9,871 lineal feet curb-stones reset.  
33,705 square feet flagging relaid.  
10,731 lineal feet picket fence built.  
482 cubic yards retaining-wall built.  
1,884 lineal feet iron fence built.

The following are the principal works which are now in progress, and will be completed in the course of 1892:

Claremont avenue, from One Hundred and Twenty-second to One Hundred and Twenty-seventh street.

F. street, from Dyckman street to Bolton road.

Amsterdam avenue, from One Hundred and Ninety-fourth street to Fort George avenue.

One Hundred and Sixth street, from the Boulevard to Riverside Drive.

One Hundred and Eighteenth street, from Morningside to Amsterdam avenue.

One Hundred and Twenty-third street, from Tenth avenue to the Boulevard.

One Hundred and Twenty-fourth street, from the Boulevard to Amsterdam avenue.

One Hundred and Twenty-seventh street, from Avenue St. Nicholas to Lawrence street.

One Hundred and Forty-seventh street, from the Boulevard to 500 feet westerly.

One Hundred and Forty-ninth street, from the Boulevard to Twelfth avenue.

One Hundred and Sixty-fifth street, from Eleventh avenue to the Boulevard.

One Hundred and Eighty-third street, from Amsterdam avenue to Kingsbridge road.

In addition to these, there are four contracts on which only the setting of curb and placing of flagging remain to be done, and which will be completed as early in the spring as the weather is suitable for that class of work.

## LIGHTING PUBLIC STREETS, PARKS AND PLACES.

During the year the several gas companies laid over 25 miles additional gas-mains to extend the gas service into new streets and districts, and the present length of gas-mains in the streets of the city is 1,306.4 miles. The length of streets to which public lighting has been extended is 18.3 miles, and the City now lights 531 miles of public streets, bridges and docks and 69.25 acres of public parks and places.

On January 1, 1891, there were in use 27,114 gas lamps, 881 electric lamps and 138 naphtha lamps. The total number in use on December 31, 1891, is 27,083 gas lamps, 1,199 electric lamps and 140 naphtha lamps. The increase of 318 in the number of electric lamps displaced 1,510 gas lamps.

The prices bid by the several gas companies for lighting the public lamps for 1892 are the same as those for 1891, viz.: The Equitable Gas-light Company, \$12 per lamp; the Standard Gas-light Company, \$13.04 per lamp; the New York Mutual Gas-light Company, \$17.50 per lamp; the Consolidated Gas-light Company, \$17.50 per lamp; the Central Gas-light Company, \$27 per lamp; the Northern Gas-light Company, \$28 per lamp; the Yonkers Gas-light Company, \$28 per lamp.

The vast difference in the prices bid and charged by the different gas companies is accounted for by the facts (1) that the Equitable and the Standard Gas-light Companies are required by conditions imposed by the officers constituting the Gas Commission to light the public lamps at a fixed maximum price, and that the franchises of the other companies, granted by State and Municipal legislation, do not contain any limitation in that respect; (2) that the lower prices charged by the other gas companies are due to competition between the rival companies where more than one of them has the privilege of laying and maintaining gas-mains and service in the same street.

The question which presents itself for serious consideration is whether the gas companies should not be restricted in their use of the public streets so that there shall be only one line of mains and gas service in any street, limiting the companies at the same time to a certain price for lighting public lamps as well as for furnishing gas to private consumers, and thus do away with the discomforts, the injury to pavements and the expense of maintaining proper pavements, which are caused by the existence of duplicated lines of gas-mains and gas service in the same street.

## PUBLIC BUILDINGS.

Under the heading "Bureau of Repairs and Supplies," in the foregoing part of this report, a brief account is given of the present condition of the work on the new Criminal Court Building and the Harlem Court Building.

While the municipal departments, offices and courts are scattered over a large number of buildings, partly owned and partly leased by the City, instead of being concentrated as far as possible in a large municipal building, a full account of all the various repairs and improvements made therein would be too voluminous for a departmental report. The details of it will be found in the report of the Superintendent of Repairs and Supplies hereto annexed. Among the more important works done during the past year, I will mention the repairs of buildings in West Washington Market, which have been damaged by fire: extensive repairs to the flooring, roof and sidewalks of Clinton Market; the thorough overhauling and painting of the roof of Catherine Market, and the extensive repairs made on the building and rooms occupied by the Fifth District Civil Court; also on several armory buildings.

Among the repairs and improvements which are needed during the ensuing year, and for which special appropriations have been made, are reconstruction of the heating and ventilating apparatus in the County Court-house; alterations and improvements in the rooms of the Supreme Court; improvements in the buildings of West Washington Market, for greater security against danger from fire.

## FREE FLOATING BATHS.

The fifteen free floating baths now owned by the City, were opened to the public from June until the end of September, and the total attendance for the bathing season was 3,432,329, of which 1,081,967 were females. The baths are now safely stored in winter quarters, and will be thoroughly repaired and equipped for the ensuing summer season.

## STREET OBSTRUCTIONS.

The following is a summary of the operations of the Bureau of Incumbrances for the year 1891:

4,634 complaints of obstructions received and attended to.  
4,542 seizures and removals of obstructions made.  
720 cart-loads of dirt and other refuse material removed from streets.  
720 dangerous shade-trees and stumps removed.  
1,888 telegraph poles removed.  
2,512 miles (about) electric wires removed.  
7,645 permits issued to place building materials on streets.  
1,144 miscellaneous permits issued.

## CITY REVENUE.

The following is the total revenue from the water service collected by the Department and paid into the City Treasury during the year:

For regular water rents.....	\$1,705,366 07
For water supplied through meters.....	1,307,732 74
For water for building purposes, etc.....	42,884 85
For penalties for using hose without permit.....	185 00
For permits to tap water-mains.....	12,101 50
Total cash receipts.....	\$3,068,270 16
Add unpaid water-rents returned in arrears.....	304,869 38
Total revenue from water service.....	\$3,373,139 54



MISCELLANEOUS REVENUE.

For sewer permits .....	\$30,167 72
For vault permits.....	126,158 70
For redemption of street obstructions.....	2,100 75
For restoring pavements over street openings.....	45,173 61
For furnishing and setting water-meters .....	9,369 46
From miscellaneous sources.....	33,432 71
Total .....	\$246,402 95

The following documents, appended to this report, contain further detailed information of the transactions of this Department :

- Document A—Statement of appropriations and expenditures.
- Document B—Detailed statement of expenditures.

- Document C—Detailed statement of contracts.
- Document D—Report of the Chief Engineer of Croton Aqueduct.
- Document E—Report of the Water Purveyor.
- Document F—Report of the Consulting Engineer on Pavements.
- Document G—Report of the Engineer in Charge of Sewers.
- Document H—Report of the Superintendent of Street Improvements.
- Document I—Report of the Superintendent of Streets.
- Document K—Report of the Superintendent of Lamps and Gas.
- Document L—Report of the Superintendent of Repairs and Supplies.
- Document M—Report of the Superintendent of Incumbrances.
- Document N—Report of the Water Register

Very respectfully,

THOS. F. GILROY, Commissioner of Public Works.

Document "A."

Showing Titles of Appropriations; Balances of 1890 on October 1, 1891; Requisitions on 1890 in Fourth Quarter of 1891, together with Transfers; Balances of 1890 on December 31, 1891; Appropriations, including Transfers of 1891; Requisitions of First Nine Months of 1891; Requisitions, Fourth Quarter of 1891; Balances on December 31, 1891; and the Titles and Conditions of the Trust and Special Accounts.

TITLES OF APPROPRIATIONS.	BALANCES OF 1890 ON OCTOBER 1, 1891.	REQUISITIONS AND TRANSFERS OF 1890, IN FOURTH QUARTER, 1891.	BALANCES OF 1890 ON DECEMBER 31, 1891.	APPROPRIATIONS, INCLUDING TRANSFERS OF 1891.	REQUISITIONS, FIRST NINE MONTHS, 1891.	REQUISITIONS, FOURTH QUARTER, 1891.	TOTAL REQUISITIONS, 1891.	BALANCES ON DECEMBER 31, 1891.
Aqueduct—Repairs, Maintenance and Strengthening—								
Care, Maintenance and Repairs.....	\$743 44	\$743 44	.....	.....	.....	.....	.....	.....
Completing the Excavation in the Old Central Park Reservoir.....	61,648 00	1,512 00	\$60,136 00	.....	.....	.....	.....	.....
Building New Gate-house and Removing the Old Gate-house.....	12,283 50	2,419 87	9,863 63	.....	.....	.....	.....	.....
Care, Maintenance and Repairs, including repairs to Old Aqueduct.....	.....	.....	.....	\$100,000 00	\$117,877 60	\$67,515 42	\$185,393 02	\$14,666 98
Concreting and Facing with Masonry the Old Central Park Reservoir.....	.....	.....	.....	70,000 00	.....	.....	.....	70,000 00
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....	1,306 61	1,306 61	.....	27,850 00	10,977 85	6,744 60	26,722 45	1,127 55
Boring Examinations for Grading and Sewer Contracts.....	3 95	3 95	.....	3,600 00	2,826 50	770 00	3,596 50	3 50
Boulevards, Roads and Avenues, Maintenance of.....	119 50	119 50	.....	.....	.....	.....	.....	.....
General Account, including Ramp for Approach to McComb's Dam Bridge..	.....	.....	.....	100,500 00	80,374 01	19,920 05	100,303 06	106 94
For Resurfacing Seventh Avenue.....	.....	.....	.....	40,000 00	26,493 81	13,146 12	39,639 93	360 07
Boulevards, Roads and Avenues, Maintenance of—Salaries.....	04	04	.....	2,500 00	1,374 97	624 99	2,499 96	04
Bronx River Works—Maintenance and Repairs.....	17 16	13 26	3 90	25,000 00	15,825 44	8,357 87	24,183 31	816 69
Bronx River Works—Maintenance and Repairs—Salaries.....	.....	.....	.....	2,400 00	1,800 00	600 00	2,400 00	.....
Contingencies—Department of Public Works.....	206 88	206 88	.....	4,000 00	2,041 54	1,095 88	3,137 42	86 58
Flagging Sidewalks and Fencing Vacant Lots, etc.....	1,446 16	1,446 16	.....	5,600 31	78 10	321 89	5,999 26	5,209 26
Free Floating Baths—Care and Maintenance.....	110 14	110 14	.....	18,000 00	13,619 42	3,455 27	17,074 69	925 31
Free Floating Baths—Care and Maintenance—Salaries.....	1,805 50	1,805 50	.....	30,000 00	25,050 50	4,800 50	29,850 00	120 00
Lamps and Gas and Electric Lighting.....	443 80	443 80	.....	760,000 00	494,110 47	205,008 19	700,118 66	59,881 34
Lamps and Gas and Electric Lighting—Salaries.....	94 28	94 28	.....	6,500 00	4,874 85	1,614 20	6,489 05	10 05
Laying Croton Pipes.....	35,184 67	9,613 56	25,571 11	230,200 00	115,252 03	55,405 10	170,657 13	59,622 84
Laying Croton Pipes—Salaries.....	668 00	868 00	.....	10,710 00	12,346 66	4,482 90	16,829 56	2,880 35
Public Buildings—Construction and Repairs, including \$3,000 for Alterations, etc.	3,326 61	2,973 00	353 61	94,900 00	51,130 64	32,008 08	83,138 72	7,861 28
Public Drinking-hydrants.....	309 53	309 53	.....	3,000 00	2,162 14	808 70	2,970 84	29 16
Public Drinking-hydrants—Salaries.....	.....	.....	.....	1,200 00	584 84	300 00	884 84	315 16
Removing Obstructions in Streets and Avenues.....	.....	.....	.....	46,238 99	27,688 80	15,221 40	43,110 20	3,128 79
Removing Obstructions in Streets and Avenues—Salaries.....	239 35	239 35	.....	7,800 00	5,775 00	2,025 00	7,800 00	.....
Repairing and Renewal of Pipes, Stop-cocks, etc.....	254 42	120 66	133 76	221,000 00	179,931 31	39,441 51	219,372 82	1,627 18
For New Fire Hydrants.....	.....	.....	.....	50,000 00	795 68	15,622 10	16,418 78	33,581 13
Repairs and Renewal of Pavements and Regrading.....	6,844 92	855 06	5,989 86	300,000 00	150,929 47	90,158 88	241,088 35	18,911 65
Repairs and Renewal of Pavements and Regrading—Salaries.....	657 14	657 14	.....	17,000 00	12,312 00	3,803 50	16,115 50	854 50
Repaving Streets and Avenues.....	94,512 32	3,771 24	90,741 08	350,000 00	135,747 71	43,355 58	179,103 29	170,800 71
Repaving Streets and Avenues—Salaries.....	3,957 25	3,957 25	.....	13,000 00	9,826 75	2,439 00	12,265 75	734 25
Retaining-walls in East Fifty-first Street and East Forty-second Street.....	2,542 35	300 00	2,242 35	.....	.....	.....	.....	.....
Roads, Streets and Avenues Unpaved—Maintenance, etc.....	115 64	115 64	.....	30,000 00	13,389 57	14,988 97	28,378 54	1,621 46
Salaries—Department of Public Works.....	51 43	51 43	.....	95,000 00	60,300 77	2,810 10	63,110 87	2,889 13
Salaries—Engineer, Clerks, Inspectors, etc.....	2,691 17	2,691 17	.....	58,000 00	41,602 12	14,810 70	56,412 82	1,587 18
Sewers—Repairing and Cleaning.....	1,700 55	36 24	1,724 31	125,000 00	74,760 45	33,914 65	110,675 10	14,324 90
Sewers—Repairing and Cleaning—Salaries.....	20 08	20 08	.....	10,000 00	7,333 94	2,469 93	9,803 87	176 08
Sewerage System—Salaries.....	529 65	529 65	.....	8,600 00	6,046 17	2,100 00	8,146 17	453 83
Street Improvements—For Surveying, Monumenting, etc.....	470 50	470 50	20 00	3,000 00	1,784 50	570 00	2,354 50	645 50
Supplies for and Cleaning Public Offices.....	7,377 89	7,377 89	.....	130,250 00	86,332 72	27,825 07	114,157 79	25,092 21
Supplies for and Cleaning Public Offices—Salaries.....	40 80	40 80	.....	18,000 00	13,850 85	4,670 74	18,521 59	398 41
Supplying Water to Shipping and for Building Purposes—Salaries.....	50	50	.....	10,000 00	7,546 50	3,666 55	9,913 05	1,695 55
Surveys, Maps, etc., for Street Openings, etc.—Salaries.....	08	08	.....	7,100 00	5,324 94	1,774 98	7,099 92	08
Water Supply for the Twenty-fourth Ward.....	100 00	100 00	.....	3,900 00	2,295 52	1,064 59	3,360 11	539 89
Water Supply for the Twenty-fourth Ward—Salaries.....	100 42	100 42	.....	1,200 00	900 00	300 00	1,200 00	.....
Wells and Pumps—Repairing and Cleaning.....	.....	.....	.....	250 00	.....	.....	.....	250 00
Totals.....	\$242,174 23	\$45,394 62	\$196,779 61	\$3,160,408 30	\$1,885,027 23	\$772,631 24	\$2,657,658 47	\$502,749 83
Repaving, chapter 346, Laws 1889.....	\$456,115 72	\$101,011 40	\$355,104 32	\$1,000,000 00	\$309,048 69	\$270,222 44	\$579,271 13	\$422,728 87

NOTE.—Requisitions drawn in Fourth Quarter, 1891, on Liabilities of 1889, Aqueduct—Repairs, Maintenance and Strengthening, \$1,500.

TITLES OF TRUST ACCOUNTS.	BALANCES FROM 1890, RETURNS TO ARREARS AND RECEIPTS OF FIRST NINE MONTHS, 1891.	RECEIPTS, FOURTH QUARTER, 1891.	TOTAL BALANCES OF 1890 AND RECEIPTS FOR 1891.	REQUISITIONS, FIRST NINE MONTHS, 1891.	REQUISITIONS, FOURTH QUARTER, 1891.	TOTAL REQUISITIONS FOR 1891.	BALANCES, DECEMBER 31, 1891.
Croton Water Fund.....	.....	.....	.....	\$152,453 70	\$60,777 81	\$213,231 51	.....
Street Improvement Fund.....	.....	.....	.....	1,032,730 84	388,512 91	1,421,243 75	.....
Restoring and Repaving—Special Fund—Department of Public Works.....	\$40,630 97	\$13,623 50	\$54,254 47	28,781 91	12,440 68	41,222 59	\$13,031 88
Water Meter Fund, No. 2.....	35,473 52	2,963 11	38,436 63	12,142 00	2,913 69	15,055 69	23,380 94
Criminal Court-house Fund.....	.....	.....	.....	221,948 10	114,633 00	336,581 10	.....
Fund for Viaduct from St. Nicholas place, etc.....	.....	.....	.....	109,714 95	9,991 60	119,706 55	.....
Public Buildings, Twelfth Ward, Construction of.....	.....	.....	.....	67,831 44	20,424 00	88,255 44	.....

Statement of General Bookkeeper, D. P. W., showing all Revenues of the City received through the Department during the First Nine Months of 1891; during the Fourth Quarter, 1891; and the Total for the Year.

SOURCE OF REVENUE.	FIRST NINE MONTHS, 1891.	FOURTH QUARTER, 1891.	TOTAL.	SOURCE OF REVENUE.	FIRST NINE MONTHS, 1891.	FOURTH QUARTER, 1891.	TOTAL.
Water rents.....	\$2,476,284 13	\$565,522 38	\$3,041,806 51	Return of Water rents, etc., in Arrears—	.....	.....	.....
Water penalties.....	8,580 05	5,782 10	14,362 15	Regular Croton water rents.....	.....	\$144,463 88	.....
Pipe tapping.....	8,615 50	3,321 00	11,936 50	Water by meter measurement.....	.....	160,405 50	\$304,869 38
Sewer permits.....	23,059 54	7,108 18	30,167 72	Meters and meter setting.....	.....	.....	6,668 62
Vault permits.....	98,778 01	27,380 69	126,158 70	.....	.....	.....	.....
Redemption of street obstructions.....	1,529 50	571 25	2,100 75	.....	.....	.....	.....
Use of road roller, etc.....	27 00	22 50	49 50	.....	.....	.....	.....
Sales at auction.....	1,839 59	5,761 23	7,600 82	.....	.....	.....	.....
Work and material furnished citizens.....	7,893 15	17,955 24	25,848 39	.....	.....	.....	.....
Totals.....	\$2,626,606 47	\$633,424 57	\$3,260,031 04	.....	.....	.....	\$311,538 00

C. T. McCLENACHAN, General Bookkeeper, D. P. W.

Document "B."

A Detailed Statement of Expenditures for which Requisitions were drawn on the Comptroller by the Commissioner of Public Works during the Quarter ending December 31, 1891.

APPROPRIATIONS.

Aqueduct—Repairs, Maintenance and Strengthening, 1891—	
Blacksmithing.....	\$166 48
Cement.....	1,970 00
Coal.....	9,976 66
Coal cars.....	320 00
Granite coping-stone.....	1,293 23
Hardware.....	675 06
Horse-hire.....	190 50
Ice.....	137 70

Aqueduct—Repairs, Maintenance and Strengthening, 1891—

Laying pavement.....	\$560 00
Lumber.....	298 65
Oil.....	796 48
Pay-rolls.....	47,199 79
Plastering.....	123 00
Repairs to engines and pumps.....	1,280 07
Sand.....	720 00
Sundry supplies.....	881 34
Tubs.....	550 00
Traveling expenses.....	54 90
Taxes.....	321 56
Total.....	\$67,515 42



Aqueduct—Repairs, Maintenance and Strengthening, 1890—	
Connecting gate-house, One Hundred and Thirty-fifth street and Convent avenue.	\$2,419 87
Improvement of Old Reservoir, Central Park	1,512 00
Total	\$3,931 87

Aqueduct—Repairs, Maintenance and Strengthening, 1889—	
Building Keeper's house, Williamsbridge	\$1,500 00

Boring Examinations for Grading and Sewer Contracts, 1891—	
Pay-rolls	\$770 00

Boulevards, Roads and Avenues, Maintenance of, 1891—	
Broken stone	\$3,422 42
Gravel	3,582 66
Pay-rolls	10,763 27
Resurfacing Seventh avenue, between One Hundred and Tenth and One Hundred and Forty-fifth streets	13,146 12
Rent of yard	1,000 00
Sundry supplies	44 52
Telephone service	33 75
Trap-rock screenings	1,082 43
Total	\$33,075 17

Bronx River Works—Maintenance and Repairs, 1891—	
Blacksmithing	\$34 85
Coping-stone	630 00
Coal	147 00
Lumber	138 00
Pay-rolls	7,333 00
Stone boats	54 00
Taxes	21 02
Total	\$8,357 87

Contingencies—Department of Public Works, 1891—	
Horse-hire	\$270 00
Miscellaneous incidental expenses	300 00
Newspaper clippings	49 20
Postage stamps	354 72
Traveling expenses	121 96
Total	\$1,095 88

Flagging Sidewalks and Fencing Vacant Lots in Front of City Property, 1891—	
Fencing	\$139 89
Pay-rolls	84 00
Repairing iron railing	98 00
Total	\$321 89

Free Floating Baths—Care and Maintenance, 1891—	
Pay-rolls	\$273 00
Plumbing and gas-fitting	408 69
Recovering anchors	200 00
Towing baths	695 00
Traveling expenses	87 83
Sundry supplies	70 04
Wharfage	1,720 71
Total	\$3,455 27

For New Fire-hydrants, 1891—	
Cast-iron water-pipe	\$11,173 87
Hydrants, stop-cocks, etc.	4,448 32
Total	\$15,622 19

Lamps and Gas and Electric Lighting, 1891—	
Boulevard lamps and globes	\$3,005 00
Chemicals	138 68
Cross-heads	292 50
Fire-alarm signal lamps	247 50
Gas examinations	397 50
Gas governors	390 00
Horse-hire	375 00
Lighting public offices	16,380 83
Lighting public streets	175,196 81
Lettering globes	165 00
Lamp-irons and brackets	309 00
Lamp-posts	2,699 43
Lamp-post bases	380 10
Pay-rolls	822 90
Rent of Photometrical Rooms	240 00
Repairing lamps	853 87
Repairing street-signs	428 00
Ruby door glass	147 75
Street lamps	2,816 10
Street signs	468 75
Sundry supplies	253 47
Total	\$206,008 19

Laying Croton Pipes, 1891—	
Cast-iron pipe	\$18,424 50
Coal and coke	110 00
Horse-hire	270 00
Laying water-pipes	29,505 84
Protecting tracks	338 97
Pay-rolls	6,379 25
Removing gas-mains	45 40
Traveling expenses	331 14
Total	\$55,405 10

Laying Croton Pipes, 1890—	
Laying water-pipes	\$693 56
Pumping engine, boiler, etc.	8,920 00
Total	\$9,613 56

Public Buildings—Construction and Repairs, 1891—	
Armory, Eighth Regiment	\$160 50
“ Seventh “	100 00
“ Sixty-ninth “	97 08
“ Second Battery	167 48
“ Troop “A”	187 10
Brown-stone Building	551 53
Bureau of Repairs and Supplies	1,707 85
City Hall	770 15
Court, First District, Civil	35 16
“ Third “	907 79
“ Fifth “	342 53
“ Sixth “	194 22

Public Buildings—Construction and Repairs, 1891—	
Court, Second District, Police	\$3 66
“ Third “	328 24
“ Fourth “	228 72
“ Fifth “	15 91
Court-house, County	2,251 12
County Jail	45 00
Hall of Records	210 73
Ludlow Street Jail	110 44
Market, Catharine	735 00
“ Centre	94 00
“ Clinton	4,963 40
“ Fulton	527 05
“ Jefferson	3 15
“ Tompkins	45 00
“ Washington	617 00
“ West Washington	11,494 00
Pay-rolls	4,213 75
Staats Zeitung Building	549 20
Stewart Building	41 35
No. 14 Chambers street	10 00
No. 27 Chambers street	6 68
No. 31 Chambers street	889 19
Nos. 49 and 51 Chambers street	12 10
No. 49 Beekman street	210 00
No. 2622 Third avenue	82 00
Total	\$32,908 08

Public Buildings—Construction and Repairs, 1890—	
Court-house, County	\$2,973 00

Public Drinking-hydrants, 1891—	
Drinking-hydrants	\$408 11
Repairing hydrants	400 59
Total	\$808 70

Removing Obstructions in Streets and Avenues, 1891—	
Horse-hire	\$270 00
Pay-rolls	1,906 50
Removing obstructions	3,971 30
Removing poles and wire	8,151 80
Removing trees	728 00
Traveling expenses	193 80
Total	\$15,221 40

Repairing and Renewal of Pipes, Stop-cocks, etc., 1891—	
Damages	\$15 75
Horse-hire	270 00
Pay-rolls	35,388 32
Repairing pavement	10 78
Stop-cocks, hydrants, etc.	3,267 57
Setting water-meters	220 69
Sundry supplies	99 20
Telephone service	169 23
Total	\$39,441 51

Repairing and Renewal of Pipes, Stop-cocks, etc., 1890—	
Relaying pipe	\$120 66

Repairs and Renewal of Pavements and Regrading, 1891—	
Cutting granite blocks	\$125 00
Gravel	70 00
Horse-hire	805 00
Pay-rolls	80,881 11
Paving cement	159 20
Rent of lot	62 50
Repairing pavement	1,995 82
“ tar kettle	32 75
“ tools	620 84
Sand	5,071 50
Sundry supplies	181 71
Traveling expenses	153 45
Total	\$90,158 88

Repairs and Renewal of Pavements and Regrading, 1890—	
Relaying pavement	\$855 06

Repaving (Chapter 346, Laws of 1889), 1891—	
Boulevard, between Seventy-ninth and Ninety-second streets	\$46,114 16
Forty-fifth street, between Fifth and Sixth avenues	7,678 69
Fifty-seventh street, between Fourth and Madison avenues, etc.	24,922 52
Grand street, between Broadway and Goerck street	28,372 93
Lexington avenue, between Thirty-second and Thirty-fourth streets	32,635 02
Sixth avenue, between Carmine and Twenty-third streets	60,104 80
Twenty-third street, between Third and Tenth avenues	39,354 03
West street, between Battery place and Gansevoort street	18,414 20
Horse-hire	228 00
Pay-rolls	12,355 49
Traveling expenses	42 60
Total	\$270,222 44

Repaving (Chapter 346, Laws of 1889), 1890—	
Broadway and Union Square, West, between Bowling Green and Thirty-second street	\$90,531 00
Eighth avenue, between Thirteenth and Thirty-fourth streets	10,480 40
Total	\$101,011 40

Repaving Streets and Avenues, 1891—	
Desbrosses street, between Washington and Greenwich streets	\$1,139 53
Dover street, between Pearl and South streets	4,967 78
Fifty-second street, between Twelfth avenue and Hudson river	3,198 40
Laight street, between Washington and Greenwich streets	1,104 85
One Hundred and Twenty-fourth street, between Pleasant and Fourth avenues	30,755 14
Vestry street, between Washington and Greenwich streets	1,138 06
Watts street, between Washington and Greenwich streets	1,051 82
Total	\$43,355 58

Repaving Streets and Avenues, 1890—	
Fifty-second street, between Eleventh and Twelfth avenues	\$525 34
Pearl street, between Fulton and Oak streets	2,170 62
South William street, between William and Broad streets	1,075 28
Total	\$3,771 24

Retaining-wall in East Fifty-first street and East Forty-second street, 1890—	
Pay-rolls	\$300 00

Roads, Streets and Avenues, Improved, Maintenance of, 1891—	
Coal	\$10 00
Horse-hire	270 00
Pay-rolls	14,708 97
Total	\$14,988 97



Sewers—Repairing and Cleaning, 1891—	
Basin-heads .....	\$240 00
Brick, cement, etc. ....	288 50
Cleaning sewers .....	7,214 74
Correcting insurance maps .....	120 00
Curb .....	45 50
Horse-hire .....	540 00
Pay-rolls .....	23,145 00
Manhole heads and covers .....	2,035 81
Repairing sewers .....	1,426 00
Sundry supplies, etc .....	357 25
Traveling expenses .....	501 85
Total .....	\$35,914 65
Sewers—Repairing and Cleaning, 1890—	
Cleaning sewer .....	\$36 24
Street Improvements—For Surveying, Monumenting, etc., 1891—	
Pay-rolls .....	\$570 00
Supplies for and Cleaning Public Offices, 1891—	
Bureau of Repairs and Supplies .....	\$4,464 76
City Hall .....	158 41
Court, First District, Civil .....	17 90
“ Third “ “ .....	55 00
“ Fifth “ “ .....	20 00
“ Sixth “ “ .....	5 00
“ Seventh “ “ .....	25 00
“ Eighth “ “ .....	10 00
“ Ninth “ “ .....	52 40
“ First “ Police .....	5 50
“ Second “ “ .....	18 00
“ Fourth “ “ .....	36 40
“ City .....	44 00
“ Common Pleas .....	143 50
“ General Sessions .....	43 25
“ Supreme .....	244 37
Court-house, County .....	194 30
Office, Board of Aldermen .....	5 50
“ Board of Street Openings .....	32 00
“ Counsel to the Corporation .....	130 67
“ Commissioner of Street Improvements, Twenty-third and Twenty-fourth Wards .....	245 00
“ Commissioner of Jurors .....	48 18
“ District Attorney .....	27 60
“ Department, Finance .....	141 50
“ “ Public Works .....	168 18
“ “ Taxes and Assessments .....	40 45
“ Mayor .....	171 00
“ Sheriff .....	80 00
“ Surrogate .....	61 00
Pay-rolls .....	21,136 20
Total .....	\$27,825 07
Water Supply for the Twenty-fourth Ward, 1891—	
Supply of water .....	\$1,064 59

## RECAPITULATION OF APPROPRIATIONS.

Aqueduct—Repairs, Maintenance and Strengthening .....	\$67,515 42
Aqueduct—Repairs, Maintenance and Strengthening, 1890 .....	3,931 87
Aqueduct—Repairs, Maintenance and Strengthening, 1889 .....	1,500 00
Aqueduct—Repairs, Maintenance and Strengthening—Salaries .....	6,744 60
Boring Examinations for Grading and Sewer Contracts .....	770 00
Boulevards, Roads and Avenues, Maintenance of .....	33,075 17
Boulevards, Roads and Avenues, Maintenance of—Salaries .....	624 99
Bronx River Works—Maintenance and Repairs .....	8,357 87
Bronx River Works—Maintenance and Repairs—Salaries .....	600 00
Contingencies—Department of Public Works .....	1,095 88
Flagging Sidewalks and Fencing Vacant Lots in front of City Property .....	321 89
For New Fire-hydrants .....	15,622 19
Free Floating Baths—Care and Maintenance .....	3,455 27
Free Floating Baths—Care and Maintenance—Salaries .....	4,809 50
Lamps and Gas and Electric Lighting .....	206,008 19
Lamps and Gas and Electric Lighting—Salaries .....	1,614 20
Laying Croton-pipes .....	55,405 10
Laying Croton-pipes, 1890 .....	9,613 56
Laying Croton-pipes—Salaries .....	4,482 99
Public Buildings, Construction and Repairs .....	32,908 08
Public Buildings, Construction and Repairs, 1890 .....	2,973 00
Public Drinking-hydrants .....	808 70
Public Drinking-hydrants—Salaries .....	300 00
Removing Obstructions in Streets and Avenues .....	15,221 40
Removing Obstructions in Streets and Avenues—Salaries .....	2,025 00
Repairing and Renewal of Pipes, Stop-cocks, etc. ....	39,441 51
Repairing and Renewal of Pipes, Stop-cocks, etc.—1890 .....	120 66
Repairs and Renewal of Pavements and Regrading .....	90,158 88
Repairs and Renewal of Pavements and Regrading, 1890 .....	855 06
Repairs and Renewal of Pavements and Regrading—Salaries .....	3,803 50
Repaving—(Chapter 346, Laws of 1889) .....	270,222 44
Repaving—(Chapter 346, Laws of 1889), 1890 .....	101,011 40
Repaving Streets and Avenues .....	43,355 58
Repaving Streets and Avenues, 1890 .....	3,771 24
Repaving Streets and Avenues—Salaries .....	2,439 00
Retaining-walls in East Fifty-first Street and East Forty-second Street, 1890 .....	300 00
Roads, Streets and Avenues Unpaved, Maintenance of .....	14,988 97
Salaries—Department of Public Works .....	22,810 10
Salaries of Engineer, Clerks, Inspectors and Measurers, etc. ....	14,810 70
Sewers—Repairing and Cleaning .....	35,914 65
Sewers—Repairing and Cleaning, 1890 .....	36 24
Sewers—Repairing and Cleaning—Salaries .....	2,469 98
Sewerage System—Salaries .....	2,100 00
Street Improvements for Surveying, Monumenting, etc. ....	570 00
Supplies for and Cleaning Public Offices .....	27,825 07
Supplies for and Cleaning Public Offices—Salaries .....	4,670 74
Supplying Water to Shipping and for Building Purposes—Salaries .....	2,366 55
Surveys, Maps, etc., for Street Openings and New Streets—Salaries .....	1,774 98
Water Supply for the Twenty-fourth Ward .....	1,064 59
Water Supply for the Twenty-fourth Ward—Salaries .....	300 00
Total .....	\$1,166,966 71

## TRUST ACCOUNTS.

Croton Water Fund—	
Clerical services .....	\$375 00
Damages .....	260 00
Drawing materials .....	174 76
Horse-hire .....	747 00
Land .....	458 00
Pay-rolls .....	14,353 83
Professional services .....	4,488 30
Printing testimony and abstracts .....	959 02
Reservoir, near Amawalk .....	32,752 35
Repairing instruments .....	33 00
Supplying water .....	5,250 00
Taxes .....	28 81
Traveling expenses .....	897 74
Total .....	\$60,777 81

Criminal Court-house Fund—	
Carpenter work .....	\$1,275 00
Heating and ventilation .....	16,650 00
Iron work .....	28,695 00
Mason work .....	65,559 00
Pay-rolls .....	1,404 00
Plumbing, gas-fitting and drainage .....	1,050 00
Total .....	\$114,633 00
Fund for Viaduct from St. Nicholas place, etc.—	
Architects' fees .....	\$1,329 40
Pay-rolls .....	2,543 75
Traveling expenses .....	58 80
Work on contract .....	6,059 65
Total .....	\$9,991 60
Public Buildings, Twelfth Ward, Construction of—	
Pay-rolls .....	\$351 00
Work on contract .....	20,073 00
Total .....	\$20,424 00
Restoring and Repaving—Special Fund—	
Gravel .....	\$210 00
Paving cement .....	449 44
Pay-rolls .....	5,612 24
Restoring pavement .....	6,079 00
Wood .....	90 00
Total .....	\$12,440 68
Street Improvement Fund—	
Curbing and flagging .....	\$13,454 08
Fencing .....	2,586 97
Paving and crosswalks .....	105,081 00
Pay-rolls .....	23,182 25
Regulating, grading, etc. ....	125,289 83
Sewers .....	111,954 03
Surveying .....	8,123 85
Total .....	\$389,672 01
Water-meter Fund, No. 2—	
Setting meters .....	\$883 69
Water meters .....	2,030 00
Total .....	\$2,913 69
Recapitulation of Funds—	
Croton Water Fund .....	\$60,777 81
Criminal Court-house Fund .....	114,633 00
Fund for Viaduct from St. Nicholas place, etc. ....	9,991 60
Public Buildings, Twelfth Ward, Construction of .....	20,424 00
Restoring and Repaving—Special Fund .....	12,440 68
Street Improvement Fund .....	389,672 01
Water-meter Fund, No. 2 .....	2,913 69
Total .....	\$610,852 79

## Document “C.”

## STATEMENT OF CONTRACTS.

Contracts Entered Into for the Three Months ending December 31, 1891.

NATURE AND LOCATION OF WORK.	CONTRACTOR.	ESTIMATED COST.
<i>Sewer and Receiving-basin Contracts.</i>		
Alteration and improvement to sewer in Ninth street, between Avenues C and D .....	Philip Kearns .....	\$3,772 50
Alteration and improvement to sewer in Thirty-fourth street, between Eleventh and Twelfth avenues, and new sewer in Twelfth avenue, between Thirty-fourth and Thirty-fifth streets .....	“ .....	8,042 50
Repairs to sewer in Twentieth street, between Avenue A and First avenue .....	Joseph Moore .....	1,412 75
Sewer in One Hundred and Fifteenth street, between Riverside Drive and Boulevard .....	Thomas Murray .....	3,938 40
Alteration and improvement to sewer in Ninety-fifth street, between First and Third avenues, and in Second avenue, east and west sides, between Ninety-fifth and Ninety-sixth streets, etc. ....	Joseph Moore .....	22,025 00
Sewer in One Hundred and Twenty-fifth street, between present sewer and Harlem river .....	Patrick Casey .....	2,500 00
Sewer in One Hundred and Eighty-fifth street, between Amsterdam and Audubon avenues .....	George Connolly .....	3,057 00
Sewer in First avenue, between Forty-third and Forty-fourth streets .....	William F. Cunningham .....	3,399 50
Sewer in First avenue, between Forty-second and Forty-third streets, etc. ....	McLaughlin & McGrath .....	5,037 00
Sewer in First avenue, between Eighty-ninth and Ninetieth streets .....	“ .....	2,613 00
Sewer in Park avenue, east side, between One Hundred and Fifteenth and One Hundred and Sixteenth streets .....	“ .....	900 35
Sewer repairs in Second street, between Houston street and Avenue C .....	Patrick Casey .....	4,005 40
Sewer in One Hundred and First street, between Third and Park avenues .....	E. S. Van Aiken .....	3,655 00
Sewer in One Hundred and Seventeenth street, between Fifth and Madison avenues, etc. ....	John Slattery .....	6,022 50
Alteration and improvement to sewer in Eighteenth street, between North river and Tenth avenue, etc. ....	Philip Kearns .....	17,363 50
Sewer in One Hundredth street, between Third and Park avenues, etc. ....	Patrick Reilly .....	4,154 00
Sewer in One Hundred and Sixth street, north side, between Central Park, West, and Manhattan avenue .....	John Kenny .....	3,068 00
Sewer in One Hundred and Sixty-second street, between Amsterdam avenue and Jumel Terrace, and in Jumel Terrace, between One Hundred and Sixtieth and One Hundred and Sixty-second streets .....	“ .....	10,237 66
Repairs to sewer in Rivington street, between Goerck and Columbia streets .....	Patrick Larney .....	5,166 40
Sewer in Seventy-sixth street, between Boulevard and Amsterdam avenue .....	“ .....	930 00
Receiving-basin, northeast corner Horatio street and Eighth avenue .....	John Slattery .....	299 00
Receiving-basin, southwest corner Seventy-fifth street and Central Park, West .....	“ .....	243 00
Receiving-basin, southwest corner One Hundred and Tenth street and Madison avenue .....	William F. Cunningham .....	211 00
Receiving-basin (alteration and improvement), northeast corner Fourteenth street and Avenue C .....	“ .....	216 00
Receiving-basin (alteration and improvement), northwest corner Fourteenth street and Avenue C .....	“ .....	219 00
Total .....		\$113,029 46
<i>Regulating and Grading, Curbing and Flagging Contracts.</i>		
Regulating and grading One Hundred and Twenty-seventh street, between St. Nicholas avenue and Lawrence street .....	James Slattery .....	\$3,905 35
Regulating and grading Amsterdam avenue, between One Hundred and Ninety-fourth street and Fort George avenue .....	George Connolly .....	1,588 75
Regulating and grading One Hundred and Forty-eighth street, from Boulevard, West, to Twelfth avenue .....	Matthew Baird .....	13,883 30
Regulating and grading One Hundred and Forty-ninth street, from Boulevard, West, to Twelfth avenue .....	“ .....	15,588 18
Flagging, etc., Tenth avenue, east side, between Twenty-ninth and Thirtieth streets, and Thirtieth street, south side, between Ninth and Tenth avenues .....	A. E. Moran .....	1,620 70
Flagging, etc., One Hundred and Sixteenth street, between Madison and Eighth avenues .....	“ .....	8,607 70
Flagging, etc., Nineteenth street, between Avenue A and First avenue .....	Thomas J. Dunn .....	1,953 40
Flagging, etc., One Hundred and Fifteenth street, between Third and Lexington avenues .....	James Slattery .....	587 48
Flagging, etc., Madison avenue, from One Hundred and Thirty-first to One Hundred and Thirty-second street .....	A. E. Moran .....	495 26



NATURE AND LOCATION OF WORK.			CONTRACTOR.	ESTIMATED COST.	NATURE OF WORK.	LOCATION OF WORK.	AMOUNT.
Flagging, etc., southwest corner of Thirty-second street and Sixth avenue.			Dennis McGrath.	\$293 79	Sewer	In One Hundred and Sixty-ninth street, between Amsterdam and Eleventh avenues.	\$5,097 00
Flagging, etc., northeast corner of Eighty-fifth street and Fifth avenue.			James Slattery.	402 00	"	In One Hundred and Twenty-second street, between Manhattan avenue and Avenue St. Nicholas.	584 80
Flagging, etc., east side of Columbus avenue, between Ninety-third and Ninety-fourth streets.			Thomas J. Dunn.	100 00	"	In One Hundred and Third street, between Harlem river and First avenue.	5,085 20
Flagging, etc., in front of No. 419 Pearl street.			Dennis McGrath.	64 15	Sewer extension.	In Sixty-eighth street, between Fifth and Madison avenues.	448 02
Flagging, etc., in front of Nos. 4 and 6 Christopher street.			Patrick Larney.	143 90	Sewer	In Sixty-sixth street, between Boulevard and Amsterdam avenue.	894 00
Flagging, etc., Twenty-sixth street, north side, and Twenty-seventh street, south side, between Third and Lexington avenues.			"	84 00	"	In Convent avenue, between manhole south of One Hundred and Thirty-fifth street and One Hundred and Thirty-fifth street.	12,083 00
Flagging, etc., in front of Nos. 390 and 392 Tenth avenue.			"	189 60	"	In One Hundred and Thirty-fifth street, between Convent and Amsterdam avenues, and in Amsterdam avenue, east side, between One Hundred and Thirty-fifth and One Hundred and Thirty-eighth streets.	1,260 75
Flagging, etc., southwest corner of Seventy-fifth street and Columbus avenue.			Thomas J. Dunn.	592 70	Sewer repairs.	In Twentieth street, between Avenue A and First avenue.	40,635 00
Flagging, etc., north side of One Hundred and Second street, from Columbus to Amsterdam avenue.			"	316 78	Sewers	In South street, between Roosevelt street and Pike Slip, with outlet through Pier, new 29, East river, and alterations and improvements to sewers in James Slip.	1,120 00
Flagging, etc., south side of Eighty-ninth street, from First to Second avenue.			James Slattery.	156 50	"	In Sixty-fourth street, between New York Central and Hudson River Railroad Company and Eleventh avenue.	1,122 50
Flagging, etc., Thirty-seventh street, from Eighth to Ninth avenue.			"	108 56	Alteration and improvement to sewer.	In Ninth street, between Avenues C and D.	3,613 00
				\$50,732 10	Receiving-basins.	Northeast corners of One Hundred and Eighth and One Hundred and Ninth streets and First avenue.	654 00
Paving Contracts—Assessment Work.					"	Northeast and southeast corners of One Hundred and Twenty-second street and Pleasant avenue.	369 00
Paving Fifty-fifth street, between Avenue A and East river.			William J. Clark.	\$1,140 84	Receiving-basin.	Southwest corner of Ninety-ninth street and Third avenue.	245 52
Paving Ninety-eighth street, between Amsterdam avenue and Boulevard.			James Pollock.	2,728 00	"	Southwest corner of One Hundred and Ninth street and First avenue.	193 00
Paving One Hundred and Seventh street, between Park and Fifth avenues.			"	7,235 00	"	Northwest corner Tompkins and Rivington streets.	195 50
Paving One Hundred and Fourteenth street, between Fifth and Lenox avenues.			"	9,527 50	"	Northeast corner of Horatio street and Eighth avenue.	263 00
Paving Ninetieth street, between First and Second avenues.			"	4,909 10	"	Southwest corner Seventy-fifth street and Central Park West.	220 50
Paving Ninety-sixth street, from Lexington to Fourth avenue.			"	6,135 29	"	Northeast and southwest corners of One Hundred and Thirtieth street and Manhattan avenue.	354 00
Paving One Hundred and Third street, from Boulevard to Riverside Drive.			James Baird.	5,691 30	Regulating and grading.	One Hundred and Forty-ninth street, from Tenth avenue to Western Boulevard.	\$15,646 53
Paving One Hundred and Third street, from Central Park West, to Columbus avenue.			"	6,466 80	"	One Hundred and Thirty-fifth street, from Amsterdam to Convent avenue.	1,116 41
Paving One Hundred and Nineteenth street, from Seventh to Lenox avenue.			"	5,961 66	"	One Hundred and Twenty-seventh street, from Boulevard to Riverside Drive.	2,977 51
Paving Bradhurst avenue, from One Hundred and Forty-second to One Hundred and Forty-fifth street.			"	7,079 40	"	One Hundred and Forty-third street, from Seventh avenue to Harlem river.	12,144 46
Paving Edgcombe avenue, from One Hundred and Thirty-eighth to One Hundred and Forty-fifth street.			G. Knoche.	23,434 45	"	One Hundred and Ninth street, from Manhattan to Columbus avenue.	5,754 79
Paving Ninetieth street, from Avenue A to First avenue.			William Kelly.	6,646 50	"	One Hundred and Fortieth street, from Amsterdam to Convent avenue.	2,410 64
Paving Fifty-eighth street, from Eleventh avenue to 360 feet west.			M. Fitzgerald.	2,797 30	"	One Hundred and Thirty-third street, from Amsterdam to Convent avenue.	2,341 38
Paving Fifty-eighth street, from 360 feet west of Eleventh avenue to Hudson river.			"	3,872 13	"	One Hundred and Twentieth street, from Morningside avenue to Boulevard.	12,390 94
Paving One Hundred and Third street, from First avenue to East river.			James Pollock.	7,108 10	"	One Hundred and Ninetieth street, from Amsterdam to Audubon avenue.	2,583 53
Paving One Hundredth street, from Third to Lexington avenue.			Matthew Baird.	3,384 00	"	Kingsbridge road, from One Hundred and Ninetieth street to Harlem river.	212,356 63
Paving One Hundred and First street, from Third to Lexington avenue.			"	3,376 95	"	One Hundred and Forty-second street, from Seventh avenue to Harlem river.	10,500 98
Paving One Hundred and First street, from First to Second avenue.			"	4,793 90	"	One Hundred and Twenty-first street, from Amsterdam to Morningside avenue.	6,310 37
Paving One Hundred and Seventeenth street, from Madison to Fifth avenue.			"	3,269 20	Flagging, etc.	One Hundred and Thirtieth street, south side, from Eighth to Manhattan avenue.	204 31
Paving One Hundred and Twenty-second street, from Avenue A to Harlem river.			"	1,777 44	"	Eleventh street, north side, and Twelfth street, south side, between Second and Third avenues, in front of Broadway alley.	43 76
Paving One Hundred and Fourteenth street, from Manhattan to Columbus avenue.			Sicilian Asphalt Paving Co.	703 62	"	One Hundred and Twenty-fifth street, north side, west of Seventh avenue; Seventh avenue, west side, between One Hundred and Twenty-fifth and One Hundred and Twenty-seventh streets, and One Hundred and Twenty-sixth street, west of Seventh avenue.	901 97
Paving One Hundred and Seventeenth street, from Eighth to Columbus avenue.			"	3,745 92	"	Northwest and southwest corners of One Hundred and Twenty-second street and Mount Morris avenue.	297 51
Crosswalk across One Hundred and Forty-fifth street, east and west sides of Avenue St. Nicholas.			"	7,717 08	"	Rivington street, south side, from Morningside to East street.	654 80
Crosswalk across One Hundred and Fifty-fifth street, west side of Avenue St. Nicholas.			William F. Cunningham.	385 38	"	One Hundred and Third street, between Central Park West, and Columbus avenue, and west side of Central Park West, from One Hundred and Third to One Hundred and Fourth street.	1,404 74
Crosswalk across Avenue St. Nicholas, north side One Hundred and Twenty-third street.			"	198 79	"	Park avenue, east side, between One Hundred and Seventeenth and One Hundred and Eighteenth streets.	482 01
			Thomas J. Dunn.	200 50	"	Block bounded by Seventy-fifth and Seventy-sixth streets, Columbus avenue and Central Park West.	2,343 36
				\$130,289 15	"	One Hundred and Twentieth street, south side, between Madison and Lenox avenues.	1,474 02
Repaving Contracts.					"	Southwest corner Thirty-second street and Sixth avenue.	275 75
Paving Fifty-second street, from Twelfth avenue to North river.			F. Thilemann, Jr.	3,510 00	"	One Hundred and Twenty-fifth street, from Eighth to Columbus avenue.	1,380 56
Paving Twelfth street, east of Seventh avenue.			G. Knoche.	1,774 50	"	Madison avenue, between Seventy-first to Seventy-second streets.	249 70
Paving One Hundred and Twenty-fourth street, from Mount Morris to Lenox avenue.			Thomas Gearty.	4,756 50	"	Rivington street, south side, between Norfolk and Suffolk streets.	574 62
				\$10,041 00	"	Fifth avenue, east side, between Eighty-sixth and Ninety-first streets.	1,866 12
Miscellaneous Contracts.					"	Eighty-sixth street, north side, between Madison and Fifth avenues.	931 00
Improvement of Old Reservoir in Central Park.			Pietro Indelli.	\$55,000 00	"	Tompkins street, west side, between Broome and Delancey streets.	374 29
Repairs to buildings in West Washington Market, damaged by fire.			D. F. Gibb.	11,491 00	Paving	Dover street, between Pearl and South streets.	\$456 14
Repairing sidewalks, and fencing around Rivington Street Corporation Yard.			Thomas J. Dunn.	1,604 75	"	Vestry street, between West and Greenwich streets.	4,345 80
Furnishing cast-iron water-pipes, branch pipes and special castings.			Warren Foundry and Machine Co.	5,750 00	"	Laight street, between West and Greenwich streets.	4,798 30
Repairing sidewalks and fencing around Clinton Market.			Thomas J. Dunn.	2,701 00	"	Madison avenue, between One Hundred and Fifth and One Hundred and Eighth streets.	7,488 60
Repairs to Nos. 8, 10, 12 and 14 Chambers street.			I. O. Shumway.	2,194 00	"	Washington street, between Chambers and Spring streets.	30,523 60
				\$79,743 75	"	Watts street, between West and Greenwich streets.	4,722 65
Laying Water-main Contracts.					"	Sixty-third street, between Amsterdam and Eleventh avenues.	6,239 31
Laying water-mains in Seventy-sixth, Ninety-fifth, One Hundred and Second, One Hundred and Thirtieth, One Hundred and Forty-third, One Hundred and Forty-fifth, One Hundred and Sixty-seventh, Suburban and Jennings streets, in Webster, Scott, Decatur, Perry, Andrews and Aqueduct avenues, and in Signal, Coles and Poe places.			John Cornwell, Jr.	\$7,505 52	"	One Hundred and Fifteenth street, between Eighth and Manhattan avenues.	2,884 78
Laying water-mains in Bristow, Seventy-second, Seventy-fifth, Ninety-first, One Hundred and First, One Hundred and Thirty-second, One Hundred and Thirty-ninth, One Hundred and Forty-second and One Hundred and Sixty-first streets and in Tinton avenue.			"	4,627 91	"	One Hundred and Thirteenth street, between Madison and Fifth avenues.	3,282 56
				\$12,133 43	"	Desbrosses street, between West and Greenwich streets.	4,253 37
Fencing Contracts.					"	Fifth street, between Lewis street and East river.	5,715 91
Fencing vacant lots in Ninetieth street, north side, between Park and Madison avenues.			Patrick Hardiman.	\$39 50	"	One Hundred and Seventh street, between Park and Fifth avenues.	6,252 40
Fencing vacant lots in Ninety-eighth street, north side, between Columbus and Amsterdam avenues.			"	96 10	Crosswalk	Across Lenox avenue, north side One Hundred and Thirty-third street.	218 88
Fencing vacant lots in Eighty-first street, southwest corner of Amsterdam avenue.			"	97 00	"	Across One Hundred and Twenty-third street, west side Lenox avenue.	71 27
Fencing vacant lots in One Hundred and Seventh street, south side, between Madison and Park avenues.			"	174 69	"	Across Avenue A, north side Seventy-sixth street, and south side Seventy-fifth and Eighty-fourth streets.	521 80
Fencing vacant lots on block bounded by Eighty-ninth and Ninetieth streets, Fifth and Madison avenues.			"	49 85	"	Across Seventh avenue, north and south sides One Hundred and Thirty-fourth street.	334 60
				\$437 14	"	Across Amsterdam avenue, north and south sides One Hundred and Sixty-first street.	275 60
					"	Across Avenue St. Nicholas, north side One Hundred and Twenty-second street.	169 96
					"	Across Ninth avenue, from southwest to northeast corner of Manhattan street.	207 02
					"		\$82,744 64
RECAPITULATION.					Repaving Contracts.	Laight street, between Washington and Greenwich streets.	\$1,165 39
25 Sewer and Receiving-basin Contracts.				\$113,029 46	"	Forty-fifth street, between Fifth and Sixth avenues; Forty-fifth street, from Madison to Seventh avenue, and Fifth street, between Fifth and Sixth avenues.	47,504 55
20 Regulating and Grading, Curbing and Flagging Contracts.				50,732 10	"	Vestry street, between Washington and Greenwich streets.	1,203 08
26 Paving Contracts—Assessment Work.				130,289 15	"	Desbrosses street, between Washington and Greenwich streets.	1,201 97
3 Repaving Contracts.				10,041 00	"	Watts street, between Washington and Greenwich streets.	1,109 14
6 Miscellaneous Contracts.				79,743 75	"	Fifty-seventh street, between Fourth and Madison avenues, and between Fifth and Sixth avenues, and Sixty-fourth and Sixty-fifth streets, between Fourth and Fifth avenues.	41,849 50
2 Laying Water-main Contracts.				12,133 43	"	Twenty-third street, between Third and Tenth avenues.	59,293 51
5 Fencing Contracts.				457 14	"	Lexington avenue, between Thirty-second and Thirty-fourth streets, and between Thirty-fifth and Forty-second streets.	34,667 36
87 Contracts.				\$396,426 03	"	One Hundred and Twenty-fourth street, between Pleasant and Fourth avenues, and between Lenox and Seventh avenues.	31,981 34
Contracts Completed.					"	Boulevard, between Seventy-ninth and Ninety-second streets.	111,537 36
					"	Twelfth street, from 98 feet east of Seventh avenue, running east 136 feet.	1,775 67
					"	Fifty-second street, from east side of Twelfth avenue to North river.	3,330 48
					"		\$336,716 25
NATURE OF WORK.			LOCATION OF WORK.	AMOUNT.			
Sewer and Receiving-basin Contracts.							
Sewer	In Edgcombe avenue, between One Hundred and Thirty-ninth and One Hundred and Fortieth streets, etc.		\$1,355 50				
"	In One Hundred and Fortieth street, between Hamilton place and Amsterdam avenue, and in Amsterdam avenue.		9,876 70				
"	In Amsterdam avenue, east side, between One Hundred and Thirty-first street and 180 feet north of One Hundred and Thirty-third street.		10,100 50				
"	In South Fifth avenue, between Canal and Broome streets, etc.		8,684 00				
"	In Astor place, between Broadway and Lafayette place.		1,701 08				
"	In West street, between Carlisle and Dey streets, with outlet through Pier 13, North river, and alteration and improvement to existing sewers in Albany, Cedar, Liberty and Cortlandt streets.		31,924 15				
"	In One Hundred and Nineteenth street, between Avenue St. Nicholas and Eighth avenue, etc.		1,842 52				
"	In First avenue, between Ninetieth and Ninety-first streets.		2,749 15				
Sewers.	In Sullivan street, between Canal and Broome streets; in Broome street, between Sullivan and Thompson streets, and in Thompson street, between Broome and Spring streets.		17,317 50				



NATURE OF WORK.	LOCATION OF WORK.	AMOUNT.
<i>Fencing Contracts.</i>		
Fencing vacant lots.....	In One Hundred and Forty-fourth street, south side, between Eighth and Bradhurst avenues.....	\$39 97
".....	Northeast corner Eighty-sixth street and Fifth avenue.....	58 89
".....	In Ninety-second street, north side, between Central Park, West, and Columbus avenue.....	115 83
".....	Southwest corner Eighty-first street and Amsterdam avenue.....	89 20
".....	In Ninety-eighth street, north side, between Columbus and Amsterdam avenues.....	87 11
".....	In One Hundred and Seventh street, between Park and Madison avenues.....	163 30
".....	Ninetieth street, north side, between Park and Madison avenues.....	13 42
".....	In block bounded by Eighty-eighth and Ninetieth streets, between Madison and Fifth avenues.....	49 05
		\$621 77
<i>Laying Water-main Contracts.</i>		
Laying water-mains.....	In Seventy-second, One Hundred and Thirty-fourth, One Hundred and Thirty-ninth, One Hundred and Forty-ninth, One Hundred and Sixty-first, One Hundred and Sixty-ninth, One Hundred and Seventy-fifth, One Hundred and Eighty-fifth, Bristow and Buckhout streets; in Brook, Amsterdam, Riverdale, Honeywell, Railroad and Twelfth avenues, and in North river bulkhead.....	\$3,183 94
".....	In Grand, New, First, Second, Creston, Olive, Perry, Hull, Decatur, Morris, Bainbridge, Davidson and Moshulu avenues; in Third, Fifty-eighth, Seventy-seventh, Eighty-second, Eighty-ninth, Ninetieth, Ninety-fourth, One Hundred and Third, One Hundred and Twenty-first, One Hundred and Forty-second, One Hundred and Forty-third, One Hundred and Forty-eighth, Chisholm, Bistow, Jennings, Samuel and Mechanic streets, and in Bronx river road, Broadway, Eismere place and Northern Terrace.....	21,254 94
".....	In One Hundred and Sixth street, between First avenue and Harlem river; across Harlem river to Ward's Island, and across Ward's Island.....	17,531 84
".....	In Seventy-sixth, Ninety-fifth, One Hundred and Second, One Hundred and Thirteenth, One Hundred and Forty-third, One Hundred and Forty-sixth, One Hundred and Sixty-ninth, Suburban and Jennings streets; in Webster, Scott, Decatur, Perry, Andrews and Aqueduct avenues, and in Signal, Coles and Poe places.....	7,657 46
		\$54,629 18

*Miscellaneous Contracts.*

NATURE AND LOCATION OF WORK.	AMOUNT.
Furnishing stop-cocks, hydrants, cast-iron stop-cock boxes and wooden hydrant-boxes.....	\$14,770 00
Furnishing and setting four new steam-boilers in New Court-house.....	7,973 00
Furnishing cast-iron water-pipe, branch pipe and special castings.....	49,275 28
Repairing Clinton Market.....	4,751 00
Furnishing broken stone and screenings.....	4,204 85
Furnishing and putting up pumping engine and boilers in Ninety-eighth Street Engine-house.....	32,000 00
Furnishing granite coping stone on Aqueduct, between Ninetieth and Ninety-first streets.....	1,293 23
Furnishing manhole heads and covers, extra manhole covers, basin covers, etc.....	2,346 54
Furnishing 1,000 cast-iron lamp-posts.....	6,925 62
Furnishing 500 Boulevard lamps and 1,500 globes.....	5,300 00
Furnishing hydrants, wooden hydrant boxes and cast-iron stop-cock boxes.....	5,245 00
Furnishing 3,800 tons of egg coal at High Bridge and Ninety-eighth Street Engine-house.....	22,795 50
Furnishing 2,500 street-lamps.....	5,028 75
Furnishing brick, cement, sand, timber and sewer spur pipe.....	1,625 04
Resurfacing Seventh avenue, between One Hundred and Tenth and One Hundred and Forty-fifth streets.....	39,639 93
	\$222,963 74

## RECAPITULATION.

28 Sewer and Receiving-basin Contracts.....	\$159,990 81
19 Regulating and Grading, Curbing and Flagging Contracts.....	299,303 10
19 Paving Contracts—Assessment Work.....	82,744 64
12 Repaving Contracts.....	336,716 25
8 Fencing Contracts.....	621 77
4 Laying Water-main Contracts.....	54,629 18
15 Miscellaneous Contracts.....	222,963 74
105 Contracts.....	\$1,156,969 49

## Document "D."

## REPORT OF CHIEF ENGINEER OF THE CROTON AQUEDUCT.

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF CHIEF ENGINEER, NO. 31 CHAMBERS STREET, ROOM 10,  
NEW YORK, January 7, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works, New York City:

DEAR SIR—In accordance with your letter, dated December 21, 1891, I herewith submit report for the quarter ending December 31, 1891, being also a summary for the year 1891.

## SUMMARY FOR THE QUARTER ENDING DECEMBER 31, 1891.

Aqueduct—Repairs, Maintenance and Strengthening—Care, Maintenance and Repairs.....	\$69,015 42
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....	6,744 60
Aqueduct—Repairs, Maintenance and Strengthening—1890.....	3,052 80
Aqueduct—Repairs, Maintenance and Strengthening—1890, Building New Gate-house, etc.....	879 07
Bronx River Works—Maintenance and Repairs.....	8,357 87
Bronx River Works—Salaries.....	600 00
Croton Water Fund.....	60,777 81
Fund for Viaduct.....	10,021 60
For New Fire Hydrants.....	15,622 19
Laying Croton Pipes.....	65,192 66
Laying Croton Pipes—Salaries.....	4,308 99
Repairing and Renewal of Pipes, etc.....	9,119 66
Salaries—Engineers.....	3,419 48
Water Meter Fund, No. 2.....	2,886 93
Water Supply for Twenty-fourth Ward.....	1,064 59
Total.....	\$261,063 67

## SUMMARY OF EXPENDITURES FOR YEAR 1891.

Aqueduct—Repairs, Maintenance and Strengthening—Care, Maintenance and Repairs.....	\$217,483 22
Aqueduct—Repairs, Maintenance and Strengthening—Care, Maintenance and Repairs—Salaries.....	26,734 45
Aqueduct—Excavating, etc.....	47,394 00
Aqueduct—Repairs, Maintenance and Strengthening—1890.....	3,052 80
Aqueduct—Repairs, Maintenance and Strengthening—1890, Building New Gate-house, etc.....	879 07
Boulevard, etc.—Ramp for Approach to McComb's Dam Bridge.....	9,990 00
Bronx River Works—Maintenance and Repairs.....	24,806 98
Bronx River Works—Salaries.....	2,400 00
Croton Water Fund.....	212,867 94
Fund for Viaduct.....	119,706 55
For New Fire Hydrants.....	16,418 87
Laying Croton Pipes.....	245,664 42
Laying Croton Pipes—Salaries.....	16,066 15
Repairing and Renewal of Pipes, etc.....	80,968 85

Salaries—Engineer, Clerk, etc.....	\$13,700 92
Water Meter Fund, No. 2.....	15,055 75
Water Supply for Twenty-fourth Ward.....	3,630 69
Total.....	\$1,056,820 66

*Contracts Made, Completed and Unfinished in 1891.*

WORK.	CONTRACTOR.	DATE OF CONTRACT.	ESTIMATED COST.	DATE OF FINAL ESTIMATE.	AMOUNT OF FINAL ESTIMATE.	AMOUNT PAID IN 1891.
Building reservoir on Byram river.....	John McQuade.....	1885, Jan. 7	\$209,155 00			
Building reservoir on Muscote river.....	".....	July 25 1890.	540,620 00			\$108,625 05
Laying mains in Eighth avenue, etc.....	Bernard Mahon.....	Feb. 3 1891.	23,770 00	July 13	\$12,818 26	5,506 55
Laying mains in Moshulu Park-way, etc.....	William E. Dean.....	" 17	110,326 00	" 2	110,322 45	37,562 38
Furnishing coal at High Bridge and Ninety-eighth street.....	Wm. D. Bruns, Jr.....	" 27	15,760 00	Jan. 1	15,648 30	5,089 74
Furnishing chestnut poles and posts.....	James V. Lawrence.....	" 27	4,475 00	" 27	5,414 50	5,414 50
Furnishing lead and lead pipes.....	R. A. Robbins.....	" 28	4,644 00	Mar. 18	4,631 99	2,210 50
Furnishing engine, etc., at Ninety-eighth street.....	H. R. Worthington.....	Mar. 1	52,000 00	Apr. 23	52,000 00	19,840 00
Improvement of Old Reservoir, Central Park.....	Bernard Mahon.....	Feb. 27	24,500 00	July 22	24,388 00	11,032 00
Improvement of Old Reservoir, Central Park excavation.....	".....	" 27	124,000 00	abandoned	abandoned.	47,394 00
Improvement of One Hundred and Fifty-fifth street.....	H. Steward.....	July 14	514,423 00			105,788 45
Furnishing cast-iron water-pipes.....	M. J. Drummond.....	Aug. 2	13,630 00	Feb. 3	13,531 83	2,022 93
Removal of gate-houses on Tenth avenue and One Hundred and Thirty-fourth street, etc.....	William Mansfield.....	Nov. 10 1891.	12,283 50			2,419 87
Furnishing coal at High Bridge and Ninety-eighth street.....	W. D. Bruns.....	Feb. 2	18,530 00	Dec. 12	22,205 50	23,295 50
Laying mains in Grand avenue, etc.....	Martin Lipps.....	" 2	21,391 02	Oct. 26	21,254 94	20,192 19
Approach to McComb's Dam Bridge.....	Mahony Bros.....	" 2	9,990 00	May 5	9,990 00	9,990 00
Furnishing stop-cocks, hydrants, etc.....	M. J. Drummond.....	" 4	14,760 00	Oct. 1	14,760 00	14,760 00
Furnishing tapping cocks and boxes.....	".....	" 4	1,925 00	June 1	1,925 00	1,925 00
Furnishing stop-cocks, hydrants, etc.....	".....	" 4	7,575 00	Aug. 4	7,575 00	7,575 00
Furnishing and laying mains to Blackwell's Island.....	John Cornwell, Jr.....	" 6	11,000 00	June 22	11,528 00	8,069 60
Furnishing cast-iron water-pipe.....	Camden Iron Works.....	Jan. 30	48,960 00	Oct. 21	49,275 28	49,275 28
".....	".....	" 30	12,605 40	Aug. 31	11,956 02	11,956 02
Furnishing and laying water-mains from Shaft 25 to High Bridge.....	Terence A. Smith.....	Feb. 13	46,028 00			9,765 00
Furnishing and laying mains in Southern Boulevard.....	John Cornwell, Jr.....	April 2	41,753 10	Aug. 28	40,807 00	38,766 65
Furnishing hydrants, etc.....	M. J. Drummond.....	" 10	5,245 00	Dec. 14	5,245 00	5,245 00
Laying water-mains in Seventy-second street, etc.....	Martin Lipps.....	July 8	8,429 52	Oct. 22	8,183 94	7,774 74
Furnishing granite coping.....	William Kidney.....	" 10	1,290 00	Nov. 14	1,293 23	1,293 23
Improvement of Old Reservoir, Central Park.....	Robert Hanna.....	" 27	67,950 00			
Furnishing and laying pipe to Ward's Island.....	John Cornwell, Jr.....	" 30	17,663 00	Nov. 23	17,531 84	12,272 29
Furnishing cast-iron water-pipe.....	John Fox.....	Aug. 26	15,282 00			11,173 87
For laying water-mains in Seventy-sixth street, etc.....	John Cornwell, Jr.....	Sept. 26	7,505 52	Dec. 23	7,657 46	7,274 59
Improvement of Old Reservoir excavation.....	Pietro Indelli.....	Oct. 3	56,000 00			
Furnishing cast-iron water-pipe.....	Warren Foundry and Machine Co.....	Nov. 28	5,750 00			
For laying water-mains in Bristow street, etc.....	John Cornwell, Jr.....	Dec. 28	4,627 91			

## STORAGE RESERVOIR.

The drought continued during the quarter, and relief was not felt until the rainfall on November 17, 23, 24 and December 5, 7, 23, 24 and 25.

There was no water running over the Croton Dam for 219 days during the year 1891.

*Storage Drawn during the Quarter.*

	Gallons.
Boyd's Corners Reservoir.....	960,000,000
Middle Branch Reservoir.....	1,390,000,000
East Branch Reservoir.....	1,350,000,000
Lake Mahopac.....	150,000,000
Kirk Lake.....	80,000,000
Lake Gilead.....	250,000,000
Lake Gleneida.....	120,000,000
Lake Waccabuc.....	150,000,000
Lake Tonnetta.....	80,000,000
White Pond.....	155,000,000
Total during the quarter.....	4,685,000,000

*Storage Drawn During the Year.*

	Gallons.
Boyd's Corners Reservoir.....	3,050,000,000
Middle Branch Reservoir.....	4,510,000,000
East Branch Reservoir.....	5,490,000,000
Lake Mahopac.....	490,000,000
Kirk Lake.....	480,000,000
Lake Gleneida.....	120,000,000
Lake Gilead.....	340,000,000
Lake Tonnetta.....	80,000,000
Lake Waccabuc.....	150,000,000
White Pond.....	155,000,000
Barrett Pond.....	145,000,000
Total storage drawn in 1891.....	15,010,000,000

*Rainfall—Inches.*

	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL FOR QUARTER.	TOTAL FOR YEAR.
Boyd's Corners Reservoir.....	2.15	3.86	5.65	11.66	48.19
South East Reservoir.....	2.37	3.26	5.51	11.04	47.78
Kensico Reservoir.....	2.31	3.17	5.02	10.50	36.51
Croton Dam.....	2.24	3.31	4.99	10.54	44.99
Central Park Reservoir.....	2.57	1.60	3.30	7.47	35.71

There was required during the month of November 800,000,000 gallons more storage available to furnish the city, with the 150,000,000 gallons per day formerly supplied same from the Croton water-shed.

Work on Reservoir "A," on the Muscote river, has been steadily prosecuted during the year; at present rate of progress will take three years to complete; but in the spring of 1893 2,000,000,000 gallons of water can be impounded in same.

The Commission appointed to appraise value of lands necessary for this reservoir are taking testimony as to same.



The right to draw water from Lakes Gleneida, Waccabuc and Lonnetta and from White Pond were purchased, and the same has been drawn to the limits of the outlets formerly made by this Department in 1880 and 1881.

If the Aqueduct Commission succeed in filling with water, next spring, the East Branch and Bog Brook Reservoirs, the available storage supply will be increased 4,000,000,000 gallons, which will insure a steady supply of 150,000,000 gallons from the Croton water-shed.

On January 1, 1891, the storage reservoirs and lakes under the control of this Department were full.

The following amounts ran over Croton Dam during the year :

	RAINFALL, INCHES.	GALLONS.
January .....	9.76	36,510,000,000
February .....	6.02	29,888,000,000
March .....	3.36	20,714,000,000
April .....	3.77	10,410,000,000
May .....	1.36	671,000,000
During March and April the Aqueduct Commission filled partly East Branch reservoir.....	....	4,000,000,000
December .....	....	2,521,000,000
Total for year .....	....	104,714,000,000

Total for Year.

On May 1 the storage available was—	
Middle Branch Reservoir.....	4,000,000,000
Boyd's Corners Reservoir.....	2,700,000,000
East Branch Reservoir.....	4,000,000,000
Lake Mahopac.....	500,000,000
Lake Kirk.....	500,000,000
Barrett Pond.....	80,000,000
Lake Gilead.....	300,000,000
Croton Lake.....	500,000,000
Total storage .....	12,580,000,000
Drawn from Lake Gleneida, Waccabuc, Tonetta and White Pond.....	505,000,000
Total storage available.....	13,085,000,000
Amount of storage drawn from storage reservoirs .....	15,010,000,000
Amount of storage drawn from Croton Lake.....	2,110,000,000
Total storage drawn.....	17,120,000,000
Which is in excess of amount available, showing the gains in reservoirs from rains..	4,035,000,000
Amount now in reservoirs available.....	3,110,000,000
Total amount of storage gained by rains since May 31, 1891, rainfall, inches, 17.91	7,145,000,000

The amount furnished the city from the Croton river was 150,000,000 gallons per day, except from November 4 to 24, when the supply was restricted to an average of 120,000,000 gallons per day.

It is impracticable to reliably determine the amount stored above either of the dams on the water-shed from any given rainfall or short length of time, when it is necessary to draw from same at the same time ; the only opportunity this year when this has been practicable was from August 21 to September 3, 1891, 13 days, when Middle Branch Reservoir was shut down and gained 5 inches in depth, equal to 42,000,000 gallons, with 4.72 inches of rainfall, area of water-shed 21 square miles ; and from 23d of November to December 22, 30 days, it gained 15 feet in depth, equal to 332,000,000 gallons, with 3.39 inches of rainfall, showing the great difference between dry summer weather and cold freezing weather in the Croton water-shed in the amount that can be obtained from rainfall for storage and water supply.

Until May 14 the water ran over Croton Dam in addition to supplying the two aqueducts, having  $\frac{5.8}{100}$  inches of rainfall ; the water ran over the dam on May 17, 18 and 19, since which time no water has run over the dam until December 11, 1891.

From May 19 to June 12 the deficiency in the flow of the river to supply the aqueduct was taken from Croton lake, and on June 13 to 18 water was drawn from the storage reservoirs ; the rains during the 17th, 18th and 19th again nearly filled Croton lake, and the draft on storage was discontinued. On June 20 water was taken from Croton lake, and on June 24 we commenced drawing from storage reservoirs, which was continued until December 10, 1891.

There has been drawn from storage reservoirs :

	RAINFALL INCHES	IN GALLONS.
June .....	2.14	895,000,000
July .....	4.04	3,095,000,000
August.....	4.99	3,210,000,000
September .....	2.06	3,250,000,000
October .....	2.25	3,110,000,000
November .....	3.47	1,310,000,000
To December 10.....	1.72	140,000,000
Total.....	....	15,010,000,000

Showing the necessity of providing storage reservoirs, to be filled during January, February, March and April, and that the capacity of Croton lake during dry seasons is capable of storing the usual rainfall over and above the amount brought to the city.

BRONX AND BYRAM RIVER SUPPLY.

The Commissioners appointed to appraise values of land on Bear Gutter Creek and Byram river, necessary to connect the Byram river with the Kensico Reservoir, have made their reports and the awards have been paid the owners.

The contractor has been given notice to proceed with the work on channel way and tunnel.

Another Commission has been appointed to appraise damages on the Bronx river, below Williamsbridge, on account of the diversion of the water at Kensico Dam. The regular force has been employed in repairing conduit and roads, excavating at Rye Ponds, reconstructing the retaining-walls, fences and roads around the Williamsbridge Reservoir, and taking care of the grounds around Kensico, Williamsbridge and Rye Ponds Reservoirs. The supply of water has been uninterrupted during the year.

1,012,000,000 gallons of water were supplied during the quarter.

4,110,000,000 gallons supplied during the year, an average of  $11\frac{20}{100}$  million gallons per day.

There has been drawn from storage during the quarter from—

Kensico Reservoir .....	550,000,000
Rye Ponds Reservoir.....	275,000,000
Total for quarter .....	825,000,000

Storage Drawn during the Year.

Kensico Reservoir.....	1,400,000,000
Rye Ponds Reservoir.....	1,075,000,000
Total .....	2,475,000,000

There was on December 31, 1891—		Gallons.
Kensico Reservoir .....		350,000,000
Rye Ponds Reservoir.....		65,000,000
Total storage available.....		415,000,000

Lands Acquired and Damages Paid in 1891.

Voucher No.	Parcel No.	NAME OF OWNER.	FOR WHAT PAID.	AMOUNT PAID.	REMARKS.
105	...	George C. Rickhardt.....	Damages.....	\$8,250 00	Byram river.
241	211	Daniel Owen.....	" .....	300 00	Bronx river.
242	212	" .....	" .....	5 00	"
243	213	W. A. Booth and others.....	" .....	5 00	"
244	214	Daniel Owen .....	" .....	5 00	"
245	215	George F. Dewland.....	" .....	5 00	"
246	216	Daniel Owen.....	" .....	5 00	"
247	217	M. Richardson.....	" .....	5 00	"
248	218	" .....	" .....	5 00	"
249	219	Charles Johnson.....	" .....	5 00	"
250	220	J. E. L. Lindstedt.....	" .....	5 00	"
251	221	Ellen Murphy.....	" .....	5 00	"
252	222	The Estate of L. Odell and others .....	" .....	5 00	"
253	223	Annie Bristovish.....	" .....	5 00	"
254	224	Daniel Owen.....	" .....	5 00	"
255	225	Ellen Halsey.....	" .....	5 00	"
256	226	Phillip Leibrack.....	" .....	5 00	"
257	227	John H. Ficken.....	" .....	5 00	"
258	228	Louis Miller .....	" .....	5 00	"
259	229	Levi Mace.....	" .....	5 00	"
260	230	Daniel Owen.....	" .....	5 00	"
261	231	" .....	" .....	5 00	"
262	232	" .....	" .....	750 00	"
263	233	The New York and Harlem Railroad.....	" .....	5 00	"
264	234	Daniel Owen.....	" .....	600 00	"
265	235	John S. Briggs.....	" .....	700 00	"
266	236	D. S. Duncomb.....	" .....	5 00	"
267	237	Susan K. Kendall.....	" .....	150 00	"
268	238	E. Sherzuegge.....	" .....	100 00	"
269	239	M. Kohner.....	" .....	150 00	"
270	240	Max Weisbeow.....	" .....	50 00	"
271	241	M. Kohner.....	" .....	150 00	"
272	242	Susan R. Kendall .....	" .....	300 00	"
273	243	Sarah J. Hurtt.....	" .....	50 00	"
274	244	Catherine Powers.....	" .....	50 00	"
275	245	Thomas J. Briggs .....	" .....	5 00	"
276	246	The U. S. Trust Co.....	" .....	5 00	"
371	27, 44 } and 45 }	Catherine F. Lawrence.....	" .....	1,502 50	Byram river.
850	7	Edward C. Philipsen.....	Land and damages.....	250 00	"
851	11	Robert Blake.....	" .....	300 00	"
852	14	" .....	" .....	110 00	"
853	16 and 17	" .....	" .....	90 00	"
854	26	Mary E. Mead.....	" .....	1,100 00	"
855	28	" .....	" .....	450 00	"
856	34	Abby Jane Brundage.....	" .....	250 00	"
857	36	A. McDonald .....	" .....	350 00	"
858	38	John E. Buckhout .....	" .....	550 00	"
859	40	John J. Quimby.....	" .....	600 00	"
860	15 and 18	William H. Ryan.....	" .....	418 00	"
861	20	" .....	" .....	36 00	"
862	21	" .....	" .....	41 00	"
863	22	" .....	" .....	42 00	"
864	37	William F. Lawrence.....	" .....	550 00	"
1303	12	Alberta Fuller.....	" .....	458 00	"

NEW AQUEDUCT.

During the year surveys for lands required by the Aqueduct Commissioners for Reservoirs "M," "D," and Cornell's, have been carried on.

Final plans and six similar maps have been transmitted to the Aqueduct Commissioners for the balance of lands required for Reservoirs "D," "M," and for land required at the Cornell Dam.

Plans and specifications for blow-off at Shaft 24, for house over Shaft 25, for cleaning and fencing grounds around shafts and gate-houses, and for house over hoisting plants, have been examined and transmitted.

The quantity of water received through the New Aqueduct has been :

January.....	1,860,000,000
February.....	1,830,000,000
March .....	2,170,000,000
April .....	1,820,000,000
May .....	2,450,000,000
June.....	2,400,000,000
July.....	2,480,000,000
August .....	2,480,000,000
September .....	2,400,000,000
October.....	4,050,000,000
November.....	3,720,000,000
December.....	3,120,000,000

The supply through same has been interrupted for repairs, etc., January 13 and 14, and April 12 to 19. On the 30th of June, the New Aqueduct, "Care and Maintenance," except where new work was under contract, was turned over to this Department, and has run continuously since.

The work on all of the storage reservoirs under contract has been slow.

The two reservoirs on the East Branch are not as yet completed ; one is in use and they both may be filled in the spring. The other two will take at least two years to complete.



**AQUEDUCT—REPAIRS, MAINTENANCE AND STRENGTHENING.**  
*Work Done during the Quarter ending December 31, 1891.*

DIVISIONS.	Earth Excavated, Cubic Yards.	Stone Quarried, Cubic Yards.	Dry Masonry, Cubic Yards.	Rubble Masonry, Cubic Yards.	Brick Masonry, Cubic Yards.	Granite Coping, Linear Feet.	Flagging Laid, Square Feet.	Curb Laid, Linear Feet.	Paving, Square Yards.	Filling and Grading, Cubic Yards.	Fences Built, Linear Feet.	Fences Repaired, Linear Feet.	Fence Post Set.	Fence Painted, Linear Feet.	Sodding, Square Yards.
First.....	....	....	127	153	....	....	....	..	....	....	540	....	....	....	..
Second....	50	....	7	....	1,263	....	125	25	..	445	1,905	....	....	....	..
Third.....	81	....	95	44	1,128	....	....	..	..	....	1,090	....	....	....	..
Fourth....	18	....	30	....	704	....	....	..	..	....	264	750	115	....	..
Fifth.....	75	....	....	....	600	....	....	..	15	250	718	500	....	695	50
Sixth.....	....	....	228	....	448	....	....	..	..	2,912	954	385	41	....	..
Seventh...	....	....	....	....	....	....	....	..	..	30	75	....	22	....	..
Eighth....	....	1,200	....	....	....	150	....	..	..	....	....	....	....	1,000	..
Total ...	224	1,200	487	197	4,143	150	125	25	15	3,637	5,546	1,635	178	1,695	50

The regular work on the several divisions has been conducted as usual—such as care of surface of Aqueduct, gate-houses, machinery, etc., patrolling reservoirs, building and repairing fences.

The particular work on each division, has been as follows:

First Division—Cleaning up around the lake, paving at bottom of apron, building dry wall at west end of dam, cleaning up line of Aqueduct, cleaning and repairing Aqueduct.

Second Division—Building fence on upper end of division known as Harris bank, also on Snowden avenue, known as Brandeth bank, building retaining-wall on same bank, building wire fence on Bacon's bank, relaying sidewalk on Mott street, cleaning inside of Aqueduct, cutting out weak places on invert at File-works arch, and repairing the same with new brick work and cement; excavating for and building brick vault to connect prison reservoir with Aqueduct. During the past quarter a water-meter was placed in brick vault to measure water furnished to prison.

Third Division—Cleaning inside of Aqueduct, cutting out weak places and repairing same with brick and cement, removing all the old brick and cement from Aqueduct; building masonry retaining-wall on Clark bank, with all necessary filling and excavation; building dry retaining-wall on Clark bank, cutting out all the masonry joints of arch over Pocantico brook, at High Bank, and repointing same with Portland cement; building and repairing fences, repairing and cleaning crosswalks, gutters, culverts, etc.

Fourth Division—Cleaning out Aqueduct and repairing same when needed; building retaining-wall at the Osborne place; building and repairing fences, repairing banks, cleaning culverts, drains, crosswalks.

Fifth Division—Cleaning out the Aqueduct and repairing same where needed; building, repairing and painting fences, filling, grading and sodding banks, paving gutters, cleaning and repairing culverts and crosswalks.

Sixth Division—Cleaning out the Aqueduct and repairing same when necessary; building retaining-wall; filling, grading, building and repairing fences, cleaning and repairing culverts, etc.

Seventh Division—Keeping all the grounds, walks, roadways and bridges clean and in good order. The reservoir basin is cleaned daily and kept free from scum, leaves, etc. All the gate-houses have been kept clean, screws oiled, stop-cocks in tower and gate-houses on Tenth avenue wrapped with straw, and the chambers south of tower filled with leaves to keep from freezing. The steps leading to the bridge, reservoirs, to the fire-room and all around the engine-house and gate-houses have been kept clean. Forty-seven new steps have been put in to replace those worn out on stairs leading from Aqueduct, requiring 26 yellow pine boards. Building and repairing fences, repairing and cleaning culverts, drains and gutters, filling and grading walks, hoisting coal, cleaning dock and keeping same in good repair and furnishing help to engine-house when needed.

Eighth Division—Cleaning and repairing Central Park and Forty-second Street Reservoirs, gate-houses and outside mains and chambers; gathering leaves around the reservoir, cleaning, repairing and maintaining High Service Works, Ninth and Tenth Avenue Gate-houses and grounds; doing odd jobs of pointing, painting iron railing around One Hundred and Thirteenth street and Ninety-second and Ninety-third streets, at gate-houses; painting roofs of One Hundred and Thirteenth street and Ninety-second and Ninety-third Street Gate-houses (inside); repairing flagging around pumps at High Service Works and doing odd jobs of carpenter work; patrolling Central Park Reservoir and pipe lines.

*Aqueduct—Repairs, Maintenance and Strengthening for the Year 1891.*

DIVISIONS.	Earth Excavated, Cub. Yds.	Stone Quarried, Cub. Yds.	Dry Masonry, Cub. Yds.	Brick Masonry, Cub. Yds.	Rubble Masonry, Cub. Yds.	Granite Coping, Lin. Ft.	Concrete, Sq. Yds.	Concrete Drain, Lin. Ft.	Concrete Sewer, Lin. Ft.	Flagging, Sq. Ft.	Curb Set, Lin. Ft.	Paving, Sq. Yds.	Filling and Grading.	Sodding, Sq. Yds.	Telegraph Poles Removed.	Fences Filled, L. Ft.	Fences Repaired, Lin. Ft.	Fence Gates Built.	Fences Painted, Lin. Ft.	Posts Set.
First...	....	....	274	....	453	....	....	....	....	....	....	....	....	....	....	540	309	..	....	..
Second..	550	....	89	1,263	....	....	....	160	60	....	465	....	260	2,830	....	..	35	....	....	..
Third...	331	225	441	1,418	44	....	43	86	....	....	154	....	208	2,298	1,500	....	....	....	....	..
Fourth..	18	....	30	704	....	....	....	....	....	....	....	....	150	489	4,350	....	115	....	....	..
Fifth...	103	....	35	600	....	....	....	285	100	1,335	553	150	4,018	2,150	7	695	....	....	....	..
Sixth...	....	196	564	448	....	....	....	....	....	2,947	....	180	3,584	3,858	....	41	....	....	....	..
Seventh..	....	....	....	....	....	....	120	536	....	90	506	....	1,900	785	....	22	....	....	....	..
Eighth..	2,470	7,950	12	....	150	176	....	....	....	....	....	....	....	240	....	6,280	....	....	....	..
Total..	3,472	8,371	1,344	4,433	497	150	219	86	120	981	60	100	4,991	1,059	948	15,899	12,943	7	7,010	178

The general character of the work has been maintaining and strengthening, with the result of considerable improvement all along the line.

The Old Aqueduct was shut off on October 11 and resumed on November 19. During the interval the Aqueduct was cleaned out and repaired, since which time there has been no trouble from leaks.

On the Second Division a meter has been placed in brick vault to measure water supplied to prison.

The contract for the improvement of the old reservoir in Central Park was abandoned June 10, 1891. The work was again advertised and let, and under a new contract work was resumed October 28, 1891.

A concrete drain in the east side of Highbridge, on the dividing line of John Kart's property, from Cliff avenue to top of bank, was built.

The most particular work on each division has been as follows:

First Division—The work on this division has been cleaning up shore of lake, islands in lake, attending leaks (which have been repaired), cutting ice, building and repairing fences, rebuilding wall south of old gate-house, paving at bottom of apron of dam, cleaning out Aqueduct, cutting grass, building dry wall at east end of division, cleaning up surface of Aqueduct.

Second Division—Cleaning up line, attending leaks at File-works arch, which proved troublesome until January 22, 1891, but since repairs have needed but slight attention; cutting down old telephone poles and wire, rebuilding stone wall on Brandeth bank, Blunt's bank and Potter's bank; building and repairing fences, excavating for and building brick vault for meter and connections of old Aqueduct with prison reservoir, cleaning up service of Aqueduct, cleaning and repairing drains, culverts, gutters, and cutting grass.

Third Division—Rebuilding culvert on Aspinwall bank, Long bank and Clark bank; building, repairing and painting fences; quarrying stone from Phelps bank, painting inside of keeper's house, building sheds for storing lumber, cement, etc. The inside walls and ironwork of gate-house have been painted. The banks settled in several places during the first quarter, and have been refilled with earth and stone. A twelve-inch concrete drain was built on Jones bank, and a brick trap eight feet deep was built in connection with drain. The entire bottom of Aqueduct was cleaned out and all stones, roots and stagnant water removed, weak places were cut out and repaired with brick and cement. The leaks have ceased giving trouble since the repairs. Building and repairing fences, cleaning up line, cutting grass and repairing crosswalks.

Fourth Division—Building and repairing fences, cleaning up line of Aqueduct, repairing banks, removing telephone poles, building retaining-wall at the Osborne place, cleaning out Aqueduct and making repairs, cutting grass when necessary, cleaning and repairing drains, culverts and crosswalks.

Fifth Division—Building stone-walls, cutting down telephone poles, making new fence gates, filling and grading on banks, cutting grass, cleaning up line of Aqueduct, repairing culverts, gutters and crosswalks, building repairing and painting fences, plastering the half-way house and grading around same, cleaning out Aqueduct and making repairs where needed.

Sixth Division—Cutting down telephone poles and making fence posts of same, building stone walls, building and repairing fences, attending leaks, quarrying stone, filling and grading, spreading manure, cleaning up line of Aqueduct, repairing culverts, drains and crossings. The entire Aqueduct, from Gunhill north has been cleaned out and all leaks have been cut out and filled with brick and Portland cement, cutting grass when necessary and general maintenance.

Seventh Division—Building sewer on east side of High Bridge, on the dividing line of John Kart's property, from Cliff avenue to top of bank; flagging laid from east gate-house to John Kart's, and pavements extended along Aqueduct avenue, from Engineer's office building; sodding bank running south from wooden steps leading to the reservoir. A cobble-stone gutter has been laid along the wall from tower front to Tenth avenue. The coal dock has been re-floored, the keeper's house has been painted, papered and plastered, stationary wash-tubs put in, building, repairing and painting fences, spreading ashes on walks, spreading manure, sodding, repairing drains, culverts and crosswalks, screenings put on when needed. All the approaches to High Bridge have been kept clean and in good repair. The reservoir has been kept clean and free from scum and leaves. All grass on banks around the works has been cut and hauled away. All the gate-houses have been kept clean, the screws oiled, the steps cleared of ice and snow after each storm, floors cleaned in fire-room and coal hoisted. The tower has also been kept warm and clear, and a considerable amount of work has been done along the Aqueduct. A guard rail has been built on the high bank at the lower end of division. All the requirements of this division are carefully looked after, so that it may always present a clean and tidy appearance.

Eighth Division—Cleaning and repairing Central Park and Forty-second street reservoirs, gate-house chambers and outside mains, cleaning, repairing and maintenance of High Service works, Ninth and Tenth avenue gate-houses and grounds.

Putting in new pumps at the High Service works, doing odd jobs of masonry and carpenter work, painting keeper's house, painting roof of gate-house at Ninety-third street and Ninth avenue, continuing the improvement of the old reservoir, cutting grass, building foundation wall on Old Aqueduct, between Ninetieth and Ninety-first streets, painting iron railing around new reservoir, setting coping on Old Aqueduct, between Ninetieth and Ninety-first streets, painting roofs and railings around Ninety-first, Ninety-second and One Hundred and Thirteenth street gate-houses, repairing lagging around pumps at High Service works, patrolling Central Park reservoir and pipe lines together with general maintenance.

A contract for furnishing coal and a contract for furnishing coping-stone has been completed, and a contract for excavating the old reservoir in Central Park has been entered into. The work changing gate-houses at One Hundred and Thirty-fifth street and replacing pipe, etc., has been held back on account of sewer being built on Tenth avenue.

The work was commenced in June, but has been prosecuted very slowly, so that it will be next year before it can be completed.

**LAYING CROTON PIPES.**

Contracts for laying water-mains in the following streets and avenues have been completed during the quarter:

One Hundred and Sixth street, between First avenue and Harlem river.

Across the Harlem river to Ward's Island.

Across Ward's Island.

Webster avenue, between One Hundred and Sixty-ninth street and Tremont avenue.

Webster avenue, between Mosholu Parkway and Scott avenue.

One Hundred and Sixty-seventh street, between Franklin and Boston avenues.

Suburban street, between Bainbridge and Anthony avenues.

Scott avenue, between Webster and Perry avenues.

Decatur avenue, between Scott avenue and Mosholu Parkway.

Signal place, between Webster avenue and 200 feet east.

One Hundred and Thirteenth street, between Fifth and Madison avenues.

Ninety-fifth street, between First and Second avenues.

Jennings street, between Bristow street and Union avenue.

Perry avenue, between Mosholu Parkway and Scott avenue.

Andrews avenue, between Hampden street and 430 feet north.

Aqueduct avenue, between Hampden street and 550 feet north.

One Hundred and Second street, between West End and Riverside avenues.

One Hundred and Forty-third street, between Eighth and Bradhurst avenues.

Seventy-sixth street, between Avenue A and Exterior street.

One Hundred and Forty-sixth street, between Boulevard and Hudson River Railroad.

Coles place, between Kingsbridge road and Poe place.

Poe place, between Coles place and 450 feet north.

One contract for furnishing pipe, etc., completed; 1 contract for furnishing pipe and 2 contracts for laying pipe entered into.

*Amount of Pipe Laid, Stop-cocks Set, and Hydrants Placed in 1891.*

PIPES.			STOP-COCKS.			HYDRANTS.		
Diameter.	During Quarter Ending Dec. 31, 1891.	During Year 1891.	Diameter.	During Quarter Ending Dec. 31, 1891.	During Year 1891.	Pattern.	During Quarter Ending Dec. 31, 1891.	During Year 1891.
36-inch...	Lineal feet.	Lineal feet.	36-inch...	..	3	"A"....	50	143
20-inch...	....	1,219	20-inch...	..	2	No. 1....	1	36
12-inch...	10,560	31,853	12-inch...	12	35	Total...	51	179
6-inch...	10,971	52,526	6-inch...	45	138			
			4-inch...	3	3			
Total...	21,531	96,560	Total...	60	181			

*Summary, 1891.*

PIPES.			STOP-COCKS.			HYDRANTS.		
Diameter of Pipe.	Pipe Laid to Dec. 31, 1890.	Pipe Laid from Dec. 31, 1890, to Dec. 31, 1891.	Total Pipe Laid to Dec. 31, 1891.	Diameter.	Stop-cocks set to Dec. 31, 1890.	Stop-cocks set from Dec. 31, 1890, to Dec. 31, 1891.	Total Stop-cocks set to Dec. 31, 1891.	Pattern.
48-inch...	75,736	....	75,736	48-inch...	17	....	17	Nos. 1, 2 and 3..
36-inch...	102,842	10,962	113,804	36-inch...	41	3	44	Victor...
30-inch...	41,773	....	41,773	30-inch...	29	....	29	"A"....
24-inch...	11,542	....	11,542	24-inch...	13	....	13	"B"....
20-inch...	198,683	1,219	199,902	20-inch...	187	2	189	Totals.
16-inch...	17,130	....	17,130	16-inch...	22	....	22	
12-inch...	857,187	31,853	889,040	12-inch...	1,607	35	1,642	
10-inch...	6,629	....	6,629	10-inch...	15	....	15	
6-inch...	2,181,045	52,526	*2,230,816	6-inch...	4,894	138	*5,030	
4-inch...	32,936	....	32,936	4-inch...	125	3	128	
Total lin. ft.	3,525,503	96,560	3,619,308	Totals..	6,950	181	7,129	
Miles...	667.71	18.29	685.48					

\* NOTE—Less 2,755 feet of 6-inch pipe discontinued.



## STREETS AND AVENUES IN WHICH WATER-MAINS HAVE BEEN LAID IN 1891.

*Thirty-six-inch Pipe.*

Southern Boulevard, between Pelham avenue and Home street.

*Twenty-inch Pipe.*

Ninety-third street, between Madison and Park avenues.

*Twelve-inch Pipe.*

Across the East river, from foot of East Seventy-ninth street to Blackwell's Island.

Ninety-third street, between Park and Lexington avenues.

Bronx river road, between McLean and Grand avenues.

Grand avenue, between Bronx river road and Third street.

Amsterdam avenue, between One Hundred and Ninetieth and One Hundred and Ninety-seventh streets.

Brook avenue, between One Hundred and Sixtieth and One Hundred and Sixty-fifth streets.

Broadway, between Church street and south line of the City of Yonkers.

Twelfth avenue, between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.

One Hundred and Sixth street, between First avenue and Harlem river.

Across Harlem river to Ward's Island.

Across Ward's Island.

Webster avenue, between Mosholu Parkway and Scott avenue.

Webster avenue, between One Hundred and Sixty-ninth and One Hundred and Seventy-seventh streets.

*Six-inch Pipe.*

One Hundred and Third street, between Boulevard and Eleventh avenue.

Eighty-ninth street, between Tenth avenue and Boulevard.

Ninety-ninth street, between Ninth and Tenth avenues.

Ninety-fourth street, between First and Second avenues.

Seventy-seventh street, between Boulevard and Tenth avenue.

Creston avenue, between St. James and Donnybrook streets.

Davidson avenue, between St. James street and High Bridge road.

Bainbridge avenue, between Suburban street and Southern Boulevard.

Morris avenue, between One Hundred and Eighty-first and One Hundred and Eighty-third streets.

Perry avenue, between Eclipse street and Olin avenue.

Hull avenue, between Eclipse street and Olin avenue.

Decatur avenue, between Eclipse street and Olin avenue.

Olin avenue, between Williamsbridge reservoir and Decatur avenue.

Fifty-eighth street, between Eleventh avenue and North river.

One Hundred and Twenty-first street, between Ninth and Manhattan avenues.

One Hundred and Forty-second street, between Eighth and Bradhurst avenues.

One Hundred and Forty-seventh street, between Eighth and New avenues.

One Hundred and Forty-eighth street, between Eighth and New avenues.

Eighty-second street, between Tenth avenue and Boulevard.

One Hundred and Forty-third street, between Convent and Amsterdam avenues.

Elsemere place, between Prospect and Marmion avenues.

Mechanic street, between Boston road and Oostdorp avenue.

Samuel street, between Boston road and Oostdorp avenue.

Jennings street, between Stebbins avenue and a point 249 feet west of Bristow street.

Bristow street, between Boston avenue and a point 210 feet south of Jennings street.

Chisholm street, between Jennings street and a point 245 feet south of same.

One Hundred and Forty-ninth street, between Tenth and St. Nicholas avenues.

One Hundred and Thirty-ninth street, between Eighth and Edgecombe avenues.

North river bulkhead, between Seventy-seventh and Eightieth streets.

Third street, between Grand and Mount Vernon avenues.

First avenue, between Third street and a point 480 feet east.

Second avenue, between Third street and a point 560 feet east.

One Hundred and Eighty-fifth street, between Audubon avenue and Kingsbridge road.

One Hundred and Sixty-first street, between St. Ann's and Cauldwell avenues.

Honeywell avenue, between Samuel street and a point 325 feet north.

Buckhout street, between Morris and Anthony avenues.

One Hundred and Seventy-fifth street, between Vineyard place and Southern Boulevard.

Mosholu avenue, between Riverdale avenue and Broadway.

Northern Terrace, between Westchester and Park avenues.

One Hundred and Forty-seventh street, between Boulevard and Hudson River Railroad.

Riverdale avenue, between Dash's lane and a point 800 feet south.

One Hundred and Forty-seventh street, between Brook and Willis avenues.

One Hundred and Thirty-fourth street, between Southern Boulevard and Willow avenue.

New avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.

One Hundred and Thirtieth street, between Fifth and Madison avenues.

Ninety-fifth street, between First and Second avenues.

Jennings street, between Chisholm street and Union avenue.

One Hundred and Second street, between Eleventh avenue and Riverside Drive.

One Hundred and Forty-third street, between Eighth and Bradhurst avenues.

Seventy-sixth street, between Avenue A and Exterior street.

One Hundred and Forty-sixth street, between Boulevard and Hudson River Railroad.

Decatur avenue, between Mosholu Parkway and Scott avenue.

Perry avenue, between Mosholu Parkway and Scott avenue.

Signal place, between Webster avenue and a point 200 feet east.

Scott avenue, between Webster and Perry avenues.

Suburban street, between Bainbridge and Anthony avenues.

Coles place, between Kingsbridge road and Poe place.

Poe place, between Coles place and a point 450 feet north.

Aqueduct avenue, between Hampden street and a point 550 feet north.

Andrews avenue, between Hampden street and a point 430 feet north.

One Hundred and Sixty-seventh street, between Boston and Franklin avenues.

*"A" Hydrants Set in 1891.*

Northwest corner Boulevard and One Hundred and Third street.....	1
Northeast corner Eleventh avenue and One Hundred and Third street.....	1
Northeast corner Boulevard and Eighty-ninth street.....	1
Northwest corner Boulevard and Eighty-ninth street.....	1
North side Ninetieth street, between Ninth and Tenth avenues.....	1
North side Ninety-fourth street, between First and Second avenues.....	2
Northeast corner Boulevard and Seventy-seventh street.....	1
Northwest corner Creston avenue and St. James street.....	1
Southwest corner Creston avenue and Primrose street.....	1
West side Creston avenue, between Kingsbridge road and Primrose street.....	1
Northwest corner Creston avenue and Kingsbridge road.....	1
Southwest corner Creston avenue and Donnybrook street.....	1
Northwest corner Davidson avenue and Highbridge road.....	1
Southwest corner Davidson avenue and St. James street.....	1
Northwest corner Southern Boulevard and Bainbridge avenue.....	1
Southwest corner Suburban street and Bainbridge avenue.....	1
Southwest corner Morris avenue and Cameron place.....	1
Southwest corner Morris avenue and One Hundred and Eighty-second street.....	1
Southwest corner Morris avenue and One Hundred and Eighty-third street.....	1
Northwest corner Perry avenue and Eclipse street.....	1
Northwest corner Perry avenue and Ozark street.....	1
Southwest corner Perry avenue and Olin avenue.....	1
Northwest corner Hull avenue and Eclipse street.....	1
Northwest corner Hull avenue and Ozark street.....	1
Southwest corner Hull avenue and Olin avenue.....	1
Northwest corner Decatur avenue and Eclipse street.....	1
Northwest corner Decatur avenue and Ozark street.....	1
Southwest corner Decatur avenue and Olin avenue.....	1
Northeast corner Twelfth avenue and Fifty-eighth street.....	1
Northeast corner Bradhurst avenue and One Hundred and Forty-second street.....	1
Northwest corner Eighth avenue and One Hundred and Forty-second street.....	1
Northeast corner New avenue and One Hundred and Forty-seventh street.....	1
Northwest corner Eighth avenue and One Hundred and Forty-eighth street.....	1
Northeast corner Boulevard and Eighty-second street.....	1
Northwest corner Tenth avenue and Eighty-second street.....	1
Northeast corner Tenth avenue and One Hundred and Forty-third street.....	1
Northwest corner Elsemere place and Mapes avenue.....	1
Northwest corner Elsemere place and Marmion avenue.....	1
Northeast corner Mechanic street and Oostdorp avenue.....	1

Northwest corner Mechanic street and Boston road.....	1
Northeast corner Samuel street and Oostdorp avenue.....	1
Northwest corner Samuel street and Boston road.....	1
Northwest corner Bristow and Jennings streets.....	1
Northwest corner Stebbins avenue and Jennings street.....	1
Southwest corner Bristow street and Boston road.....	1
Southwest corner Chisholm and Jennings streets.....	1
Northwest corner Chisholm and Jennings streets.....	1
Northwest corner One Hundred and Thirty-ninth street and Eighth avenue.....	1
Northwest corner Grand avenue and Bronx river road.....	1
Northeast corner Grand avenue and First street.....	1
Northeast corner Grand avenue and Second street.....	1
Northeast corner Grand avenue and Clinton street.....	1
Northeast corner Grand avenue and Third street.....	1
Northwest corner Third street and Willard avenue.....	1
Southwest corner Third street and First avenue.....	1
Northwest corner Third street and Third avenue.....	1
North side First avenue, east of Third avenue.....	2
North side Second avenue, east of Third street.....	2
Northeast corner One Hundred and Eighty-fifth street and Kingsbridge road.....	1
Northeast corner One Hundred and Eighty-fifth street and Wadsworth avenue.....	1
Northeast corner One Hundred and Eighty-fifth street and Eleventh avenue.....	1
East side Amsterdam avenue, between One Hundred and Ninetieth and One Hundred and Ninety-seventh streets.....	3
West side Brook avenue, between Third avenue and One Hundred and Sixty-first street.....	1
West side Brook avenue, between One Hundred and Sixty-first and One Hundred and Sixty-second streets.....	1
Southeast corner Brook and Washington avenues.....	1
Northeast corner Brook avenue and One Hundred and Sixty-third street.....	1
East side Brook avenue, between One Hundred and Sixty-third and One Hundred and Sixty-fourth streets.....	1
Southeast corner Brook avenue and One Hundred and Sixty-fifth street.....	1
Northeast corner One Hundred and Sixty-first street and St. Ann's avenue.....	1
West side Honeywell avenue, 300 feet north of Samuel street.....	1
West side Twelfth avenue, between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.....	1
North side Buckhout street, between Morris and Anthony avenues.....	2
Northwest corner One Hundred and Seventy-fifth street and Southern Boulevard.....	1
North side One Hundred and Seventy-fifth street, between Southern Boulevard and Vineyard place.....	1
North side One Hundred and Forty-seventh street, between Boulevard and Hudson River Railroad.....	2
Northwest corner One Hundred and Forty-seventh street and Brook avenue.....	1
Southeast corner One Hundred and Forty-seventh street and Bergen avenue.....	1
North side One Hundred and Thirty-fourth street, between Southern Boulevard and Willow avenue.....	2
Northeast corner New avenue and One Hundred and Forty-ninth street.....	1
Northeast corner New avenue and One Hundred and Fifty-third street.....	1
Northwest corner New avenue and One Hundred and Fifty-fourth street.....	1
On Ward's Island.....	7
Northwest corner One Hundred and Thirtieth street and Madison avenue.....	1
Northeast corner One Hundred and Thirtieth street and Fifth avenue.....	1
Northeast corner Ninety-fifth street and Second avenue.....	1
Northwest corner Ninety-fifth street and First avenue.....	1
Northwest corner Jennings street and Prospect avenue.....	1
Northeast corner Jennings street and Union avenue.....	1
Northeast corner One Hundred and Second street and Riverside Drive.....	1
North side One Hundred and Second street, between Eleventh avenue and Riverside Drive.....	1
Northeast corner One Hundred and Forty-third street and Bradhurst avenue.....	1
Northwest corner One Hundred and Forty-third street and Eighth avenue.....	1
North side Seventy-sixth street, near East river.....	1
North side One Hundred and Forty-sixth street, between Boulevard and Hudson River Railroad.....	2
Northeast corner Webster avenue and Tower place.....	1
Southwest corner Decatur and Scott avenues.....	1
Northwest corner Decatur and Mosholu Parkway.....	1
West side Perry avenue, 350 feet south of Scott avenue.....	1
North side Signal place, 200 feet east of Webster avenue.....	1
Northwest corner Scott and Webster avenues.....	1
Northwest corner Scott and Decatur avenues.....	1
Northeast corner Scott and Perry avenues.....	1
Northeast corner Suburban and Briggs avenues.....	1
Northeast corner Suburban avenue and Carlin place.....	1
Northwest corner Suburban avenue and Carlin place.....	1
Northeast corner Suburban and Anthony avenues.....	1
Northeast corner Coles place and Kingsbridge road.....	1
West side Poe place, between Coles place and 400 feet north.....	2
West side Aqueduct avenue, between Hampden street and 500 feet north.....	2
West side Andrews avenue, between Hampden street and 400 feet north.....	1
North side One Hundred and Sixty-seventh street, between Boston and Franklin avenues.....	1
West side Bristow street, 150 feet south of Jennings street.....	1
Northeast corner One Hundred and Sixty-ninth street and Webster avenue.....	1
East side Webster avenue, between One Hundred and Sixty-ninth and One Hundred and Seventieth streets.....	1
Northeast corner Webster avenue and One Hundred and Seventieth street.....	1
East side Webster avenue, between One Hundred and Seventieth street and Wendover avenue.....	1
East side Webster avenue, between Wendover avenue and One Hundred and Seventy-third st.....	1
Northeast corner Webster and Wendover avenues.....	1
Northeast corner Webster avenue and One Hundred and Seventy-third street.....	1
East side Webster avenue, between One Hundred and Seventy-third and One Hundred and Seventy-fourth streets.....	1
East side Webster avenue, between One Hundred and Seventy-fourth and One Hundred and Seventy-fifth streets.....	1
East side Webster avenue, between One Hundred and Seventy-fifth and One Hundred and Seventy-sixth streets.....	1
East side Webster avenue, between One Hundred and Seventy-sixth and One Hundred and Seventy-seventh streets.....	1

*"No. 1" Hydrants Set in 1891.*

North side Transverse Road (No. 4), between Fifth and Eighth avenues.....	1
South side Ninety-third street, 100 feet west of Fourth avenue.....	2
East side Southern Boulevard, 400 feet south of Pelham avenue.....	1
Northeast corner Southern Boulevard and Kingsbridge road.....	1
Southeast corner Southern Boulevard and Kingsbridge road.....	1
East side Southern Boulevard, 200 feet south of One Hundred and Seventy-seventh street.....	2
Northeast corner Tenth avenue and One Hundred and Forty-ninth street.....	1
Northwest corner One Hundred and Forty-ninth street and St. Nicholas avenue.....	1
North river bulkhead, foot of West Seventy-seventh street.....	1
North river bulkhead, north of Seventy-eighth street.....	1
North river bulkhead, north of Seventy-ninth street.....	1
East side Southern Boulevard, 150 feet south of Boston avenue.....	1
East side Southern Boulevard, 250 feet south of Home street.....	2
Northeast corner Broadway and Van Courtlandt avenue.....	1
West side Broadway, 1,100 feet south of Van Courtlandt avenue.....	1
West side Broadway, between Van Courtlandt and Mosholu avenues.....	4
West side Broadway, between Mosholu avenue and the City line.....	2
Northwest corner Mosholu avenue and Riverdale lane.....	1
West side Mosholu avenue, between Riverdale lane and Rock street.....	3
North side Mosholu avenue, between Rock street and Broadway.....	2
North side Northern Terrace, between Westchester and Park avenues.....	2
East side Riverdale avenue, between Dash's lane and 800 feet south.....	2
North side One Hundred and Sixth street, between First avenue and Harlem river.....	1
North side One Hundred and Twenty-first street, between Eighth and Manhattan avenues.....	1

## REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.

A gang of men have been employed relaying mains, changing taps, etc., along West, South and connecting streets, and in the Twenty-third and Twenty-fourth Wards, where the grades of the streets have been changed, as follows:

Thirteenth avenue, between Little West Twelfth and Bloomfield streets.

Bloom street, between Grand and Rivington streets.

Delancey street, north side, between East and Tompkins streets.



Delancey street, south side, between East and Tompkins streets.  
Broome street, between East and Tompkins streets.  
Rivington street, between East and Tompkins streets.  
Park Row, between Pearl and Mott streets.  
Fifth avenue, between Fifty-ninth and Sixtieth streets.  
Seventy-second street, intersection of Third avenue.  
Fourth avenue, between Forty-sixth and Forty-seventh streets.  
Railroad avenue, East, between One Hundred and Sixty-eighth and One Hundred and Seventieth streets.  
One Hundred and Sixty-ninth street, between Railroad avenue, East, and Washington avenue.  
One Hundred and Thirtieth street, between Boulevard and Twelfth avenue.  
One Hundred and Fifty-sixth street, between Boulevard and Eleventh avenue.  
There is remaining to be examined and relaid mains in Front, Water and cross streets between South and Cherry streets and Beekman and East streets; in Avenues A, B, C, D, Lewis and Goerck streets, and cross streets between Rivington and Twenty-third streets, and in West and cross streets between West Eleventh and Twenty-Third streets.  
Contract for furnishing stop-cocks, hydrants, etc., completed.

#### ONE HUNDRED AND FIFTY-FIFTH STREET VIADUCT.

All of the abutments and foundations for piers have been completed, except three adjoining the abutment of the new bridge to be built across the Harlem river, in place of the present McComb's Dam Bridge. These foundations cannot safely be placed until the foundations of the new bridge abutment are placed.

The retaining-wall west of One Hundred and Fifty-fifth street abutment will be repaired this winter.

The erection of the iron superstructure has been commenced and will be carried on continuously, so that by May 1 the paving and other work can be carried on and a roadway completed to McComb's Dam road during 1892.

The connection with the bridge will be subject to the progress of the construction of the new bridge.

I recommend that the amended grade of McComb's Dam road be filed and the grading of same be contracted for to be completed by September 1, 1892.

#### HIGH SERVICE.

The new ten-million gallon pumping engine has been in use since May 1, and the amount now supplied by the pumps is twenty million gallons per day, and the pressure throughout this district has been increased ten feet. The large amount of building in this district has entirely used all of this increased pumping plant, and the necessity for further increase of same becomes imperative, in order to supply the buildings now being erected and those to be built.

The most available site is on the property belonging to the city, adjacent to the New Aqueduct, between Tenth avenue and Harlem river. As there is no appropriation or fund available for this purpose, I recommend that the Legislature be called upon to enact a law to provide \$500,000 for the purpose of erecting the necessary pumping machinery, structures and appurtenances.

The district supplied from high service works is from 60 to 200 feet above city datum and the pressure varies according to use and height, and is from 5 to 50 pounds pressure, being less during the day and highest at night.

#### NINETY-EIGHTH STREET, 1891.

##### Performance of High Service Pumping Engines at Ninety-eighth Street.

NUMBER OF DAYS PUMPED.	NUMBER OF STROKES.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
365	58,942,332	1,056	5,870,637,263	7,567,124	1,400	853
Average per month..	4,911,861	88	489,219,771	630,593	116.6	71

Average duty, 57,327,870 pounds raised 1 foot with 100 pounds of coal.

776 gallons raised 88 feet high with 1 pound of coal.

Average amount pumped daily, 16,083,938 gallons.

Average pounds of coal consumed per day, 20,731.

Average cost of pumping 1,000,000 gallons 88 feet high, \$5.30.

#### HIGH BRIDGE, 1891.

##### Performance of High Service Pumping Engines at High Bridge.

NUMBER OF DAYS PUMPED.	NUMBER OF STROKES.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
365	27,316,667	1,200	1,943,891,863	3,388,650	822	365
Average per month..	2,276,389	100	161,990,988	282,387	68.3	30.4

Average duty, 47,844,400 pounds raised 1 foot high with 100 pounds of coal.

574 gallons raised 100 feet high with 1 pound of coal.

Average amount pumped daily, 5,325,732 gallons.

Average pounds of coal consumed per day, 9,284.

Average cost of pumping 1,000,000 gallons 100 feet high, \$8.45.

20,000,000 gallons pumped 214 feet high into a tank in tower during the year.

#### PLACING NEW HYDRANTS.

Contract for 250 new hydrants has been completed, and a contract for pipe and special castings has been entered into.

Plans and specifications have been made for an improved hydrant, and plans and specifications are now being made for placing same where called for by the Fire Department.

#### TAPS.

Number of taps put in during the quarter ending December 31, 1891..... 743  
Number of taps put in during the year ending December 31, 1891..... 2,682

#### METERS.

Meters placed during quarter ending December 31, 1891..... 360  
Meters placed during the year ending December 31, 1891..... 2,192  
Number of meters now in use..... 24,264

#### Water-meters in use December 31, 1891.

WHERE PLACED.	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	TOTAL.
Hotels.....	13	66	149	82	51	26	7	..	399
Breweries, Bottlers, etc.....	19	101	128	59	81	22	4	..	414
Charitable Institutions, etc.....	..	5	34	42	46	10	2	..	139
Offices.....	41	784	843	347	106	40	19	..	2,180
Manufacturing establishments..	148	309	593	446	245	32	11	..	1,784
Gas works.....	2	5	13	6	4	14	12	..	56
Railroads.....	7	98	50	17	12	14	32	4	234
Stables.....	439	1,118	505	82	29	8	1	..	2,182
Apartment houses.....	10	22	78	76	67	8	4	..	255
Docks.....	19	15	15	11	39	53	38	..	193
Riverdale.....	47	34	14	1	..	1	..	2	99
Miscellaneous.....	5,829	4,939	3,855	957	570	127	32	10	16,319
Total.....	6,574	7,499	6,277	2,126	1,255	355	162	16	24,264

STYLE OF METER.	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	TOTAL.
Gem.....	..	..	..	..	2	6	1	..	9
Crown.....	3,549	3,167	2,091	286	157	38	30	11	9,329
Worthington.....	655	2,681	2,535	1,496	887	263	101	1	8,619
Thomson.....	2,370	1,651	1,651	344	209	45	30	4	6,307
Total.....	6,574	7,499	6,277	2,126	1,255	355	162	16	24,264

#### Average Number of Gallons used per Day through Meters.

NUMBER OF METERS.	WHERE USED.	GALLONS.	NUMBER OF METERS.	WHERE USED.	GALLONS.
399	Hotels.....	1,748,000	2,160	Stables.....	1,284,000
414	Breweries, bottlers, etc.....	1,862,000	260	Apartment-houses.....	463,000
139	Charitable institutions, etc.....	770,000	193	Docks.....	1,765,500
2,145	Offices.....	2,028,000	99	Riverdale.....	57,300
1,733	Manufacturing establishments..	3,546,000	15,627	Miscellaneous.....	13,508,000
56	Gas-works.....	1,230,700	..	..	..
234	Railroads.....	2,208,000	23,459	Total.....	30,470,500

#### JANUARY 1, 1892.

#### WASTE AND USE OF WATER.

During the year, except from November 4 to November 24, a supply from 160,000,000 to 165,000,000 gallons per day has been furnished to the city, giving to the lower parts of the city along the water-fronts a pressure of 25 to 30 pounds, and at the high points along Third avenue, above Seventy-ninth street, and at other high points, a pressure of 5 pounds during the day and of 10 pounds at night.

On high service the pressures were from 5 pounds to 50 pounds during the day, according to use and elevation of the ground, and at night 20 to 40 pounds.

In order to distribute the increased quantities brought in by the New Aqueduct, a new 10,000,000 gallon pumping engine has been placed in the high-service engine-house, at Ninety-eighth street, a new 20-inch main laid from same to the high point at Ninety-third street and Fourth avenue, and a 48-inch main laid in One Hundred and Twenty-fifth street, from Ninth to Fourth avenue, which, with the smaller mains called for, for supply of houses, especially in the Twenty-third and Twenty-fourth Wards, has used all the appropriation available for this purpose.

From the 4th to the 24th of November the amount of water brought to the city was reduced on account of the want of storage 610,000,000 gallons, equal to an average reduction of 30,000,000 a day in amount delivered.

This reduced the pressure throughout the city about 20 feet.

The supply delivered to the city at present is —

	Gallons.
Through New Aqueduct.....	130,000,000
Through Old Aqueduct.....	25,000,000
Bronx River Conduit.....	8,000,000
Total daily supply.....	163,000,000

—which cannot be increased until it is certain that the new storage reservoirs on the East Branch will be filled.

Increased care and attention to the stopping of waste especially the measuring by meter of all water supplied, so as to detect same, becomes an absolute necessity in order that all shall enjoy an equal supply of water for actual use, and that those wasting same may be made to pay for their carelessness.

Yours respectfully,

G. W. BIRDSALL, Chief Engineer, Croton Aqueduct.

#### PERMITS TO OPEN STREETS ISSUED IN 1891.

##### The New York Central and Hudson River Railroad Company.

Tenth and Eleventh avenues, between Thirtieth and Thirty-third streets.  
Thirtieth, Thirty-first, Thirty-second and Thirty-third streets, between Tenth and Twelfth avenues.  
One Hundred and Forty-eighth and One Hundred and Forty-ninth streets, across at tracks.

##### Rapid Transit Commission.

Broadway, between Bowling Green and Fourteenth street.

##### Manhattan Railway Company.

Eighth avenue, at One Hundred and Thirty-sixth street.  
Second avenue, between Ninety-eighth and One Hundredth streets.  
Second avenue, between One Hundred and Twentieth and One Hundred and Twenty-second streets.  
Third avenue, between One Hundred and Twenty-eighth and One Hundred and Twenty-ninth streets.  
Second avenue, between One Hundred and Twenty-eighth and One Hundred and Twenty-ninth streets.

##### Broadway and Seventh Avenue Railroad Company.

Seventh avenue, between Forty-fifth and Fifty-ninth streets.  
Broadway, between Wall and Ann streets.  
Broadway, between Forty-third and Forty-fifth streets.  
Broadway, between Rector and Wall streets.

##### Thomas C. Avery.

South street, from No. 229 to East river.

##### B. T. Babbitt.

West street, from No. 40 to Hudson river.

##### The Genesee Fruit Company.

West street, between 60 feet north and 70 feet south of Jane street.

##### Third Avenue Railroad Company.

Third avenue, between Chatham Square and One Hundred and Thirtieth street.

##### H. Koepler.

Thirtieth street, between First avenue and East river.

##### Carl H. Schultz.

Twenty-sixth street, between No. 402 and East river.

##### John Rheinhardt & Co.

Across East Third street (No. 395).

##### Messrs. McCreery & Co.

Eleventh street, across, 148 feet west of Broadway.

##### Aaron Healey.

Ferry street, across, 12 feet east of Gold street.

##### H. Clausen & Son.

Forty-eighth street, between Second avenue and East river.

##### Police Department.

West street, between Spring street and Pier 41.  
Battery place, between Broadway and Pier A.  
Chambers street, between College place and hospital.



Park Row, between Frankfort street and City Hall.  
 Pearl street, between Frankfort and Oak streets.  
 Leonard street, between Broadway and Tombs.  
 Leonard street, between Broadway and West Broadway.  
 Mulberry street, between Grand street and No. 205.

*The New York Steam Company.*

Church street, between Morris and Fulton streets.  
 Church street, between Fulton and Vesey streets.  
 College place, between Warren and Vesey streets.  
 West Broadway, between Warren and Reade streets.  
 Vesey street, between Church street and Broadway.  
 Dey street, between Church street and Broadway.  
 Nassau street, between Wall and Pine streets.  
 Pine street, between Nassau and William streets.  
 Broadway, between Morris and Chambers streets.  
 Morris street, between Broadway and Church streets.  
 New street, between Wall street and Exchange place.  
 Barclay street, between Church and Greenwich streets.  
 Temple street, between Cedar and Thames streets.  
 Seventieth street, between Fifth and Madison avenues.

*New York Mutual Gas-light Company.*

Church street, between Leonard and Franklin streets.  
 Thirty-seventh street, between Broadway and Seventh avenue.  
 Twenty-third street, between Fifth and Sixth avenues.  
 Beekman street, between William and Pearl streets.  
 Hubert street, between West and Washington streets.

*Consolidated Gas-light Company.*

Sixty-third street, between Avenue A and First avenue.  
 Avenue A, between Sixty-third and Eighty-sixth streets.  
 Eighty-sixth street, between Avenue A and First avenue.  
 First avenue, between Eighty-sixth and Ninety-ninth streets.  
 Ninety-ninth street, between First and Second avenues.  
 First avenue, between Ninety-ninth and One Hundred and Eleventh streets.  
 Manhattan avenue, between One Hundred and Twenty-first and One Hundred and Twenty-second streets.  
 One Hundred and Nineteenth street, between Eighth and St. Nicholas avenues.  
 One Hundred and Fourteenth street, between Manhattan and Ninth avenues.  
 Ninth avenue, between One Hundred and Fourteenth and One Hundred and Fifteenth streets.  
 One Hundred and Thirteenth street, between Fifth and Madison avenues.  
 Ninety-fourth street, between First and Second avenues.  
 One Hundred and Seventh street, between Fifth and Madison avenues.  
 One Hundred and Eighth street, between Fifth and Madison avenues.  
 One Hundred and Ninth street, between Tenth avenue and Boulevard.  
 One Hundred and Thirty-seventh street, between Fifth and Sixth avenues.  
 Bradhurst avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth street.  
 One Hundred and Forty-seventh street, between Tenth avenue and Boulevard.  
 Beach street, between Varick and West Broadway.  
 Gramercy place, between Twentieth and Twenty-first streets.  
 Twentieth street, between Second and Third avenues.  
 Twenty-first street, between Second and Third avenues.  
 Twenty-ninth street, between Broadway and Fifth avenue.  
 Thirty-second street, between Sixth and Seventh avenues.  
 Fifty-second street, between Tenth and Twelfth avenues.  
 Sixty-third street, between Madison and Fifth avenues.  
 Eighty-seventh street, between Madison and Fifth avenues.  
 Church street, between Chambers and Duane streets.  
 First avenue, between One Hundred and Eleventh and One Hundred and Fourteenth streets.  
 Madison avenue, between Sixtieth and Sixty-sixth streets.  
 Mount Morris avenue, between One Hundred and Twenty-second and One Hundred and Twenty-fourth streets.  
 Boulevard, between Seventy-ninth and Ninety-second streets.  
 Twelfth avenue, between One Hundred and Twenty-ninth and Manhattan streets.  
 Twenty-third street, between Third avenue and Broadway.  
 Twenty-sixth street, between Madison and Fourth avenues.  
 Pelham street, between Cherry and Monroe streets.  
 Columbia street, between Houston and Grand streets.  
 Bowery and Third avenue, between Grand and Thirty-fourth streets.  
 Madison avenue, between Ninetieth and Ninety-first streets.  
 One Hundred and Fiftieth street, between St. Nicholas place and Edgecombe avenue.  
 West End avenue, between Ninety-sixth and One Hundred and Tenth streets.  
 West End avenue, between Seventy-seventh and Eighty-eighth streets.  
 West End avenue, between Sixty-eighth and Sixty-ninth streets.  
 Sixty-fourth street, between Avenue A and East river.  
 Columbus avenue, between One Hundred and Thirteenth street and Manhattan avenue.  
 One Hundred and Seventeenth street, between Park and Madison avenues.  
 Edgecombe avenue, between One Hundred and Thirty-ninth and One Hundred and Forty-third streets.  
 One Hundred and Tenth street, between First avenue and East river.  
 Ninety-sixth street, between Second and Third avenues.  
 Ninety-ninth street, between First and Second avenues.  
 Tenth avenue, between One Hundred and Ninetieth and One Hundred and Ninety-seventh streets.  
 One Hundred and Sixty-fifth street, between Kingsbridge road and Boulevard.  
 Boulevard, between One Hundred and Sixty-fourth and One Hundred and Sixty-fifth streets.  
 One Hundred and Twenty-first street, between Manhattan and Columbus avenues.  
 Eighth avenue, between One Hundred and Tenth and One Hundred and Twenty-fifth streets.  
 One Hundred and Tenth street, between Eighth and Tenth avenues.  
 Park avenue, between One Hundred and Twenty-second and One Hundred and Twenty-fourth streets.  
 One Hundred and Fourteenth street, between Fifth and Lenox avenues.  
 Manhattan avenue, between One Hundred and Twenty-third and One Hundred and Twenty-fourth streets.  
 One Hundred and Sixty-first street, between Audubon and Eleventh avenues.  
 Seventy-third street, between Avenue A and East river.  
 Sixty-eighth street, between Avenue A and East river.  
 One Hundred and Twelfth street, between Tenth avenue and Boulevard.  
 One Hundred and Fifth street, between First avenue and Avenue A.  
 St. Nicholas avenue, between One Hundred and Twenty-fifth and One Hundred and Forty-fifth streets.  
 Seventy-second street, between Avenue A and East river.  
 One Hundred and Seventeenth street, between Madison and Fifth avenues.  
 One Hundred and First street, between First and Second avenues.  
 Ninety-first street, between Ninth and Tenth avenues.  
 Tenth avenue, between One Hundred and Thirty-first and One Hundred and Forty-first streets.  
 Washington street, between Bank and Gansevoort streets.  
 Sixty-third street, between Tenth and Eleventh avenues.  
 One Hundred and Eighty-first street, between Kingsbridge road and Tenth avenue.  
 Eighty-sixth street, between Ninth and Tenth avenues.  
 One Hundred and Thirty-fifth street, between Seventh and St. Nicholas avenues.  
 Edgecombe avenue, between One Hundred and Thirty-seventh and One Hundred and Forty-second streets.  
 Sixty-ninth street, between Sixty-ninth street and Boulevard.  
 One Hundred and Forty-sixth street, between Boulevard and Hudson River Railroad.  
 One Hundred and Thirteenth street, between St. Nicholas and Seventh avenues.  
 One Hundred and Thirty-eighth street, between Tenth avenue and Hamilton place.  
 One Hundred and Thirtieth street, between Boulevard and Twelfth avenue.  
 Seventy-ninth street, between Boulevard and Tenth avenue.  
 Seventy-ninth street, between Boulevard and West End avenue.  
 Madison avenue, between Eighty-fourth and Eighty-fifth streets.  
 One Hundred and Second street, between West End avenue and Riverside Drive.  
 One Hundred and Seventeenth street, between Fifth and Sixth avenues.  
 Madison avenue, between Eighty-eighth and Eighty-ninth streets.  
 Ninety-third street, between First avenue and Avenue A.

Ninetieth street, between First avenue and Avenue A.  
 One Hundred and Thirty-ninth street, between Eighth and Edgecombe avenues.  
 One Hundred and Eighteenth street, between Fifth and Sixth avenues.  
 One Hundred and Twelfth street, between Tenth avenue and Boulevard.  
 One Hundred and Thirty-eighth street, between Seventh and Eighth avenues.  
 One Hundred and Thirty-ninth street, between Seventh and Eighth avenues.  
 Eleventh avenue, between One Hundred and Seventieth and One Hundred and Seventy-third streets.  
 Fifteenth street, between Ninth and Tenth avenues.  
 Fifty-eighth street, between Eleventh avenue and Hudson river.  
 Sixtieth street, between First avenue and Avenue A.  
 First avenue, between Ninety-fourth and Ninety-fifth streets.  
 One Hundred and Forty-ninth street, between Tenth and St. Nicholas avenues.  
 One Hundred and Twelfth street, between Fifth and Madison avenues.  
 Eleventh avenue, between One Hundred and Seventy-third and One Hundred and Eighty-fifth streets.  
 One Hundred and Forty-seventh street, between Boulevard and Railroad.  
 One Hundred and Third street, between Madison and Park avenues.  
 Tenth avenue, between Sixty-fifth and One Hundred and Tenth streets.  
 Lexington avenue, between Thirty-second and Forty-second streets.  
 Madison avenue, between One Hundred and Sixth and One Hundred and Ninth streets.  
 Tenth avenue, between One Hundred and Tenth and One Hundred and Twenty-fourth streets.

*Empire City Subway Company.*

Thirty-ninth street, between Madison and Park avenues.  
 Thirty-first street, between Madison and Park avenues.  
 Third avenue, between Fourteenth and Twenty-eighth streets.  
 Theatre alley, between Ann and Beekman streets.  
 Lispenard street, between West Broadway and Broadway.  
 West Broadway, between Chambers and Duane streets.  
 Barclay street, between Broadway and Greenwich street.  
 Third avenue, between Thirty-fourth and Thirty-seventh streets.  
 Elm street, between Reade and Duane streets.  
 Dey street, between Broadway and West street.  
 Broadway, between Fourteenth and Second streets.  
 Dey street, between Washington and West streets.  
 Vesey street, between Greenwich and West streets.  
 Third avenue, between Forty-second and Forty-third streets.  
 Walker street, between Broadway and West Broadway.  
 Seventh avenue, between Forty-second and Forty-fourth streets.  
 Fifteenth street, between Fifth avenue and Broadway.  
 Forty-sixth street, between Sixth and Seventh avenues.  
 Mail street, between Park Row and Broadway.  
 Twenty-sixth street, between Broadway and Sixth avenue.  
 Water street, between Old Slip and Wall street.  
 Old Slip, between Front and Wafer streets.  
 Thirty-second street, between Broadway and Sixth avenue.  
 Twenty-third street, between Third and Madison avenues.  
 Third avenue, between Forty-second and Forty-fourth streets.  
 Beaver street, between Broadway and Broad street.  
 Fourth street, between Sixth avenue and Christopher street.  
 Christopher street, between Fourth and West streets.  
 Broad street, between South and Bridge streets.  
 One Hundred and Twenty-ninth street, between Third and Fourth avenues.  
 Thirty-fourth street, between Eighth and Ninth avenues.  
 Twenty-third street, between Eighth and Ninth avenues.  
 Thirty-second street, between Third and Fifth avenues.  
 Broadway, between Twelfth and Fourteenth streets.  
 Spring street, between Varick street and South Fifth avenue.  
 Green street, between Eighth street and Waverley place.  
 Park avenue, between Fortieth and Forty-second streets.  
 Sixth avenue, between Eighth and Fourteenth streets.  
 Ninth street, between Fifth avenue and University place.  
 Spring street, between Mercer street and Broadway.  
 Twenty-second street, between Third and Lexington avenues.  
 Forty-eighth street, between Fifth and Seventh avenues.  
 Sixty-fourth street, between Fourth and Madison avenues.  
 Sixty-fifth street, between Fourth and Madison avenues.  
 Forty-fourth street, between Fifth and Sixth avenues.  
 Seventeenth street, between Fourth and Fifth avenues.  
 University place, between Ninth and Fourteenth streets.  
 Frankfort street, between Pearl and William streets.  
 Mercer street, from Spring to Pine street.  
 West street, from Liberty to Vesey street.

*Consolidated Telegraph and Electrical Subway Company.*

Park street, between Pearl and Worth streets.  
 Pearl street, between Whitehall and Wall streets.  
 Worth street, between Park street and Chatham Square.  
 Thirty-ninth street, between Madison and Park avenues.  
 Broadway, between Thirty-first and Thirty-fourth streets.  
 Pearl street, between Park street and Park Row.  
 Clinton place, between Third and Sixth avenues.  
 Broadway, between Battery place and Houston street.  
 Vesey street, between Broadway and Greenwich street.  
 Twentieth street, between Avenue B and East river.  
 Twelfth street, between Third and Greenwich avenues.  
 Bowery, between Canal and Sixth streets.  
 Thirty-fourth street, between Fourth and Sixth avenues.  
 Fourth avenue, between Fourteenth and Thirty-second streets.  
 Bowery, between Canal street and Chatham Square.  
 Thirty-fourth street, between Third and Eighth avenues.  
 North William street, between Frankfort street and Park Row.  
 Grand street, between Broadway and Goerck street.  
 Stone street, between Broad and Whitehall streets.  
 Seventh avenue, between Fourteenth and Forty-second streets.  
 Duane street, between Centre street and Park Row.  
 Madison avenue, between Sixtieth and Sixty-sixth streets.  
 University place, between Eighth and Ninth streets.  
 Irving place, between Fourteenth and Twentieth streets.  
 Twenty-third street, between Madison and Third avenues.  
 Church street, between Canal and Chambers streets.  
 Fifty-seventh street, between Fourth and Sixth avenues.  
 Elm street, between Reade and Duane streets.  
 Twentieth street, between Third and Fourth avenues.  
 Fulton street, between Broadway and Greenwich street.  
 Twenty-first street, between Third and Fourth avenues.  
 Gramercy Park, between Twentieth and Twenty-first streets.  
 Forty-second street, between Third and Madison avenues.  
 Twenty-first street, between Fifth and Sixth avenues.  
 Sixteenth street, between Fifth and Sixth avenues.  
 Pearl street, between Broadway and Elm street.  
 Canal street, between Greenwich and West streets.  
 Sixty-fifth street, between Madison and Fifth avenues.  
 Forty-third street, between Fifth and Sixth avenues.  
 Thirty-fifth street, between Madison and Sixth avenues.  
 Twenty-sixth street, between Madison and Third avenues.  
 Forty-fifth street, between Lexington and Depew avenues.  
 Sixty-fourth street, between Madison and Fifth avenues.  
 Washington street, between Canal and Chambers streets.  
 Chambers street, between Greenwich and West streets.  
 Liberty street, between Broadway and West street.  
 Desbrosses street, between Greenwich and West streets.  
 Broadway, between Astor and Clinton places.  
 Broadway, between Duane and Leonard streets.  
 Reade street, between West and Washington streets.  
 Beekman street, between Pearl street and Park Row.  
 Franklin street, between West and Washington streets.  
 Fifth avenue, between Forty-first and Forty-second streets.  
 Fifth avenue, between Twenty-fourth and Twenty-fifth streets.



University place, between Ninth and Fourteenth streets.  
 Fulton street, across Pearl street.  
 Greenwich street, between Fulton and Morris streets.  
 College place, between Park place and Chambers street.  
 Vesey street, between West street and Broadway.  
 Dey street, between Washington street and Broadway.  
 John street, between Pearl street and Broadway.  
 Cortlandt street, between West street and Broadway.  
 Maiden lane, between William street and Broadway.  
 Park place, between Greenwich street and Broadway.  
 Warren street, between Greenwich street and Broadway.  
 Walker street, between West Broadway and Broadway.  
 White street, between West Broadway and Broadway.  
 Exchange place, between William street and Broadway.  
 Park Row, between Vesey and Frankfort streets.  
 Twenty-ninth street, between First avenue and East river.  
 Eighty-sixth street, between Third avenue and Avenue B.  
 Twenty-third street, between First and Third avenues.  
 University place, between Clinton and Waverley places.

#### Empire City Subway Company.

Burling slip, between Pearl and Water streets.  
 Water street, between Burling Slip and Maiden Lane.  
 Church street, between Chambers and Warren streets.  
 Houston street, between Broadway and Greene streets.  
 Eighty-second street, between Ninth and Tenth avenues.  
 Columbus avenue, between Fifty-eighth and Eighty-sixth streets.  
 Ninety-third street, between Second and Fourth avenues.

#### Fire Department.

Sixty-fifth street, between Fourth and Fifth avenues.  
 Centre street, between Reade street and Tryon Row.  
 Duane street, between Centre and Elm streets.  
 Thirty-fifth street, between Sixth and Fifth avenues.  
 Seventh avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.  
 One Hundred and Twenty-eighth street, across at Seventh avenue.  
 One Hundred and Thirty-first street, across at Seventh avenue.  
 One Hundred and Thirty-fifth street, across at Seventh avenue.  
 Sixty-seventh street, between Lexington and Third avenues.  
 Canal street, between South Fifth avenue and Hudson street.  
 Thirty-fifth street, between Madison and Fifth avenues.  
 Fifty-sixth street, between Seventh avenue and Broadway.  
 Thirty-fifth street, between Eighth and Ninth avenues.  
 Ninth avenue, between Thirty-third and Thirty-fifth streets.  
 Sixty-ninth street, between Tenth avenue and Boulevard.  
 Seventy-fifth street, between Tenth avenue and Boulevard.  
 Seventy-seventh street, between Tenth avenue and Boulevard.  
 Tenth avenue, between Seventy-seventh and Seventy-ninth streets.  
 Boulevard, between Eightieth and One Hundredth streets.  
 Eighty-third street, between Boulevard and West End avenue.  
 Eighty-second street, between Boulevard and West End avenue.  
 Eighty-sixth street, between Tenth and West End avenues.  
 Ninetieth street, between Tenth and West End avenues.  
 Ninety-fourth street, between Tenth and West End avenues.  
 Ninety-eighth street, between Tenth and West End avenues.  
 Seventy-eighth street, between Boulevard and West End avenue.  
 Sixteenth street, between Fourth avenue and Irving place.  
 Nineteenth street, between Fourth avenue and Irving place.  
 Twenty-second street, between Lexington and Fourth avenues.  
 Twenty-seventh street, between Lexington and Fourth avenues.  
 Thirtieth street, between Lexington and Fourth avenues.  
 Thirty-third street, between Lexington and Third avenues.  
 Thirty-seventh street, between Lexington and Fourth avenues.  
 Forty-sixth street, between Lexington and Fourth avenues.  
 Fifty-third street, between Lexington and Fourth avenues.  
 Mount Morris avenue, between One Hundred and Twenty-second and One Hundred and Twenty-fourth streets.  
 Second avenue, between Chrystie and Houston streets.  
 Fifth avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.  
 Sixth avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.  
 Prince street, between Mercer and Greene streets.  
 Prince street, between Mercer street and Broadway.  
 Bleecker street, between Christopher and Charles streets.  
 Fifth avenue, between One Hundred and Tenth and One Hundred and Eleventh streets.  
 Seventy-first street, between Park and Madison avenues.  
 Fortieth street, between Seventh and Eighth avenues.  
 Lafayette place, between Great Jones and Fourth streets.  
 Fourth avenue, between Thirteenth and Fifteenth streets.  
 Ninth street, between Third and Fourth avenues.

#### Equitable Gas-light Company.

Thompson street, between Third and Canal streets.  
 Twenty-fifth street, between Broadway and Fifth avenue.  
 Twenty-sixth street, between Broadway and Fifth avenue.  
 Twenty-seventh street, between Broadway and Fifth avenue.  
 Twenty-ninth street, between Broadway and Fifth avenue.  
 Thirtieth street, between Broadway and Fifth avenue.  
 Wooster street, between Canal and West Third streets.  
 Twenty-ninth street, between Broadway and Fifth avenue.  
 Sullivan street, between Spring and Houston streets.  
 Thirtieth street, between Fifth and Sixth avenues.  
 Thirty-second street, between Ninth and Tenth avenues.  
 Thirty-second street, between Broadway and Fifth avenue.  
 Washington place, between Broadway and Greene street.  
 Waverley place, between Broadway and Greene street.  
 Greene street, between Eighth and Third streets.  
 Fourth street, between Broadway and Macdougall street.  
 Thirty-third street, between Ninth and Tenth avenues.  
 Thirty-fifth street, between Second and Third avenues.  
 Forty-first street, between Seventh and Tenth avenues.  
 Fifty-sixth street, between Second and Third avenues.  
 Wooster street, between Third and Fourth streets.  
 Fourth avenue, between Seventeenth and Thirty-first streets.  
 Fourth avenue, between Eighth and Fourteenth streets.  
 Lafayette place, between Third and Eighth streets.  
 Sullivan street, between Houston and West Third streets.  
 West Fourth street, between Bowery and Broadway.  
 Fifty-eighth street, between Second and Third avenues.  
 Tenth street, between Third and Fourth avenues.  
 Eleventh street, between Third and Fourth avenues.  
 Twelfth street, between Third and Fourth avenues.  
 Sixtieth street, between Second and Third avenues.  
 Sixty-first street, between Second and Third avenues.  
 Tenth street, between Third avenue and Stuyvesant street.  
 Stuyvesant street, between Ninth and Tenth streets.  
 Thirty-eighth street, between Third and Lexington avenues.  
 Thirty-ninth street, between Third and Lexington avenues.  
 Lexington avenue, between Thirty-eighth and Thirty-ninth streets.  
 Fiftyth street, between Eighth and Ninth avenues.  
 Fifty-first street, between Eighth and Ninth avenues.  
 Houston street, between Broadway and South Fifth avenue.  
 First street, between Avenue A and First avenue.  
 Second street, between Avenue C and Second avenue.  
 Fifth street, between Avenue B and First avenue.  
 Sixth street, between Avenue B and First avenue.

Eighth street, between Avenue A and Second avenue.  
 Tenth street, between Avenue A and Avenue B.  
 Forty-third street, between Sixth avenue and Broadway.  
 Fifty-fourth street, between Eighth and Ninth avenues.  
 Gouverneur street, between Division street and East Broadway.  
 Sixty-second street, between Second and Third avenues.  
 Tenth avenue, between Nineteenth and Twenty-second streets.  
 Fifty-eighth street, between First and Second avenues.  
 Sixty-ninth street, between Second and Third avenues.  
 Seventieth street, between Second and Third avenues.  
 Seventy-first street, between Second and Third avenues.  
 Second avenue, between Sixty-ninth and Seventy-first streets.  
 Fifty-second street, between Broadway and Eighth avenue.  
 Fifty-fourth street, between Broadway and Ninth avenue.  
 Howard street, between Broadway and Crosby street.  
 Mercer street, between Canal and Third streets.  
 Forty-first street, between Eighth and Tenth avenues.  
 Mercer street, between Waverley place and Eighth street.  
 Second street, between Bowery and Avenue C.  
 Fifth avenue, between Twenty-ninth and Thirty-first streets.  
 Howard street, between Crosby and Centre streets.  
 Centre street, between Howard and Canal streets.  
 Fifth avenue, between Twenty-sixth and Twenty-ninth streets.  
 Tenth street, between Broadway and University place.  
 Broadway, between Bleecker and Bond streets.

#### Standard Gas-light Company.

Fourth avenue, between Fifty-ninth and Sixtieth streets.  
 Fourth avenue, between Seventy-fifth and Seventy-sixth streets.  
 Fourth avenue, between Seventy-second and Seventy-third streets.  
 Madison avenue, between Sixty-fourth and Seventy-first streets.  
 Fifty-seventh street, between Lexington and Fourth avenues.  
 Fourth avenue, between Forty-ninth and Fiftieth streets.  
 Fiftieth street, between Lexington and Fourth avenues.  
 Forty-ninth street, between Lexington and Fourth avenues.  
 Second avenue, between One Hundred and Twenty-ninth street and Harlem river.  
 Lincoln avenue, between Boulevard and Harlem river.  
 Manhattan street, between Boulevard and St. Nicholas avenue.  
 Boulevard, between Manhattan and One Hundred and Thirty-first streets.  
 One Hundred and Thirty-first street, between Boulevard and Twelfth avenue.  
 Fifth avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-fourth streets.  
 One Hundred and Fifteenth street, between Pleasant and St. Nicholas avenues.  
 Seventh avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.  
 Mount Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets.  
 One Hundred and Twenty-third street, between Mount Morris and Lenox avenues.  
 Seventh avenue, between One Hundred and Thirty-fifth and One Hundred and Thirty-ninth streets.  
 St. Nicholas avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-sixth streets.  
 One Hundred and Twenty-sixth street, between St. Nicholas avenue and Lawrence street.  
 Lawrence street, between One Hundred and Twenty-sixth street and Boulevard.  
 Boulevard, between Lawrence and One Hundred and Thirty-first streets.  
 St. Nicholas avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.  
 Seventy-first street, between Fourth and Madison avenues.  
 Thirtieth street, between First avenue and East river.  
 One Hundred and Thirty-fifth street, between Lincoln and Third avenues.  
 Lincoln avenue, between One Hundred and Thirty-fourth and One Hundred and Thirty-seventh streets.  
 First avenue, between One Hundred and Eighth and One Hundred and Nineteenth streets.  
 Fifty-ninth street, between Fifth and Sixth avenues.  
 St. Nicholas avenue, between One Hundred and Sixteenth and One Hundred and Twenty-fourth streets.  
 Seventy-ninth street, between Second and Third avenues.  
 One Hundred and Thirty-first street, between Tenth and Twelfth avenues.  
 One Hundred and Fifteenth street, between Second and Third avenues.

#### Document "E."

#### REPORT OF THE WATER PURVEYOR.

DEPARTMENT OF PUBLIC WORKS,  
 WATER PURVEYOR'S OFFICE, NO. 31 CHAMBERS STREET, ROOM 1,  
 NEW YORK, January 1, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

SIR—In compliance with your letter of the 21st ultimo, I have the honor to submit the following report of the transactions of this Bureau for the quarter ending December 31, 1891, together with a summary of the principal work accomplished during that year. This summary shows a list of thoroughfares repaved, streets in which new pavements have been constructed and streets wherein the old pavements have been taken up and relaid so as to be nearly as good as new. By comparing the list of streets which have been repaved with the map of the city it will be seen that that portion of the city lying within the boundaries of Chambers street, West Broadway and Canal street, has been almost entirely provided with new and substantial pavements, and as the principal transportation lines occupy the piers along West street, between Chambers and Canal streets, the importance of the work referred to requires no further comment. This work should be continued until all the streets subject to heavy trucking shall have been repaved with substantial granite-block pavement, laid upon concrete foundation. A list of streets requiring this kind of attention will also appear in the summary or as an appendix thereto.

#### REPORT FOR THE QUARTER ENDING DECEMBER 31, 1891.

RECEIPTS.	
For permits to construct vaults .....	\$27,390 69
For labor and materials .....	22,415 57
Total .....	\$49,806 26
EXPENDITURES.	
Public Drinking-hydrants, 1891 .....	\$836 90
Public Drinking-hydrants—Salaries .....	300 00
Repairs and Renewal of Pavements and Regrading, 1890 .....	855 06
Repairs and Renewal of Pavements and Regrading, 1891 .....	90,173 28
Repairs and Renewal of Pavements and Regrading—Salaries .....	3,803 50
Repaving Streets and Avenues, 1890 .....	1,912 54
Repaving Streets and Avenues, 1891 .....	43,355 58
Repaving Streets and Avenues—Salaries .....	2,439 00
Wells and Pumps, Repairing and Cleaning .....	87 70
Repaving, chapter 346, Laws of 1889, 1890 .....	154,890 40
Repaving, chapter 346, Laws of 1889, 1891 .....	270,222 44
Repairs and Renewal of Pipes, Stop-cocks, etc., 1891 .....	25,779 01
Street Improvement Fund .....	122,714 06
Restoring and Repaving—Special Fund—Department of Public Works .....	11,877 69
Boulevards, Roads and Avenues, Maintenance of—Resurfacing Seventh Avenue .....	13,146 12
Contingencies—Department of Public Works .....	149 51
Total .....	\$742,542 79

#### PERMITS ISSUED.

63 for the construction of vaults.  
 44 for repairing vaults.  
 96 for the erection of guy-posts.  
 85 to build fires on the pavements for roofing purposes, etc.  
 29 to repair pavements at expense of property-owners.  
 1 to the Barber Asphalt Paving Company to take up the old and lay a new asphalt pavement in Chambers street, between Centre street and Broadway.



1 to the Mount Morris Electric-light Company to place a platform scale in front of premises,  
No. 98 Vandam street.  
1 to John J. McGrath to lay a crosswalk across West Twenty-eighth street, opposite No. 32.

## REPAIRS AND RENEWAL OF PAVEMENTS AND REGRADING.

The average force employed in making repairs to street pavements during the quarter were as follows :

In October.....	230	mechanics,	253	laborers,	75	horses and carts,	3	teams.
In November.....	234	"	246	"	73	"	3	"
In December.....	230	"	250	"	70	"	3	"

107,888 square yards of pavement were taken up and relaid by this force.

In addition to the above, under orders and special contracts, amounting in each instance to less than \$1,000, 925 square yards of granite-block pavement and 2,818 square yards of asphalt pavement were renewed, making a total of 111,631 square yards of pavement of all kinds repaired and renewed during the quarter.

WELLS AND PUMPS, REPAIRING AND CLEANING.

Two public pumps were repaired and wells cleaned at the following locations :  
No. 19 Lawrence street.  
Southeast corner One Hundred and Twenty-fifth street and Fourth avenue.

## REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.

The force employed in repairing Croton water-pipes and mains, stop-cocks, fire-hydrants, etc., was as follows :

In October.....	37	mechanics,	92	laborers,	15	horses and carts.
In November.....	34	"	85	"	14	"
In December.....	32	"	77	"	13	"

162 new fire-hydrants were substituted for old ones.

6 new fire-hydrants were erected.

## PUBLIC DRINKING-HYDRANTS.

23 hydrants were repaired.  
3 new hydrants were erected at the following locations :  
First avenue, northwest corner of Thirty-third street.  
No. 636 West Fifty-second street.  
Southeast corner of Fifth avenue and One Hundred and Sixth street, and late in November the water was shut off from all the public hydrants in the city.

## REPAVING STREETS AND AVENUES.

Work on the following repaving contracts was completed :

*With Granite Blocks.*

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Fifty-second street.....	Twelfth avenue to Hudson river.....	720.9	198.0
Vestry street.....	West to Greenwich street.....	310.1	84.0
Desbrosses street.....	" " " " " " " " " " " "	312.2	82.2
One Hundred and Twenty-fourth street.	Mount Morris to Lenox avenue.....	1,434.7	437.0
" " " " " " " " " " " "	Pleasant to Fourth avenue, and from Lenox to } Seventh avenue..... }	12,377.5	3,698.4
Watts street.....	Washington to Greenwich street.....	286.6	73.5
Total (crosswalks included).	.....	15,442.0	4,573.1

## REPAVING (CHAPTER 346, LAWS OF 1889).

Work was completed on the following repaving contracts :

*With Granite Blocks.*

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Lexington avenue..... }	Thirty-second to Thirty-fourth street, and from }		
	Thirty-fifth to Forty-second street..... }	10,518.1	2,453.8
Twenty-third street.....	Third to Tenth avenue.....	17,463.2	6,122.1
Grand street.....	Broadway to Goerck street.....	14,681.0	6,366.9
Sixth avenue.....	Carminie to Twenty-third street.....	25,015.6	5,104.4
Total (crosswalks included).....	.....	68,677.9	20,047.2
Besides the above, work on the following contracts was nearly completed :			
Broadway and Union Square, West.....	Bowling Green to Thirty-second street.....	51,333.0	10,063.0
West street.....	Battery place to Gansevoort street.....	8,222.0	2,641.0
Total of work not entirely completed.....	.....	59,555.0	12,704.0

*With Asphalt.*

Fifty-seventh street .....	Fourth to Madison avenue .....	6,256.0	1,383.9
Sixty-fourth street.....	Fourth to Fifth avenue.....	2,872.1	873.6
Sixty-fifth street.....	“ .....	2,923.8	882.6
Forty-fifth street.....	Fifth to Sixth avenue .....	3,147.7	959.9
Forty-eighth street.....	Madison to Seventh avenue.....	7,387.4	2,248.7
Fiftieth .....	Fifth to Sixth avenue .....	3,140.3	959.2
Boulevard .....	Seventy-ninth to Ninety-second street.....	29,025.6	3,501.4
Total.....		54,752.9	10,809.3
Total granite .....		68,677.9	20,047.2
Total of work not entirely completed .....		59,555.0	12,704.0
Total repaving under chapter 346, Laws 1889.....		182,985.8	43,560.5

REPAVING, CHAPTER 449, LAWS OF 1889, STREETS LYING WITHIN THE LIMITS OF GRANTS OF LAND UNDER WATER.

*With Granite.*

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Nineteenth street.....	Avenue A to First avenue .....	2,088.3	111.3
Fifth street .....	Lewis street to East river .....	1,707.9	509.0
Washington street.....	Bank to Gansevoort street .....	3,766.5	1,120.0
Desbrosses street.....	West to Greenwich street.....	1,101.2	303.0

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Vestry street.....	West to Greenwich street.....	1,115.1	317.8
Watts street .....	“ .....	1,216.8	315.0
Twentieth street .....	Avenue A to East river.....	3,252.0	975.3
Fifty-ninth street.....	East side Twelfth avenue to Hudson river .....	437.0	111.2
Total (crosswalks included).....	.....	14,684.8	3,762.6
West street: .....	Battery place to Gansevoort street (uncompleted)	17,500.0	5,628.0
Repavement under Repaving Streets and Avenues.....	.....	15,442.0	4,573.1
Repavement under chapter 346, Laws 1889.....	.....	182,985.8	43,560.5
Total repavement .....	.....	234,612.6	57,524.2

## NEW PAVEMENTS UNDER ASSESSMENTS.

The following contracts were completed :

*With Granite.*

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
One Hundred and Seventh street. ....	Park to Fifth avenue.....	2,842.0	855.0
One Hundred and Third street.....	Boulevard to Riverside Drive.....	2,531.4	761.5
Fifty-fifth street.....	Avenue A to East river.....	583.3	175.0
Sixty-third street.....	Amsterdam to Eleventh avenue.....	2,701.0	815.7
One Hundred and Thirteenth street ....	Madison to Fifth avenue.....	1,472.0	444.3
One Hundred and Fifteenth street ....	Eighth to Manhattan avenue.....	1,305.5	391.6
One Hundred and Fourteenth street.....	Fifth to Lenox avenue.....	3,144.6	916.8
One Hundred and Third street.....	Central Park, West, to Columbus avenue.....	2,822.1	820.5
Total .....	.....	17,401.9	5,210.4

### RECAPITULATION.

*Square Yards of Pavement Laid During the Quarter, Repavements and Assessment Work Combined.*

Granite .....	193,261.6	51,925.3
Asphalt.....	54,752.9	10,809.3
Total .....	248,014.5	62,734.6

## BOULEVARDS, ROADS AND AVENUES, MAINTENANCE OF--FOR RESURFACING SEVENTH AVENUE.

*Macadam*

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Seventh avenue.....	One Hundred and Tenth to One Hundred and Forty-fifth street.....	79,171.6	7,934.0

SUMMARY OF THE BUSINESS OF THE BUREAU FOR THE YEAR 1891.

## RECEIPTS.

For the construction of vaults .....	\$126,168	70
For labor and materials furnished.....	30,310	52
Total .....	\$156,479	22

EXPENDITURES.

EXPENDITURES.	
Public Drinking Hydrants, 1890.....	\$915 45
Public Drinking Hydrants, 1891.....	2,999 04
Public Drinking Hydrants—Salaries.....	884 84
Repairs and Renewal of Pavements and Regrading, 1889.....	541 17
Repairs and Renewal of Pavements and Regrading, 1890.....	56,067 08
Repairs and Renewal of Pavements and Regrading, 1891.....	281,102 75
Repairs and Renewal of Pavements and Regrading—Salaries, 1890.....	117 00
Repairs and Renewal of Pavements and Regrading—Salaries, 1891.....	16,145 50
Repaving Streets and Avenues—1889.....	2,963 35
Repaving Streets and Avenues—1890.....	120,052 25
Repaving Streets and Avenues—1891.....	179,103 29
Repaving Streets and Avenues—Salaries, 1891.....	12,265 75
Wells and Pumps, Repairing and Clearing—1891.....	87 70
Repaving, Chapter 346, Laws 1889, 1889.....	15,298 07
Repaving, Chapter 346, Laws 1889, 1890.....	248,542 32
Repaving, Chapter 346, Laws 1889, 1891.....	579,271 13
Repairing and Renewal of Pipes, Stop-cocks, etc.—1890.....	1,390 69
Repairing and Renewal of Pipes, Stop-cocks, etc.—1891.....	110,812 75
Street Improvement Fund.....	539,982 24
Restoring and Repaving—Special Fund—Department of Public Works.....	38,921 83
Boulevards, Roads and Avenues, Maintenance of—For Resurfacing Seventh avenue.....	39,639 93
Contingencies—Department of Public Works, 1891.....	178 51
Total.....	\$2,247,282 64

PERMITS ISSUED.

289 for the construction of vaults.  
217 for repairing vaults.  
485 to erect guy posts.  
399 to build fires on the pavements for roofing purposes, etc.  
92 to repair pavement at the expense of property owners.

The following special permits were issued under resolutions of the Board of Aldermen :

Ford, Garrison & Co., to lay a crosswalk across Fourth avenue, between Forty-first and Forty-second streets.

H. F. C. Koch & Co., to lay a crosswalk across West One Hundred and Twenty-fifth street, opposite No. 136.

Henry Von Minden, to lay a crosswalk across Grand street, opposite No. 125.

Ridgewood Ice Co., to put in a platform scale in Seventy-ninth street, near southeast corner of Avenue B.

James A. Hearn & Son, to lay a crosswalk across West Fourteenth street, opposite No. 24, and one across West Thirteenth street, opposite No. 21.

Mount Morris Electric Light Company, to put in a platform scale in front of No. 98 Vandam street.

John J. McGrath, to lay a crosswalk across West Twenty-eighth street, opposite No. 32.

## REPAIRS AND RENEWAL OF PAVEMENTS AND REGRADING.

The force engaged in making repairs to street pavements was very small at the beginning of the year, but receiving additions from time to time attained its height about the first of July, when it averaged as follows:

220 mechanics, 240 laborers, 74 horses and carts, and 3 teams.



The work performed by this force consisted in taking up and relaying 351,803 square yards of pavements, repairing 998 crosswalks, laying 3 new crosswalks, and repairing 4,359 bad places in the pavements.

The following is a detailed list of all the streets in which this force was at work.

#### *Blocks Relaid.*

Franklin Square, between Dover and Cherry streets.  
Ludlow street, between Broome and Delancey streets.  
Rivington street, between Forsyth and Eldridge streets.  
Broadway, between Forty-seventh and Forty-eighth streets.  
Twelfth street, between Third and Fourth avenues.  
Twentieth street, between Broadway and Fourth avenue.  
Twentieth street, between Fourth avenue and Gramercy Park, West.  
Twenty-first street, between Fourth avenue and Broadway.  
Twenty-third street, between Second and Third avenues.  
Twenty-fifth street, between Madison and Fourth avenues.  
Twenty-sixth street, between First avenue and East river.  
Greenwich avenue, between West Eleventh and Bank streets.  
Twenty-seventh street, between Madison and Fourth avenues.  
Twenty-seventh street, between First and Second avenues.  
Twenty-ninth street, between First and Second avenues.  
Twenty-ninth street, between Eighth and Ninth avenues.  
Thirty-second street, between Fifth avenue and Broadway.  
Forty-first street, between Seventh and Eighth avenues.  
Forty-third street, between Eighth and Ninth avenues.  
Forty-fourth street, between Third and Lexington avenues.  
Forty-fourth street, between Depew and Lexington avenues.  
Forty-sixth street, between Eighth and Ninth avenues.  
Forty-sixth street, between Tenth and Eleventh avenues.  
Forty-seventh street, between Sixth and Seventh avenues.  
Forty-eighth street, between Ninth and Tenth avenues.  
Fiftieth street, between Ninth and Tenth avenues.  
Fiftieth street, between Tenth and Eleventh avenues.  
Fiftieth street, between Second and Third avenues.  
Fifty-first street, between Second and Third avenues.  
Fifty-second street, between Second and Third avenues.  
Fifty-third street, between Park and Lexington avenues.  
Fifty-third street, between Lexington and Third avenues.  
Fifty-third street, between Eighth and Ninth avenues.  
Fifty-fourth street, between First and Second avenues.  
Fifty-fifth street, between Lexington and Third avenues.  
Fifty-fifth street, between Second and Third avenues.  
Fifty-sixth street, between Eighth and Ninth avenues.  
Seventy-first street, between Eighth and Columbus avenues.  
Seventy-third street, between Fifth and Madison avenues.  
Seventy-eighth street, between Columbus and Amsterdam avenues.  
Seventy-eighth street, between Park and Lexington avenues.  
Eighty-eighth street, between Columbus and Amsterdam avenues.  
Ninetieth street, between Lexington and Park avenues.

#### *Blocks Relaid from Curb to Railroad Track.*

Tompkins street, between Fifteenth and Sixteenth streets.  
Varick street, between Grand and Canal streets.  
University place, between Ninth and Tenth streets.  
Chrystie street, between Delancey and Rivington streets.  
Amsterdam avenue, between Eightieth and Eighty-first streets.  
Amsterdam avenue, between Eighty-seventh and Eighty-eighth streets.  
Columbus avenue, between Sixty-third and Sixty-fourth streets.  
Madison avenue, between Sixty-ninth and Seventieth streets.  
Madison avenue, between Seventy-ninth and Eightieth streets.  
Park avenue, between Seventy-fifth and Seventy-sixth streets.  
Second avenue, between Forty-sixth and Forty-seventh streets.  
Second avenue, between Forty-seventh and Forty-eighth streets.  
Second avenue, between Forty-eighth and Forty-ninth streets.  
Second avenue, between Forty-ninth and Fiftieth streets.  
Second avenue, between Fifty-fourth and Fifty-fifth streets.  
Second avenue, between Seventy-fourth and Seventy-fifth streets.  
Second avenue, between Seventy-fifth and Seventy-sixth streets.  
Second avenue, between Eighty-second and Eighty-third streets.  
Second avenue, between Eighty-third and Eighty-fourth streets.  
Second avenue, between Ninety-first and Ninety-second streets.  
Second avenue, between Ninety-fifth and Ninety-sixth streets.  
Second avenue, between Ninety-ninth and One Hundredth streets.  
Second avenue, between One Hundredth and One Hundred and First street.  
Second avenue, between One Hundred and Eleventh and One Hundred and Twelfth streets.  
Third avenue, between Seventy-second and Seventy-third streets.  
Fourth avenue, between Twenty-fifth and Twenty-sixth streets, east and west.  
Sixth avenue, between Fifty-fifth and Fifty-sixth streets.  
Sixth avenue, between Fifty-sixth and Fifty-seventh streets, east and west.  
Ninth avenue, between Forty-second and Forty-third streets.  
Ninth avenue, between Forty-fifth and Forty-sixth streets.  
Ninth avenue, between Fiftieth and Fifty-first streets.  
Ninth avenue, between Fifty-sixth and Fifty-seventh streets, east.  
Ninth avenue, between Fifty-eighth and Fifty-ninth streets, east.  
Tenth avenue, between Thirty-seventh and Thirty-eighth streets.

#### *Intersections Relaid.*

Tompkins and Stanton streets.  
Canal street and East Broadway.  
West End avenue and Ninety-second street.  
West End avenue and Ninety-sixth street.  
Franklin and Centre streets.  
Amsterdam avenue and Seventy-eighth street.  
Ninth avenue and Thirty-sixth street.  
Ninth avenue and Forty-second street.  
Ninth avenue and Forty-third street.  
Ninth avenue and Fifty-eighth street.  
Eighth avenue and Seventy-first street.  
Eighth avenue and Eighty-fifth street.  
Sixth avenue and Forty-seventh street.  
Sixth avenue and Forty-first street.  
Sixth avenue and Fifty-sixth street.  
Seventh avenue and Forty-seventh street.  
Seventh avenue and One Hundred and Twentieth street.  
Seventh avenue and One Hundred and Twenty-first street.  
Seventh avenue and One Hundred and Twenty-second street.  
Seventh avenue and One Hundred and Twenty-fourth street.  
Seventh avenue and One Hundred and Twenty-sixth street.  
Seventh avenue and One Hundred and Twenty-seventh street.  
Seventh avenue and One Hundred and Twenty-eighth street.  
Seventh avenue and One Hundred and Twenty-ninth street.  
Seventh avenue and One Hundred and Thirtieth street.  
Seventh avenue and One Hundred and Thirty-first street.  
Seventh avenue and One Hundred and Thirty-second street.  
Seventh avenue and One Hundred and Thirty-third street.  
Seventh avenue and One Hundred and Thirty-fourth street.  
Seventh avenue and One Hundred and Thirty-fifth street.  
Madison avenue and One Hundred and Nineteenth street.  
Park avenue and Ninety-fourth street.  
Fifth avenue and Fifty-eighth street, east.  
Lexington avenue and One Hundred and Eighteenth street.  
Lexington avenue and One Hundred and Twenty-sixth street.  
Lexington avenue and One Hundred and Twenty-ninth street.  
First avenue and Thirteenth street.  
First avenue and Ninetieth street.  
First avenue and Ninety-first street.  
Second avenue and Fourth street.  
Second avenue and Twenty-sixth street.  
Second avenue and Forty-seventh street.

Second avenue and Forty-eighth street.  
Second avenue and Forty-ninth street.  
Second avenue and Seventy-fifth street.  
Second avenue and Seventy-seventh street.  
Second avenue and One Hundredth street.  
Second avenue and One Hundred and Twenty-fourth street.

#### *Avenues Repaired.*

Amsterdam avenue, between Sixtieth and Sixty-first streets.  
Amsterdam avenue, between Eightieth and Eighty-first streets.  
Amsterdam avenue, between Eighty-second and Eighty-third streets.  
Amsterdam avenue, between Eighty-third and Eighty-fourth streets.  
Amsterdam avenue, between Eighty-sixth and Eighty-seventh streets.  
Amsterdam avenue, between Eighty-seventh and Eighty-eighth streets.  
Amsterdam avenue, between Ninety-third and Ninety-fourth streets.  
Amsterdam avenue, between One Hundred and Seventh and One Hundred and Eighth streets.  
Amsterdam avenue, between Lawrence and One Hundred and Thirty-first streets.  
Amsterdam avenue, between One Hundred and Forty-fourth and One Hundred and Forty-fifth streets.  
Columbus avenue, between Seventy-fourth and Seventy-fifth streets.  
Columbus avenue, between Seventy-fifth and Seventy-sixth streets.  
Columbus avenue, between Eighty-first and Eighty-second streets.  
Columbus avenue, between Eighty-second and Eighty-third streets.  
Columbus avenue, between Ninetieth and Ninety-first streets.  
Columbus avenue, between Ninety-first and Ninety-second streets.  
Columbus avenue, between Ninety-second and Ninety-third streets.  
Columbus avenue, between Ninety-third and Ninety-fourth streets.  
Columbus avenue, between One Hundred and First and One Hundred and Second streets.  
Columbus avenue, between One Hundred and Second and One Hundred and Third streets.  
Columbus avenue, between One Hundred and Third and One Hundred and Fourth streets.  
West End avenue, between Seventy-sixth and Seventy-seventh streets.  
Central Park, West, between Seventy-second and Seventy-third streets.  
Central Park, West, between Eighty-second and Eighty-third streets.  
Central Park, West, between Eighty-third and Eighty-fourth streets.  
Central Park, West, between Eighty-fourth and Eighty-fifth streets.  
Central Park, West, between Ninety-fourth and Ninety-fifth streets.  
Central Park, West, between One Hundred and Eighth and One Hundred and Ninth streets.  
Madison avenue, between Sixty-eighth and Sixty-ninth streets.  
Madison avenue, between Seventy-second and Seventy-third streets.  
Madison avenue, between Seventy-third and Seventy-fourth streets.  
Madison avenue, between Seventy-sixth and Seventy-seventh streets.  
Madison avenue, between One Hundred and Eighth and One Hundred and Ninth streets.  
Madison avenue, between One Hundred and Ninth and One Hundred and Tenth streets.  
Madison avenue, between One Hundred and Tenth and One Hundred and Eleventh streets.  
Madison avenue, between One Hundred and Twelfth and One Hundred and Thirteenth streets.  
Park avenue, between Fifty-sixth and Fifty-seventh streets.  
Park avenue, between Fifty-seventh and Fifty-eighth streets.  
Park avenue, between Fifty-eighth and Fifty-ninth streets.  
Park avenue, between Seventy-first and Seventy-second streets.  
Park avenue, between Seventy-fourth and Seventy-fifth streets.  
Park avenue, between Seventy-seventh and Seventy-eighth streets.  
Lexington avenue, between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.  
Edgecombe avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets.  
East End avenue, between Eighty-third and Eighty-fourth streets.  
Grace avenue, between Thirteenth avenue and West street.  
Avenue A, between Eighteenth and Nineteenth streets.  
Avenue B, between Thirteenth and Fourteenth streets.  
Avenue D, between Fourth and Fifth avenues.  
First avenue, between Thirtieth and Thirty-first streets.  
First avenue, between Thirty-first and Thirty-second streets.  
First avenue, between Thirty-third and Thirty-fourth streets.  
First avenue, between Fiftieth and Fifty-fourth streets.  
First avenue, between Fifty-ninth and Sixtieth streets.  
First avenue, between Sixtieth and Sixty-first streets.  
First avenue, between Sixty-sixth and Sixty-seventh streets.  
First avenue, between Sixty-eighth and Sixty-ninth streets.  
First avenue, between Seventy-second and Seventy-third streets.  
First avenue, between Seventy-seventh and Seventy-eighth streets.  
First avenue, between Eightieth and Eighty-first streets.  
Second avenue, between Twelfth and Thirteenth streets.  
Second avenue, between Eighteenth and Nineteenth streets.  
Second avenue, between Twenty-second and Twenty-third streets.  
Second avenue, between Twenty-ninth and Thirtieth streets.  
Second avenue, between Thirty-first and Thirty-second streets.  
Second avenue, between Thirty-third and Thirty-fourth streets.  
Second avenue, between Forty-sixth and Forty-seventh streets.  
Second avenue, between Fiftieth and Fifty-first streets.  
Second avenue, between Sixty-first and Sixty-second streets.  
Second avenue, between Seventy-second and Seventy-third streets.  
Second avenue, between Seventy-third and Seventy-fourth streets.  
Second avenue, between Seventy-fifth and Seventy-sixth streets.  
Second avenue, between Seventy-sixth and Seventy-seventh streets.  
Second avenue, between Seventy-seventh and Seventy-eighth streets.  
Second avenue, between Seventy-eighth and Seventy-ninth streets.  
Second avenue, between Ninety-second and Ninety-third streets.  
Second avenue, between Ninety-sixth and Ninety-seventh streets.  
Second avenue, between One Hundred and Fifth and One Hundred and Sixth streets.  
Second avenue, between One Hundred and Twelfth and One Hundred and Thirteenth streets.  
Second avenue, between One Hundred and Seventeenth and One Hundred and Eighteenth streets.  
Second avenue, between One Hundred and Twenty-first and One Hundred and Twenty-second streets.  
Second avenue, between One Hundred and Twenty-second and One Hundred and Twenty-third streets.  
Third avenue, between Sixty-first and Sixty-second streets.  
Third avenue, between Sixty-third and Sixty-fourth streets.  
Third avenue, between Sixty-sixth and Sixty-seventh streets.  
Fourth avenue, between Thirtieth and Thirty-first streets.  
Fifth avenue, between Twenty-sixth and Thirty-first streets.  
Fifth avenue, between Forty-first and Forty-second streets.  
Fifth avenue, between Forty-fourth and Forty-fifth streets.  
Fifth avenue, between Fifty-sixth and Fifty-seventh streets.  
Fifth avenue, between Fifty-seventh and Fifty-eighth streets.  
Fifth avenue, between One Hundred and Thirty-fifth and One Hundred and Thirty-sixth streets.  
Sixth avenue, between Twenty-fifth and Twenty-sixth streets.  
Sixth avenue, between Twenty-sixth and Twenty-seventh streets.  
Sixth avenue, between Forty-first and Forty-second streets.  
Sixth avenue, between Forty-second and Forty-third streets.  
Sixth avenue, between Fifty-third and Fifty-fourth streets.  
Eighth avenue, between One Hundred and Fourteenth and One Hundred and Fifteenth streets.  
Eighth avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.  
Eighth avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-sixth streets.  
Eighth avenue, between One Hundred and Twenty-eighth and One Hundred and Twenty-ninth streets.  
Eighth avenue, between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth streets.  
Eighth avenue, between One Hundred and Thirty-seventh and One Hundred and Thirty-eighth streets.  
Eighth avenue, between One Hundred and Forty-first and One Hundred and Forty-second streets.  
Eighth avenue, between One Hundred and Forty-fourth and One Hundred and Forty-fifth streets.  
Ninth avenue, between Twenty-first and Twenty-second streets.  
Ninth avenue, between Twenty-second and Twenty-third streets.  
Ninth avenue, between Forty-eighth and Forty-ninth streets.  
Ninth avenue, between Fifty-first and Fifty-second streets.  
Ninth avenue, between Fifty-seventh and Fifty-eighth streets.



Tenth avenue, between Twenty-sixth and Twenty-seventh streets.  
 Tenth avenue, between Twenty-seventh and Twenty-eighth streets.  
 Tenth avenue, between Thirty-second and Thirty-third streets.  
 Tenth avenue, between Thirty-seventh and Thirty-eighth streets.  
 Eleventh avenue, between Fifty-first and Fifty-second streets.  
 Eleventh avenue, between Fifty-eighth and Fifty-ninth streets.  
 Eleventh avenue, between Sixtieth and Sixty-first streets.

#### Streets Repaired.

Allen street, between Grand and Hester streets.  
 Attorney street, between Broome and Grand streets.  
 Broome street, between Broadway and Crosby street.  
 Broome street, between Attorney and Goerck streets.  
 Broome street, between Clarkson and Varick streets.  
 Broome street, between Varick and Hudson streets.  
 Bleeker street, between Carmine and Downing streets.  
 Bleeker street, between Broadway and Mercer street.  
 Birmingham street, between Madison and Henry streets.  
 Bank street, between Fourth and Bleeker streets.  
 Cedar street, between West and Washington streets.  
 Caroline street, between Jay and Duane streets.  
 Chrystie street, between Stanton and Houston streets.  
 Centre street, between Broome and Grand streets.  
 Canal street, between Bowery and Chrystie street.  
 Duane street, between Broadway and Church street.  
 Dominick street, between Hudson and Varick streets.  
 Eldridge street, between Delancey and Broome streets.  
 Elm street, between White and Walker streets.  
 Frankfort street, between William and Park Row.  
 Forsyth street, between Grand and Hester streets.  
 Front street, between Maiden Lane and Depeyster street.  
 Greenwich street, between Leroy and Morton streets.  
 Greene street, between Houston and Bleeker streets.  
 Horatio street, between West Fourth and Hudson streets.  
 Jane street, between Washington and Greenwich streets.  
 Leroy street, between Hudson and Greenwich streets.  
 Lighthouse street, between Varick and Hudson streets.  
 Morton street, between Hudson and Bedford streets.  
 Macdougall street, between Spring and Prince streets.  
 Macdougall street, between King and Houston streets.  
 Mercer street, between Bleeker and Houston streets.  
 Mercer street, between Bleeker and West Third streets.  
 Montgomery street, between Henry and Madison streets.  
 New street, between Wall and Exchange place.  
 Norfolk street, between Delancey and Broome streets.  
 Orchard street, between Hester and Canal streets.  
 Prince street, between Broadway and Crosby street.  
 Prince street, between Crosby and Marion streets.  
 Prince street, between Bowery and Elizabeth street.  
 Prince street, between Macdougall and Sullivan streets.  
 Pearl street, between Park Row and New Chambers street.  
 Perry street, between West and Washington streets.  
 Peck Slip, between South and Front streets.  
 Rivington street, between Ludlow and Orchard streets.  
 Rivington street, between Ludlow and Essex streets.  
 Rivington street, between Ridge and Pitt streets.  
 South street, between Fulton and Beekman streets.  
 St. Mark's place, between Second and Third avenues.  
 University place, between Tenth and Eleventh streets.  
 University place, between Eleventh and Twelfth streets.  
 University place, between Twelfth and Thirteenth streets.  
 Vestry street, between Varick and Hudson streets.  
 Varick street, between Lighthouse and Canal streets.  
 Washington street, between Christopher and West Tenth streets.  
 William street, between Duane and North William streets.  
 West Washington place, between Greene and Mercer streets.  
 White street, between Centre and Elm streets.  
 Fourth street, between Charles and West Tenth streets.  
 Fourth street, between Bowery and Fourth avenue.  
 Fourth street, between West Eleventh and Bank streets.  
 Tenth street, between Broadway and Fourth avenue.  
 Tenth street, between Fifth and Sixth avenues.  
 Tenth street, between First avenue and Avenue A.  
 Eleventh street, between University place and Broadway.  
 Eleventh street, between Fifth and Sixth avenues.  
 Eleventh street, between Sixth and Seventh avenues.  
 Twelfth street, between First and Second avenues.  
 Twelfth street, between Second and Third avenues.  
 Twelfth street, between Sixth and Seventh avenues.  
 Twelfth street, between University place and Broadway.  
 Thirteenth street, between Tenth avenue and Washington street.  
 Sixteenth street, between First avenue and Avenue A.  
 Seventeenth street, between Second and Third avenues.  
 Seventeenth street, between Third avenue and Irving place.  
 Seventeenth street, between Fourth avenue and Irving place.  
 Eighteenth street, between Seventh and Eighth avenues.  
 Eighteenth street, between Eighth and Ninth avenues.  
 Eighteenth street, between Second and Third avenues.  
 Nineteenth street, between Sixth and Seventh avenues.  
 Twentieth street, between Second and Third avenues.  
 Twentieth street, between Sixth and Seventh avenues.  
 Twentieth street, between Fourth and Gramercy Park.  
 Twenty-first street, between Second and Third avenues.  
 Twenty-first street, between Eighth and Ninth avenues.  
 Twenty-second street, between First and Second avenues.  
 Twenty-second street, between Second and Third avenues.  
 Twenty-second street, between Sixth and Seventh avenues.  
 Twenty-fourth street, between Madison and Fourth avenues.  
 Twenty-fourth street, between Lexington and Fourth avenues.  
 Twenty-fourth street, between Sixth and Seventh avenues.  
 Twenty-sixth street, between Seventh and Eighth avenues.  
 Twenty-eighth street, between Second and Third avenues.  
 Thirtieth street, between Second and Third avenues.  
 Thirtieth street, between Eighth and Ninth avenues.  
 Thirtieth street, between Ninth and Tenth avenues.  
 Thirty-first street, between Tenth avenue and Hudson River Railroad.  
 Thirty-second street, between Fourth and Lexington avenues.  
 Thirty-third street, between Second and Third avenues.  
 Thirty-third street, between Ninth and Tenth avenues.  
 Thirty-fourth street, between Fifth and Sixth avenues.  
 Thirty-fourth street, between Tenth and Eleventh avenues.  
 Thirty-fifth street, between Lexington and Third avenues.  
 Thirty-fifth street, between Seventh and Eighth avenues.  
 Thirty-fifth street, between Ninth and Tenth avenues.  
 Thirty-fifth street, between Tenth and Eleventh avenues.  
 Thirty-fifth street, between Eleventh avenue and North river.  
 Thirty-sixth street, between Broadway and Sixth avenue.  
 Thirty-sixth street, between Seventh and Eighth avenues.  
 Thirty-sixth street, between Eighth and Ninth avenues.  
 Thirty-sixth street, between Ninth and Tenth avenues.  
 Thirty-sixth street, between Tenth and Eleventh avenues.  
 Thirty-seventh street, between Seventh avenue and Broadway.  
 Thirty-eighth street, between First and Second avenues.  
 Thirty-eighth street, between Second and Third avenues.  
 Forty-first street, between Eleventh avenue and North river.  
 Forty-second street, between Eighth and Ninth avenues.  
 Forty-third street, between Third and Lexington avenues.  
 Forty-third street, between Broadway and Eighth avenue.  
 Forty-fourth street, between First and Second avenues.  
 Forty-fourth street, between Lexington and Third avenues.  
 Forty-fifth street, between Madison and Vanderbilt avenues.

Forty-eighth street, between Third and Lexington avenues.  
 Fiftieth street, between First avenue and Beekman place.  
 Fiftieth street, between Seventh avenue and Broadway.  
 Fiftieth street, between Eighth avenue and Broadway.  
 Fifty-first street, between Third and Lexington avenues.  
 Fifty-first street, between Park and Lexington avenues.  
 Fifty-first street, between Beekman place and First avenue.  
 Fifty-second street, between First avenue and East river.  
 Fifty-second street, between Second and Third avenues.  
 Fifty-second street, between Eighth and Ninth avenues.  
 Fifty-second street, between Tenth and Eleventh avenues.  
 Fifty-fourth street, between Avenue A and First avenue.  
 Fifty-fourth street, between First and Second avenues.  
 Fifty-fourth street, between Second and Third avenues.  
 Fifty-fourth street, between Third and Lexington avenues.  
 Fifty-fourth street, between Eighth and Ninth avenues.  
 Fifty-fourth street, between Tenth and Eleventh avenues.  
 Fifty-fifth street, between Madison and Fifth avenues.  
 Fifty-sixth street, between Lexington and Third avenues.  
 Fifty-seventh street, between Sixth and Seventh avenues.  
 Fifty-seventh street, between Seventh avenue and Broadway.  
 Fifty-eighth street, between Third and Lexington avenues.  
 Fifty-ninth street, between Park and Madison avenues.  
 Fifty-ninth street, between Park and Lexington avenues.  
 Fifty-ninth street, between Sixth and Seventh avenues.  
 Sixty-first street, between Madison and Park avenues.  
 Sixty-first street, between Third and Lexington avenues.  
 Sixty-first street, between First and Second avenues.  
 Sixty-second street, between Park and Madison avenues.  
 Sixty-third street, between Park and Madison avenues.  
 Sixty-third street, between Boulevard and Eighth avenue.  
 Sixty-sixth street, between Madison and Fifth avenues.  
 Sixty-seventh street, between West End and Amsterdam avenues.  
 Sixty-eighth street, between Boulevard and Amsterdam avenue.  
 Sixty-ninth street, between Lexington and Third avenues.  
 Seventieth street, between Madison and Park avenues.  
 Seventieth street, between Columbus and Amsterdam avenues.  
 Seventieth street, between Second and Third avenues.  
 Seventy-third street, between Second and Third avenues.  
 Seventy-third street, between Third and Lexington avenues.  
 Seventy-third street, between Eighth and Columbus avenues.  
 Seventy-fourth street, between Eighth and Columbus avenues.  
 Seventy-fourth street, between First and Second avenues.  
 Seventy-fourth street, between Second and Third avenues.  
 Seventy-fourth street, between Columbus and Amsterdam avenues.  
 Seventy-fifth street, between Fifth and Madison avenues.  
 Seventy-fifth street, between Park and Madison avenues.  
 Seventy-sixth street, between Park and Lexington avenues.  
 Seventy-sixth street, between Third and Lexington avenues.  
 Seventy-sixth street, between First and Second avenues.  
 Seventy-sixth street, between Eighth and Columbus avenues.  
 Seventy-seventh street, between Fifth and Madison avenues.  
 Seventy-seventh street, between Park and Madison avenues.  
 Seventy-seventh street, between Third and Lexington avenues.  
 Seventy-eighth street, between Third and Lexington avenues.  
 Seventy-eighth street, between Boulevard and Amsterdam avenue.  
 Seventy-ninth street, between Second and Third avenues.  
 Eighty-first street, between Eighth and Columbus avenues.  
 Eighty-first street, between Amsterdam and Columbus avenues.  
 Eighty-second street, between Eighth and Columbus avenues.  
 Eighty-second street, between Second and Third avenues.  
 Eighty-second street, between Lexington and Park avenues.  
 Eighty-second street, between Madison and Park avenues.  
 Eighty-third street, between Eighth and Columbus avenues.  
 Eighty-third street, between Amsterdam and Columbus avenues.  
 Eighty-third street, between First and Second avenues.  
 Eighty-third street, between Second and Third avenues.  
 Eighty-fourth street, between Second and First avenues.  
 Eighty-fourth street, between Avenue A and First avenue.  
 Eighty-fifth street, between Lexington and Park avenues.  
 Eighty-fifth street, between Madison and Park avenues.  
 Eighty-fifth street, between Eighth and Columbus avenues.  
 Eighty-fifth street, between Amsterdam and Columbus avenues.  
 Eighty-fifth street, between Avenues A and B.  
 Eighty-sixth street, between Columbus and Amsterdam avenues.  
 Eighty-sixth street, between Avenue A and East river.  
 Eighty-seventh street, between Columbus and Amsterdam avenues.  
 Eighty-seventh street, between First and Second avenues.  
 Eighty-seventh street, between Madison and Park avenues.  
 Eighty-seventh street, between Lexington and Park avenues.  
 Eighty-eighth street, between Columbus and Amsterdam avenues.  
 Eighty-eighth street, between First and Second avenues.  
 Eighty-ninth street, between Columbus and Eighth avenues.  
 Ninetieth street, between Madison and Park avenues.  
 Ninety-first street, between Eighth and Columbus avenues.  
 Ninety-second street, between Columbus and Amsterdam avenues.  
 Ninety-second street, between First avenue and Avenue A.  
 Ninety-third street, between Second and Third avenues.  
 Ninety-third street, between Columbus and Amsterdam avenues.  
 Ninety-third street, between Madison and Park avenues.  
 Ninety-third street, between Lexington and Third avenues.  
 Ninety-fourth street, between Eighth and Columbus avenues.  
 Ninety-fifth street, between Amsterdam and Columbus avenues.  
 Ninety-seventh street, between Amsterdam and Columbus avenues.  
 Ninety-seventh street, between Eighth and Columbus avenues.  
 Ninety-seventh street, between Second and Third avenues.  
 One Hundredth street, between Second and Third avenues.  
 One Hundredth street, between Eighth and Manhattan avenues.  
 One Hundred and Second street, between Second and Third avenues.  
 One Hundred and Third street, between Columbus and Amsterdam avenues.  
 One Hundred and Fourth street, between Park and Lexington avenues.  
 One Hundred and Fifth street, between Columbus and Amsterdam avenues.  
 One Hundred and Fifth street, between Madison and Park avenues.  
 One Hundred and Sixth street, between Madison and Park avenues.  
 One Hundred and Eleventh street, between Madison and Fifth avenues.  
 One Hundred and Twelfth street, between Avenue A and First avenue.  
 One Hundred and Thirteenth street, between Pleasant and First avenues.  
 One Hundred and Fifteenth street, between Pleasant and First avenues.  
 One Hundred and Seventeenth street, between Pleasant avenue and East river.  
 One Hundred and Nineteenth street, between Third and Lexington avenues.  
 One Hundred and Nineteenth street, between First and Second avenues.  
 One Hundred and Twentieth street, between Second and Third avenues.  
 One Hundred and Twentieth street, between St. Nicholas and Eighth avenues.  
 One Hundred and Twentieth street, between Mount Morris and Lenox avenues.  
 One Hundred and Twenty-first street, between Seventh and Lenox avenues.  
 One Hundred and Twenty-first street, between Seventh and St. Nicholas avenues.  
 One Hundred and Twenty-first street, between Avenue A and First avenue.  
 One Hundred and Twenty-second street, between Madison and Park avenues.  
 One Hundred and Twenty-second street, between Lenox and Seventh avenues.  
 One Hundred and Twenty-second street, between First and Second avenues.  
 One Hundred and Twenty-second street, between Second and Third avenues.  
 One Hundred and Twenty-third street, between First and Second avenues.  
 One Hundred and Twenty-sixth street, between First and Second avenues.  
 One Hundred and Twenty-sixth street, between Second and Third avenues.  
 One Hundred and Twenty-seventh street, between Madison and Park avenues.  
 One Hundred and Twenty-seventh street, between Lexington and Third avenues.  
 One Hundred and Twenty-eighth street, between Lexington and Third avenues.  
 One Hundred and Twenty-eighth street, between Madison and Park avenues.  
 One Hundred and Twenty-eighth street, between Madison and Fifth avenues.  
 One Hundred and Twenty-eighth street, between Lenox and Fifth avenues.  
 One Hundred and Thirtieth street, between Lenox and Seventh avenues.  
 One Hundred and Thirtieth street, between Seventh and Eighth avenues.



One Hundred and Thirty-third street, between Seventh and Eighth avenues.  
One Hundred and Thirty-fifth street, between Seventh and Eighth avenues.  
One Hundred and Thirty-eighth street, between Boulevard and North river.  
One Hundred and Forty-first street, between Hamilton terrace and St. Nicholas avenue.  
One Hundred and Forty-fourth street, between Eighth and Bradhurst avenues.  
One Hundred and Fifty-eighth street, between Boulevard and Amsterdam avenues.  
The pavement in Beaver street was taken up, it being composed of wooden blocks, and replaced with granite blocks.

In addition to the work accomplished by the street repair gangs, several contracts for taking up and relaying pavements in the following-named streets were completed. The area so relaid amounted to 212,038.2 square yards. The streets referred to are the following:

One Hundred and Sixth street, from Lexington avenue to East river.  
Sixth avenue, from Fifty-seventh to Fifty-ninth street.  
One Hundred and Twenty-seventh street, from Sixth to Seventh avenue.  
One Hundred and Twenty-seventh street, from Seventh to Eighth avenue.  
One Hundred and Twenty-eighth street, from Second to Lexington avenue.  
One Hundred and Twenty-eighth street, from Sixth to Seventh avenue.  
One Hundred and Thirty-first street, from Sixth to Seventh avenue.  
One Hundred and Thirtieth street, from Fourth to Sixth avenue.  
Forty-ninth street, from Second to Third avenue.  
Sixty-fifth street, from Lexington to Fourth avenue.  
Sixty-seventh street, from Lexington to Fourth avenue.  
Thirty-second street, from Sixth to Seventh avenue.  
Eightieth street, from Second to Third avenue.  
Eighty-seventh street, from Second to Third avenue.  
Seventy-third street, from First to Second avenue.  
Ninety-ninth street, from Second to Third avenue.  
One Hundred and Twenty-eighth street, from Seventh to Eighth avenue.  
One Hundred and Thirtieth street, from Seventh to Eighth avenue.  
One Hundred and Thirty-first street, from Seventh to Eighth avenue.  
One Hundred and Twelfth street, from Third to Lexington avenue.  
One Hundred and Fifteenth street, from Fourth to Lexington avenue.  
One Hundred and Eighteenth street, from Fourth to Lexington avenue.  
One Hundred and Twentieth street, from Lexington to Madison avenue.  
One Hundred and Twenty-second street, from Fourth to Lexington avenue.

Under orders given, amounting to less than \$1,000 in each instance, 4,191 square yards of pavement were renewed—3,266 square yards of which were asphalt—making the total amount of pavement repaired, relaid and renewed, by contract, by day's work and under orders, 568,032.2 square yards.

#### REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.

A portion of the work performed by the force working under the above appropriation consisted in repairing fire hydrants, repairing Croton water-mains, putting in new fire-hydrants and removing old ones, and much other work necessary in keeping the Croton water distributing appliances in repair.

555 old fire-hydrants were removed and new ones put in their places.  
11 new fire-hydrants were erected.

#### PUBLIC DRINKING-HYDRANTS.

95 public drinking-hydrants were repaired.  
37 new public drinking-hydrants were erected at the following locations:  
No. 1306 First avenue.  
Northeast corner Kingsbridge road and One Hundred and Thirty-fifth street.  
Southeast corner One Hundred and Eighth street and Amsterdam avenue.  
One Hundred and Seventy-third street, 25 feet west of Eastburn street.  
No. 1750 Lexington avenue.  
No. 586 Greenwich street.  
No. 2501 Second avenue.  
South side One Hundred and Sixteenth street, 25 feet west of Eighth avenue.  
No. 611 Hudson street.  
Junction of Houston and Norfolk streets.  
One Hundred and Ninety-seventh street and Kingsbridge road.  
One Hundred and Twenty-second street and Eighth avenue.  
One Hundred and Tenth street, 250 feet east of Boulevard.  
No. 492 First avenue.  
Rutgers street, southwest corner of South street.  
No. 563 Broome street.  
No. 33 Monroe street.  
Northeast corner Thirty-second street and Lexington avenue.  
Amsterdam avenue, southeast corner Sixty-fifth street.  
No. 801 Columbus avenue.  
No. 1158 Second avenue.  
Southeast corner Ryer avenue and One Hundred and Eighty-third street.  
Eighth avenue and One Hundred and Thirty-ninth street.  
No. 1680 Park avenue.  
No. 888 Eleventh avenue.  
No. 156 Canal street.  
No. 189 Bleecker street.  
No. 154 Christopher street.  
Madison avenue, southeast corner One Hundred and Eleventh street.  
No. 2234 Fifth avenue.  
No. 2267 Eighth avenue.  
Eighth avenue, southwest corner One Hundred and Twenty-sixth street.  
No. 5 Lighthouse street.  
Boulevard and One Hundred and Seventh street.  
First avenue, northwest corner Thirty-third street.  
No. 636 West Fifty-second street.  
Southeast corner Fifth avenue and One Hundred and Sixth street.

#### REPAVING STREETS AND AVENUES UNDER CHAPTER 476, LAWS OF 1875.

Work on contracts for repaving the following-named thoroughfares was completed:

##### With Granite Blocks.

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Chambers street	Washington to Greenwich street	194.0	60.0
Goerck street	Grand to Third street	824.8	757.4
Spring street	West to Greenwich street	1,587.4	433.0
Greenwich street	Fulton to Chambers street	4,428.7	1,260.0
Church street	Chambers to Canal street	5,069.6	2,219.9
Mangin street	Grand to Houston street	1,568.6	515.5
South William street	William to Broad street	1,121.6	521.3
William street	Pine to Frankfort street	4,262.4	1,972.6
Fifty-second street	Eleventh to Twelfth avenue	2,651.3	813.8
Twenty-sixth street	Tenth to Eleventh avenue	564.8	172.7
One Hundred and Twenty-fourth street	Park to Fifth avenue	3,305.7	966.9
Seventy-second street	Third to Fourth avenue	3,833.0	871.8
Laight street	West to Greenwich street	302.0	78.1
Dover street	Pearl to South street	1,634.5	754.6
Harrison street	West to Washington street	630.1	155.8
North Moore street	West to Greenwich street	694.5	168.9
Beach street	West to Washington street	440.5	363.6
Hubert street	"	309.0	81.2
Jay street	"	826.5	276.5
Reade street	West to Greenwich street	511.8	139.8
Washington street	Reade to Spring street	4,473.4	1,416.4

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
North Moore street	West Broadway to Greenwich street	3,410.7	1,026.3
Beach street	"	4,390.2	1,343.8
Hubert street	Hudson to Greenwich street	1,321.3	364.4
Fulton street	Broadway to Greenwich street	2,599.0	892.2
First avenue	One Hundred and Ninth to One Hundred and Sixteenth street	9,791.1	1,901.8
Tompkins street	Grand to Stanton street	3,511.1	411.3
Franklin street	West to Washington street	242.3	70.9
Canal street	"	2,129.7	494.9
Fifty-second street	Twelfth avenue to Hudson river	720.9	198.0
Vestry street	West to Greenwich street	310.1	84.0
Desbrosses street	"	312.2	82.2
One Hundred and Twenty-fourth street	Mount Morris to Lenox avenue	1,434.7	437.0
One Hundred and Twenty-fourth street	Pleasant to Fourth, and from Lenox to Seventh avenue	12,377.5	3,698.4
Watts street	Washington to Greenwich street	286.6	73.5
Total (including crosswalks)		82,071.6	25,078.5

##### With Asphalt.

Sixty-third street	Madison to Fifth avenue	1,498.9	458.5
Sixty-sixth street	Lexington to Third avenue	1,481.2	449.3
Sixty-seventh street	"	1,304.8	388.1
Total		4,284.9	1,295.9

##### Summary.

Repavement with granite	82,071.6	25,078.5
Repavement with asphalt	42,849.9	1,295.9
Total	124,921.5	26,374.4

#### BOULEVARDS, ROADS AND AVENUES—MAINTENANCE OF—FOR RESURFACING SEVENTH AVENUE.

##### With Macadam.

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Seventh avenue	One Hundred and Tenth to One Hundred and Forty-fifth street	70,171.6	7,934.0

#### REPAVING (CHAPTER 346, LAWS OF 1889).

The following work was done:

##### With Granite Blocks.

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Canal street	Hudson street to Bowery	27,236.1	4,154.3
Lexington avenue	Thirty-second to Thirty-fourth street and Thirty-fifth to Forty-second street	10,518.1	2,453.8
Twenty-third street	Third to Tenth avenue	17,463.2	6,122.1
Grand street	Broadway to Goerck street	14,681.0	6,366.9
Sixth avenue	Caroline to Twenty-third street	26,015.6	5,104.4
* Broadway and Union Square, West	From Bowling Green to Thirty-second street	51,333.0	10,063.0
* West street	Battery place to Gansevoort street	8,222.0	2,641.0
Total		155,469.0	36,905.5

\* Not fully completed; the figures show amount of work actually done.

##### With Asphalt.

Sixteenth street	Fifth to Sixth avenue	3,166.8	952.9
Twentieth street	"	3,155.5	946.2
Twenty-first street	"	3,162.4	945.8
Twentieth and Twenty-first streets	Fronting Gramercy Park	3,248.2	1,002.2
Gramercy place	East and West	1,348.0	429.0
Madison avenue	Sixtieth to Sixty-sixth street	4,880.1	1,526.2
Fifty-seventh street	Fifth to Madison avenue	2,015.3	813.8
Twenty-ninth street	Fifth avenue to Broadway	1,583.7	501.9
Fifty-seventh street	Fourth to Madison avenue	6,256.0	1,383.9
Sixty-fourth street	Fourth to Fifth avenue	2,872.1	873.6
Sixty-fifth street	"	2,923.8	882.6
Forty-fifth street	Fifth to Sixth avenue	3,147.7	959.9
Forty-eighth street	Madison to Seventh avenue	7,387.4	2,248.7
Fiftieth street	Fifth to Sixth avenue	3,140.3	959.2
Boulevard	Seventy-ninth to Ninety-second street	29,025.6	3,501.4
Thirty-fifth street	Madison to Sixth avenue	4,619.7	1,417.4
Thirty-ninth street	Fifth to Sixth avenue	3,149.7	959.7
Fortieth street	"	3,112.5	959.9
Twenty-sixth street	Madison avenue to East river	10,587.5	3,216.2
Thirtieth street	Madison avenue to Broadway	3,110.2	936.9
Mount Morris avenue	One Hundred and Twentieth to One Hundred and Twenty-fourth street	6,817.3	1,041.4
Fifth avenue	One Hundred and Twenty-fourth to One Hundred and Thirtieth street	7,426.5	1,563.0
Seventy-fourth street	Madison to Fifth avenue	1,477.3	451.0
One Hundred and Twenty-fourth street	Mount Morris to Fifth avenue	1,463.8	452.4
Fifth avenue	One Hundred and Thirtieth to One Hundred and Forty-fifth street	6,055.9	1,306.4
Ninth street	Fifth avenue to University place	1,512.3	463.0



STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Twenty-second street.....	Lexington to Third avenue.....	1,478.5	449.9
Thirty-eighth street.....	Fifth to Madison avenue.....	1,316.1	449.0
Fifty-second street.....	Fifth to Sixth avenue.....	3,140.8	958.8
Total.....		132,781.0	32,552.3

REPAVING (CHAPTER 449, LAWS OF 1889.)  
With Granite Blocks.

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Spring street.....	West to Greenwich street.....	425.00	127.0
Chambers street.....	".....	2,021.00	350.0
Canal street.....	West to Washington street.....	345.00	66.0
Goerck street.....	Grand to Third street.....	6,019.00	2,298.0
Tompkins street.....	Grand to Stanton street.....	3,504.00	1,015.0
Eleventh avenue.....	Twenty-seventh to Thirtieth street.....	5,041.55	776.0
Thirteenth avenue.....	Seventeenth to Eighteenth street.....	1,802.66	208.0
North Moore street.....	West to Washington street.....	977.33	350.0
Watts street.....	West to Greenwich street.....	1,397.00	330.0
Laight street.....	".....	1,245.00	327.0
Dover street.....	Pearl to South street.....	125.00	50.0
Harrison street.....	West to Washington street.....	436.00	165.5
Franklin street.....	".....	673.25	189.7
One Hundred and Tenth street.....	First avenue to Harlem river.....	2,437.00	729.0
Jay street.....	West to Washington street.....	149.40	102.8
Greenwich street.....	Vesey to Barclay street.....	1,136.30	310.8
Reade street.....	West to Washington street.....	504.50	276.5
Washington street.....	Chambers to Spring street.....	7,500.00	2,200.0
Hubert street.....	West to Greenwich street.....	1,143.30	325.5
North Moore street.....	West to Washington street.....	971.60	262.7
Beach street.....	".....	987.50	253.7
Nineteenth street.....	Avenue A to First avenue.....	2,688.30	111.3
Fifth street.....	Lewis street to East river.....	1,707.90	509.0
Washington street.....	Bank to Gansevoort street.....	3,766.50	1,120.0
Desbrosses street.....	West to Greenwich street.....	1,101.20	303.0
Vestry street.....	".....	1,115.10	317.8
Watts street.....	".....	1,216.80	315.0
Twentieth street.....	Avenue A to East river.....	3,252.00	975.3
Fifty-ninth street.....	East side of Twelfth avenue to Hudson river.....	437.00	111.2
And the following uncompleted contract: West street.....	Battery place to Gansevoort street.....	17,500.00	5,628.0
Total.....		71,026.14	20,133.8

With Trap Blocks.

Thirty-fourth street.....	First avenue to East river.....	1,895.00	300.0
---------------------------	---------------------------------	----------	-------

With Asphalt.

Sixteenth street.....	Avenue C to East river.....	3,300.70	948.0
-----------------------	-----------------------------	----------	-------

Summary.

Repavement with granite blocks.....	71,026.14	20,133.8
Repavement with trap blocks.....	1,895.00	300.0
Repavement with asphalt.....	3,300.70	948.0
Total.....	76,221.84	21,381.8

NEW PAVEMENTS UNDER ASSESSMENT.

Contracts for paving the following-named thoroughfares were completed :  
With Granite Blocks.

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Ninety-fourth street.....	First to Second avenue.....	2,224.0	667.0
Ninety-eighth street.....	Eighth to Ninth avenue.....	2,733.0	820.0
Twelfth avenue.....	One Hundred and Twenty-ninth to One Hundred and Thirtieth street.....	4,355.0	309.0
West End avenue.....	Ninety-sixth to Ninety-ninth street.....	4,004.4	750.0
One Hundred and Forty-seventh street.....	Amsterdam to St. Nicholas avenue.....	2,755.4	830.3
Eightieth street.....	Amsterdam avenue to Boulevard.....	1,431.6	429.7
Eighty-seventh street.....	Madison to Fifth avenue.....	1,489.0	447.8
Eighty-ninth street.....	Tenth avenue to Boulevard.....	1,198.6	352.0
Sixty-fourth street.....	Tenth to Eleventh avenue.....	2,714.0	814.0
One Hundred and Fifty-first street.....	Tenth to St. Nicholas avenue.....	2,215.0	669.5
Sixty-seventh street.....	Eighth to Ninth avenue.....	2,752.0	826.0
Madison avenue.....	One Hundred and Sixteenth to One Hundred and Twentieth street.....	4,439.6	961.2
One Hundred and Ninth street.....	Madison to Fifth avenue.....	1,481.0	444.8
Eighty-eighth street.....	".....	1,493.0	448.4
Ninety-fifth street.....	Tenth avenue to Boulevard.....	1,188.2	357.0
Madison avenue.....	One Hundred and Fifth to One Hundred and Eighth street.....	3,188.0	700.0

STREET.	FROM	SQUARE YARDS.	LINEAL FEET.
Sixty-fourth street.....	Central Park, West, to Boulevard.....	2,305.0	691.7
First avenue.....	At intersection of One Hundred and Twenty-sixth street.....	356.4	60.0
One Hundred and Fifteenth street.....	Park to Fifth avenue.....	2,831.0	855.0
One Hundred and Seventh street.....	".....	2,842.0	855.0
One Hundred and Third street.....	Boulevard to Riverside Drive.....	2,531.4	761.5
Sixty-third street.....	Amsterdam to Eleventh avenue.....	2,701.0	815.7
One Hundred and Thirteenth street.....	Madison to Fifth avenue.....	1,472.0	444.3
One Hundred and Fifteenth street.....	Eighth to Manhattan avenue.....	1,305.5	391.6
One Hundred and Fourteenth street.....	Fifth to Lenox avenue.....	3,144.6	946.8
One Hundred and Third street.....	Central Park, West, to Columbus avenue.....	2,822.1	820.5
Total (crosswalks included).....		61,972.8	16,468.8

With Trap Blocks.

One Hundred and Forty-second street ..	Tenth to Eleventh avenue.....	2,722.0	807.0
Fifty-fifth street.....	Avenue A to East river.....	563.3	175.0
Total (crosswalks included).....		3,305.3	982.0

With Asphalt.

West End avenue.....	Ninety-ninth to One Hundred and Fourth street.....	5,852.0	1,250.0
One Hundred and Thirty-eighth street ..	Eighth to Edgecombe avenue.....	1,238.6	372.0
One Hundred and Twentieth street .....	Seventh to Eighth avenue.....	2,397.4	729.3
Total (crosswalks included).....		9,488.0	2,351.3

RECAPITULATION.

Areas and lengths of different kinds of pavements constructed in 1891 :

Granite.

	SQUARE YARDS.	LINEAL FEET.
Repaving streets and avenues.....	82,071.60	25,078.5
Repaving, chapter 346, Laws 1889.....	155,169.00	36,905.5
Repaving, chapter 449, Laws 1889.....	71,026.14	20,133.8
Assessment.....	61,972.80	16,468.8
Total.....	370,539.54	98,586.6

Asphalt.

Repaving streets and avenues.....	4,284.90	1,295.9
Repaving, chapter 346, Laws of 1889.....	132,781.00	32,552.3
Repaving, chapter 449, Laws of 1889.....	3,300.70	948.0
Assessment.....	9,488.00	2,351.3
Total.....	149,854.60	37,147.5

Trap.

Repaving, chapter 449, Laws of 1889.....	1,895.00	300.0
Assessment.....	3,305.30	982.0
Total.....	5,200.30	1,282.0

Macadam.

Boulevards, roads and avenues, maintenance of—For resurfacing Seventh avenue .....	70,171.60	7,934.0
--	-----------	---------

Summary.

Granite.....	370,539.54	98,586.6
Asphalt.....	149,854.60	37,147.5
Trap.....	5,200.30	1,282.0
Macadam.....	70,171.60	7,934.0
Total pavements constructed in 1891.....	595,766.04	144,950.1

Length in miles, 27.42.

The following is a list of contracts which have been awarded, but upon which, owing to circumstances, which will be stated further on, no work has been done :

	Estimated Areas. Square Yards.
For repaving Park Row, from Frankfort street to and including Chatham Square.....	13,700
" Third avenue, from Sixth to Twenty-third street.....	19,500
" Third avenue, from Twenty-third to Fifty-ninth street.....	42,700
" Park Row, from Frankfort street to Broadway, and Beekman street, from Park Row to Pearl street.....	9,750
" Bowery, from Chatham Square to Sixth street.....	22,200
The construction of the pavements above contracted for has been delayed for the purpose of allowing the Third Avenue Railroad Company to complete its cable railroad, which is to extend from Broadway through Park Row, Chatham Square, the Bowery and Third avenue to Harlem river. This road has been practically completed between One Hundred and Twenty-fourth and Ninth streets, and, with proper energy on the part of the Third Avenue Railroad Company, may be finished before the first of July next.	
The following paving contracts were awarded in 1891, but too late in the season to allow the work to be done :	
Amsterdam avenue, from One Hundred and Thirtieth to One Hundred and Fortieth street.....	14,303
Ninety-eighth street, from Amsterdam avenue to Boulevard.....	1,170
One Hundred and Nineteenth street, from Seventh to Lenox avenue.....	2,693
Bradhurst avenue, from One Hundred and Forty-second to One Hundred and Forty-fifth street.....	3,120
Edgecombe avenue, from One Hundred and Thirty-eighth to One Hundred and Forty-fifth street.....	8,184
One Hundred and First street, from First to Second avenue.....	2,220
One Hundredth street, from Third to Lexington avenue.....	1,460
One Hundred and First street, from Third to Lexington avenue.....	1,473



One Hundred and Twenty-second street, from Avenue A to Harlem river.....	782
One Hundred and Seventeenth street, from Madison to Fifth avenue.....	1,488
Ninety-sixth street, from First to Second avenue.....	2,230
Ninety-sixth street, from Lexington to Fourth avenue.....	2,787
One Hundred and Third street, from First avenue to East river.....	2,220
Fifty-eighth street, from Eleventh avenue to 360 feet west.....	1,230
Fifty-eighth street, from 360 feet west of Eleventh avenue to Hudson river.....	1,467
One Hundred and Fourteenth street, from Manhattan to Columbus avenue.....	228
One Hundred and Seventeenth street, from Eighth to Columbus avenue.....	2,527
One Hundred and Twenty-second street, from Manhattan to Columbus avenue.....	1,223

Work will be commenced on the above contracts early in the spring.

The pavement in the following-named streets has become so worn as to require the earliest possible attention, and recommendation has already been made for their repavement. Owing to the light traffic to which some of these thoroughfares are subjected it was asked that the following be repaved with asphalt.

Division street, from Chatham Square to Grand street.  
Orchard street, from Division to Houston street.  
Fifty-fifth street, from Madison to Sixth avenue.  
One Hundred and Twenty-third street, from Mount Morris to Seventh avenue.  
Fifth street, from Avenue B to Avenue C.  
Fifth avenue, at intersection of Eighth street.  
One Hundred and Twentieth street, from Fifth to Lenox avenue.  
Fifth avenue, from Circle at One Hundred and Tenth to One Hundred and Twentieth street.  
—and these with granite blocks, the traffic being heavier :  
Eighth avenue, from Hudson to Thirteenth street.  
Third street, from Broadway to Sixth avenue.  
Lispensard street, from Broadway to West Broadway.  
Park place, from Broadway to Greenwich street.  
Houston street, from Bowery to Lewis street.  
Ludlow street, from Stanton to Canal street.

The following streets lie within the limits of grants of land under water. They are paved with cobble stones and reflect discredit upon the City of New York. Chapter 449 of the Laws of 1889 provides for their repavement at the expense of the grantees, and it is recommended that proper certification be made to the Board of Aldermen for such repavement. The streets mentioned are :

Albany street, from Washington to West street.  
Carlisle street, from Greenwich to West street.  
Avenue D, from Eleventh to Sixteenth street.  
Corlears street, from Grand to South street.  
Front street, from Montgomery to Corlears street.  
Montgomery street, from South to Water street.  
Rutgers Slip, from Cherry to South street.  
Peck Slip, from Water to South street.  
Gouverneur's lane, from Water to South street.  
Jones street, from Front to South street.  
Cayler's alley, from Water to South street.  
Cornelia street, from Duane to Jay street.  
Bethune street, from Washington to Greenwich street.  
Thirteenth street, from Washington to West street.  
Jane street, from Washington street to Thirteenth avenue.  
Eighteenth street, from Tenth to Eleventh avenue.  
Twenty-seventh street, from Tenth to Eleventh avenue.  
Twenty-eighth street, from Tenth avenue to Hudson river.  
Twenty-ninth street, from Eleventh avenue to Hudson river.  
The following streets, some of which lie within the limits of grants of land under water, are paved with Belgian blocks and are also greatly in need of new pavements :  
Grand street, from Goerck street to East river.  
Twenty-ninth street, from Tenth to Eleventh avenue.  
Thirtieth street, from Eleventh avenue to Hudson river.  
Thirty-eighth street, from Eleventh avenue to Hudson river.  
Fortieth street, from Eleventh avenue to Hudson river.  
Forty-eighth street, from Eleventh avenue to Hudson river.  
Greenwich street, from Fulton street to Battery place.  
Washington street, from Chambers street to Battery place.  
Fulton street, from Greenwich to West street.  
Courtlandt street, from Greenwich to West street.  
Battery place, from Broadway to West street.  
Cedar street, from Greenwich to West street.  
Barclay street, from College place to West street.  
Park place, from Greenwich to West street.  
Park place, from Broadway to Greenwich street.  
Greenwich street, from Canal to Little West Twelfth street.  
Wall street, from Pearl to South street.  
Broad street, from Pearl to South street.  
Coenties Slip, from Pearl to South street.  
Old Slip, from Pearl to South street.  
Canal street, from Bowery to Grand street.  
Houston street, from Bowery to East river.  
Lewis street, from Houston to Fifth street.  
Fourteenth street, from Third avenue to Broadway.  
Union Square, East, from Fourteenth to Seventeenth street.  
Fourth avenue, from Bowery to Fourteenth street.  
Fourth avenue, from Seventeenth to Thirty-fourth street.  
Second avenue, from Houston to Eighty-sixth street.  
First avenue, from Sixty-first to Ninety-second street.  
Third avenue, from Fifty-ninth to Eighty-sixth street.  
Third avenue, from One Hundred and Ninth to One Hundred and Thirtieth street.  
Broadway, from Thirty-second to Fifty-ninth street.  
Elm street, from Reade to Broome street (cobble).

#### STREET OPENINGS.

The following is a summary of work performed under the supervision of the Inspector of Street Openings during the year :

21,407 openings were made to repair all mains other than Croton water-mains, and to make repairs and connections for gas, steam, water, sewer, electric-light and subways.  
2,500 notices were sent to corporations and others to repair defective places in the pavement over such openings.  
2,239 defective places in the pavements were repaired in response to said notices.  
41.89 miles of gas-mains were laid.  
36.00 miles of trench were opened for subways.  
3,256 lineal feet of steam-pipe were laid.  
1,194 feet of salt-water mains were laid.  
25,291 feet of double car-tracks were laid.  
2,766 feet of single car-tracks were laid.  
6.99 miles of cable railroad tracks and conduits were laid by the Third Avenue Railroad Company and 4.90 miles by the Broadway and Seventh Avenue Railroad Company.

The following table shows the area and mileage of the different kinds of pavement in the city south of the Harlem river on the 31st day of December, 1891 :

KIND OF PAVEMENT.	SQUARE YARDS.	MILES.
Specification granite.....	2,785,313.27	128.55
Square granite.....	671,789.	25.80
Specification trap.....	1,247,778.93	67.45
Belgian.....	2,354,604.37	96.07
Cobble.....	27,793.74	1.05
Asphalt.....	583,965.56	27.77
Wood.....	516.	.03
Macadam.....	809,973.70	22.25
Totals.....	8,479,733.67	368.97

Respectfully,  
WM. H. BURKE, Water Parveyor.

#### Document "F."

#### REPORT OF CONSULTING ENGINEER ON PAVEMENTS.

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF THE CONSULTING ENGINEER ON PAVEMENTS,  
No. 31 CHAMBERS STREET,  
NEW YORK, January 7, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

DEAR SIR—In compliance with your instructions, I herewith submit a report on the work done in connection with the new pavements, together with recommendations as to the future conduct of these improvements.

The areas of new pavements laid during the past year are :

KIND OF PAVEMENT.	SQUARE YARDS.	MILES.
Stone.....	375,739.0	13.92
Asphalt.....	149,854.6	7.00
Macadam.....	70,171.6	1.50
Total.....	595,765.2	27.42

The aggregate lengths of the different kinds of pavements in the City of New York, exclusive of the Twenty-third and Twenty-fourth Wards, are :

KIND OF PAVEMENTS.	MILES.
Stone.....	320.62
Asphalt.....	27.77
Macadam.....	22.25
Wooden.....	.03
Total.....	370.67

Early in 1890 a contract was entered into for the repavement of Park Row, Bowery and Third avenue, south of Fifty-ninth street (over four miles in length), in order that the work might be carried on in conjunction with the construction of the cable road, but owing to the delay in finishing the latter, the pavement work could not be commenced. It is expected that the cable road will be so far completed as to enable the pavement to be laid before next winter. The streets named will afford a direct route from the City Hall to the Harlem river, and will accommodate the great east-side traffic which has been for many years compelled to abandon these thoroughfares on account of the defective condition of their pavements. When the new pavement is laid the east-side traffic will no longer be diverted to the better pavement on Broadway and Fifth avenue, hence the overcrowding of these avenues will cease, and the extra expense involved by delays in transit will be obviated, while the inconvenience to which the public has hitherto been subjected will largely disappear. These evils must continue, however, in a lesser degree, until all the principal avenues running the length of the island have as good pavements as Broadway and Fifth avenue, because heavily loaded vehicles will always select the best pavements. In carrying on the pavement work of this Department much delay and inconvenience have been encountered in consequence of the failure of railroad companies to promptly comply with your orders to adjust their tracks to the established grades of the street pavements. This Department's lack of authority to compel railroad, gas, subway and other corporations having sub-pavement structures in our streets, to lay suitable rails and properly restore the pavements, is a great obstacle in the way of good pavements, and largely adds to the cost of their maintenance. The railroad companies have heretofore constructed their tracks in such a way that paving-blocks of the usual and proper depth could not and cannot be used. The shallow wooden stringer supporting the rail and resting on the cross-ties is not deep enough for the necessary sand foundation and dimension block to be laid. A slight bed of sand, and a block reduced in height, is all there is room for. This is objectionable and tends to the injury of the pavement. The wooden stringer soon decays and is crushed under the heavy traffic, causing the pavement to sink and necessitating frequent repairs. Wood is not suitable for any structure beneath the ground and should be prohibited by law. The maintenance of good pavements on the streets has been greatly aided by your requirement that all gas and steam stop-cock boxes should be iron instead of wood, which required to be renewed frequently. The tracks of the railroads and the stop-cocks and manhole covers are part of the street pavement, and when these are unsuitable or out of repair they are just so much defective pavement, over which this Department has no control. In order to secure and maintain good pavements European cities have found it necessary to construct, own and maintain all street railroad tracks, which are leased to companies to operate. All pavements removed for laying or repairing gas, steam, sewer and water pipes, etc., are always restored by the City with its own workmen.

While it is not advisable that this City should own the car-tracks, it should be possessed of full authority and absolute control over all tracks ; it should have power to direct the kind of rails and pavements to be used, and it should have supreme authority over all pavements disturbed by gas, steam and other companies. The first of the franchises granted to railroad companies by the Common Council stipulated for the use of a proper grooved rail, and also for the kind of pavement to be laid in and about the tracks, but the franchises subsequently granted by the Legislature do not contain such necessary provisions.

Surveys and plans have been made of the principal thoroughfares requiring immediate repavement. I have also made a general examination of the pavements of the city, and have closely and systematically inspected from time to time the different classes of pavement laid during the past few years to enable me to determine wherein improvements could be effected. These inspections conclusively prove that the new granite-block pavements have not only benefited the immediate neighborhoods in which they have been laid, but have added to the general welfare of the city. Merchants, manufacturers and carriers bear testimony to this fact. The advantages derived are particularly noticeable where these new pavements have been laid on streets leading to the great freight depots, wharves and ferries. For years business men have complained of the great tax levied on their business by old and inferior pavements, in waste of labor, loss of time and wear of vehicles. Not only are merchants and the general public benefited by these new pavements, but the owners of abutting property are directly benefited by increased values and rentals. In Europe the advantage of good pavements is fully appreciated, and the best are laid irrespective of cost, which is a secondary consideration. In this city the necessity of good pavements is quite as great as in the cities of Europe. The vast freights brought here by railroads and ships have to be carted and transhipped. To facilitate this traffic well paved streets are indispensable, and have a considerable influence on the profits of business by lessening the time required in transit over streets with inferior pavements. Merchants and shippers recognize this, and are the first to experience the direct benefits of our new pavements. For this reason the rapid extension of new and improved pavements in this city is urged by the Chamber of Commerce, which is anxious that our merchants may be enabled to compete on equal terms with those of other cities. Baltimore, Chicago, Cleveland, Cincinnati and Washington are spending large sums of money in improvements to their thoroughfares in order to cheapen and facilitate the handling of merchandise. For this purpose each of those cities has spent several millions of dollars, and the Empire City of New York cannot afford to be in the rear, but ought to lead the van in such important public works.

On streets subjected to a large amount of heavy traffic, the granite pavements which have been down for a number of years have worn very unevenly, as evidenced by the pavement on Fifth avenue, south of Ninety-second street. This pavement was laid in the very best manner with granite blocks of the standard dimensions. A variation of one inch was allowed in the depth of the block—not less than seven or more than eight inches. The blocks were laid on a two inch bed of sand to make up for the difference in depth of block, and had the usual foundation of concrete. The unevenness of surface is caused by the difference in the depth of the blocks. The deeper block, as soon as laid, obtains its ultimate bearing on the sand and can sink no further, while the shallow block continues to sink into its deeper bed of sand under heavy traffic, causing an uneven surface. The method of laying the improved stone pavements in London, Liverpool and other European cities differs from ours in that the stone blocks are cut or pitched to a uniform depth, a variation of only one-fourth of an inch being allowed in the depth of the blocks. The blocks are laid on a bed of sand only one-half inch in depth. These blocks are assorted as to size at the Government yards and depots by employees of those cities, and are sold to contractors for pavements. This method is very costly, but the extra expense is fully counterbalanced by the better quality and greater durability of the pavements.

These European methods have been considered and their advantages fully recognized ; but owing to the additional expense it is not advisable to adopt them. Several large yards would be



required which are not to be had in locations that would be suitable; besides, the quarrymen are unwilling to make any change in their methods of getting out and shipping the stone.

Toward the close of the last paving season difficulty was experienced in properly filling the joints of the granite pavement with coal tar and gravel, owing to the rapid rate at which the pavement had to be laid to accommodate traffic and finish the work before winter set in. The specifications for this work are identical with those of London, Liverpool and other European cities. I would not advise any change in the specifications that would lessen the quantity of gravel and increase the quantity of coal-tar. The blocks could not be held in place for any length of time by coal tar alone, which naturally softens in hot weather, and becomes brittle and easily pulverized in cold weather. The durability of the pavement must depend in a great measure on the gravel filling. The object of the tar-filling is to strengthen the pavement by filling the voids in the gravel and holding it in place. I think the quality of the coal-tar cement would be greatly improved by the addition of a percentage of asphalt and residuum oil, which would make a more elastic cement, and it would not be so easily affected by changes of temperature.

Careful observations have been made of the asphalts laid during the past three years to ascertain their comparative durability and slipperiness, and what improvements, if any, could be made in the present methods of laying asphalt pavements. Two kinds of asphalt pavements have been laid, the Sicilian rock and the Trinidad, the former two inches and the latter two and one-half inches thick, as required by the specifications. The Sicilian pavement on Madison avenue, between Thirty-second and Sixty-sixth streets; Sixty-sixth and Seventy-fifth streets, from Eighth to Ninth avenue; and Forty-eighth street, from Madison to Fifth avenue, were examined and found to be from one-quarter to one-half inch less in thickness than when first laid. Examinations were also made of the same kind of pavement on Forty-seventh, Sixtieth and Fifty-seventh streets, from Madison to Fifth avenue; Sixteenth street, from Avenue A to East river, and several other streets. The pavement on these streets were found to be not quite up to the required thickness. This decrease in thickness is due to compression.

Examination of the Trinidad asphalt pavement on all the streets paved therewith showed a depth or thickness exceeding that specified, except on Madison avenue, from Twenty-third to Thirty-second street, and on Chambers street, where the pavement was not quite so thick. It may be stated that the latter two streets were paved before the advent of the present administration.

The Sicilian pavement was found to be thinner in the centre of the carriageway than towards the gutters, and, to a lesser extent, the same condition was observed in the Trinidad pavement. In both cases this diminution in thickness is due to the compression caused by the greater amount of traffic on the central portions of the streets. The Sicilian pavement does not attain its ultimate compression until it has been subjected to actual traffic for several months or longer, while the Trinidad pavement attains its final compression as soon as laid. In anticipation of the loss in thickness produced by the greater compression to which the Sicilian rock asphalt is subject, this pavement was laid to an additional thickness of two-fifths of the specified depth before compression. This is not sufficient for the traffic on our streets, and I would recommend that in future this pavement be laid to such a thickness as will give a depth of two and one-half inches when it reaches its ultimate compression.

In noting the comparative slipperiness of the two kinds of asphalt pavements, that of the granite on Fifth avenue was also observed and found, in damp or foggy weather, or when covered with damp street dirt, quite as slippery as the asphalt pavement under the same conditions, and only less slippery by the foothold the sharp toes and calks of horses' shoes obtain in the joints of the stone blocks. I find the Sicilian pavement much more slippery than the Trinidad. This difference is particularly observed on Madison avenue, where there are long sections of the two kinds of pavement. These pavements were laid with the greatest care. The Trinidad has been down four years, and the Sicilian one and two years. Both pavements have worn equally well, but the Sicilian has compressed more than the Trinidad. The greater slipperiness of the Sicilian asphalt pavement, as compared with the Trinidad, is due to the difference in the composition of the two pavements. The sharp sand constituting the body of the Trinidad gives a better foothold for horses than the smooth and impalpable limestone forming the body of the Sicilian rock pavement. I know of no way to make the rock asphalt pavement less slippery.

The failure of a portion of the Eighth avenue asphalt pavement, laid in the fall of 1890, was due to the use of asphalt from the village plots of La Brea, on the Island of Trinidad, instead of from the Pitch Lake. The asphalt used in this work was submitted by the contractor and analysed and approved by chemical experts. Within a few weeks after the pavement had been laid, and before its acceptance, part of it showed indications of disintegration. Examinations were made by this Department, in conjunction with experts and chemists of the contractor, and resulted in this Department requiring the contractor to take up and relay all the defective parts. This was partly done during the past summer, and will have to be completed before the work is finally accepted. The comparative failure of this pavement was exceptional, and, as chemists and experts were unable to account for it, it was decided to lay no more pavement of this character until the cause of the comparative failure was determined. Investigation led to the belief that inferior asphalt had been used in this work, and to satisfy yourself on this point you directed me to continue the investigation, and to personally examine the different deposits of asphalt on the Island of Trinidad as soon as the season would allow. In compliance with your instructions of October 26, 1891, I proceeded to the Island of Trinidad and made a careful inspection of the several mines that have furnished asphalt used in the pavements of this city.

Asphalt is found in different parts of Trinidad, but only in the district of La Brea (Spanish for "The Pitch") is it found in sufficient quantity for commerce, or of a quality suitable for street pavements. The wonderful Pitch Lake is situated there, and also with the extensive deposits of "iron pitch" and "land pitch" on the slope between the Lake and the Gulf of Paria.

The lake is about one mile from the sea, at an elevation of 138 feet, and contains 115 acres. It is quite circular in shape, and the outlines are well defined. On the south the land rises gradually from the lake, and on the three other sides the land slopes uniformly from the lake to the sea.

The surface of the lake is not level. It has an inclination of a few inches in one direction, sufficient to drain off the frequent rainfalls. Besides this slight inclination, the surface has a fall of a few inches from the centre toward all sides. Another and distinct characteristic is that the surface is not flat and even, but is formed of irregular, oval-shaped flattened domes, or slightly convex surfaces, separated by channels of water a few feet wide and a few inches deep, flowing toward outlets. There are several small islands, from 50 to 60 feet in diameter, scattered over the surface of the lake, and resting on the asphalt itself. These islands have sufficient depth of soil to support the growth of quite large trees. The whole appearance of the lake is very odd, strange and difficult to describe. In color it is a dark chocolate brown, and looks very like a patch of mushrooms flattened out and pressed closely together, separated only by the narrow and shallow channels of water already described. In the centre of the lake is a space of several hundred square feet of soft fluid asphalt. This is the celebrated "Pitch" or "Boiling Spring." Here the temperature is colder than in the solid parts of the lake. The appearance of boiling is due to the escape of large volumes of sulphureted hydrogen gas, which keeps the liquid mass violently agitated. This "spring" is commonly, but erroneously, thought to be the source of supply. In fact it is the last of the asphaltic deposits, and is ages more recent than the deposits of "iron" and "land pitch," and much more recent than the solid part of the lake itself. This very fact should prove conclusively that the lake has never overflowed to form the deposits outside it, and that these deposits of "iron" and "land pitch" had no such origin.

The surface of the lake is sufficiently firm to support the weight of loaded carts. The asphalt is mined for commerce from different parts of the lake to a convenient depth of about three feet. It is easily excavated with picks, loaded directly into carts, and hauled to the shore ready for shipment. A marked peculiarity of the Pitch Lake is, that the pits or excavations made during the day, fill up during the night, and in a few days no trace of them can be found. This is due to the great viscosity of the lake asphalt, and is one of the features which distinguishes it from all other asphalts found in this district. On the slopes from the lakes to the sea, and beneath the sea itself, are found the vast deposits known as "iron" and "land pitch." The greater part of these are covered with several feet of earth, supporting a dense tropical forest growth. The village of La Brea is over these deposits, the houses and streets resting directly on the pitch itself. The deposits are known by American dealers as "overflow pitch," but the inhabitants and geologists term them "iron" and "land pitch." The asphalt from these deposits varies in color from gray to black. The "iron pitch" exists in extensive compact masses or detached deposits, and is extremely hard and brittle, and almost black in color. The "land pitch" is found mixed with more or less dirt and foreign matter, and varies in color from gray to black. Both kinds are mined from the village lots and from deposits on both sides of the road leading from the village to the lake. These village plots are the ordinary size village lots, and are generally occupied by the cabins of the owners, who either mine the deposits themselves or lease them to others for mining. The asphalt is carted to the shore and piled in heaps ready for shipment, which is almost exclusively to the United States, as the accompanying table of exports will show. The cargoes are often made up of asphalt mined from several different deposits. This accounts for the great variety met with in the same shipment. I noticed one pile made up in this way, and adjoining it a pile of "lake" asphalt. The difference in the two was very marked. The pile of "land" and "iron pitch" was of a variety of colors, from gray to black, lustreless and brittle, and mixed with earth and decomposed asphalt. This latter feature was owing no doubt to careless sorting and "cutlashing," as the cutting and trimming off the decomposed surfaces of the deposit is called. The pile of asphalt from the lake was bright and uniform in color. Another peculiarity of the "iron" and "land pitch" is that when excavations are made the walls of the remaining asphalt do not run in and fill up the excavation. The angles and projections only are rounded off and softened by the sun's heat. This shows that these kinds flow but slowly, if at all, and in this respect are very different from the lake deposit.

The different asphalts found on the Island of Trinidad have, undoubtedly, a common origin. Geologists, however, differ on this point. Messrs. Wall and Sawkins, Government geologists, hold that the asphalts are of vegetable origin, and formed in the same way as peat and coal. In this opinion most geologists agree. Others claim that the asphalts are of volcanic origin, and some hold that the source is to be found on the mainland of South America opposite, where there are found vast deposits.

The Government geologists, in their report of 1860, page 139, describe the asphalt found on the Island of Trinidad as three kinds: "Glance," which is rare and very brittle, and but little used; "asphaltic oil," found in very small quantities and of poor quality; "asphalt proper," containing from 20 to 35 per cent. of earthy matter, preserving its elasticity, which, however, gradually disappears on long exposure to sun and atmosphere. This is a very essential characteristic to which many phenomena exhibited are attributed."

On page 142 of the same report, the geologists say: "La Brea point is lined with masses of asphalt, derived from blocks and fragments of bituminous strata scattered about. The surfaces of these masses consist of brown, porous, sandy earth, which occurs extensively about La Brea, and is evidently the mixed residue of the substance. This shows that there is not only a removal of the volatile constituents, but also an expulsion and perhaps oxidation of the fixed carbon. These remarks refer to the bituminous materials scattered over the La Brea district, and especially to that between the village and the lake, from streams that have issued at some former epoch."

On page 143, the geologists explain the peculiar wave or furrow appearance on the road between the lake and the village. "This ridging and furrowing are not evidence of flowing, but are due to constant expansion and contraction (due to the difference of temperature, which is often as great as 100 degrees in one day) and to the effects of traffic." This, some parties choose to believe, is evidence of the lake overflowing.

I shall leave the question of the origin of the asphalts for geologists to decide, and confine my investigation solely with a view to determining the properties and characteristics of the different kinds of asphalt, and which will make the most durable pavement.

I collected and brought home with me samples of asphalt from different mines in the La Brea district, which are fair samples of the different deposits. These I submitted to Messrs. Ricketts and Banks, chemists, School of Mines, Columbia College, for analyses. The samples were submitted by numbers only. The following report shows the nature of the asphalts:

NEW YORK, January 2, 1892.

THOMAS F. GILROY, Esq., Commissioner of Public Works,  
31 Chambers street, New York:

DEAR SIR—We have completed our test of the nine samples of asphalt submitted to us by Consulting Engineer, Mr. Stevenson Towle, with instructions to report to you, and we have now to report as follows:

MARK ON SAMPLE.	MATTER EXTRACTED, CARBON BISULPHIDE (BITUMEN).	CHARACTER OF THE MINERAL MATTER.	MELTING POINT.	OILS AT 400° F.
No. 6085—No. 5.....	48.89 per cent.	Consists chiefly of silica, alumina, oxide of iron and lime..	245° F.	1.83 per cent.
No. 6086—No. 6.....	49.63 "	Consists chiefly of silica, alumina, oxide of iron and lime..	155° F.	1.32 "
No. 6087—No. 7a.....	52.10 "	Consists chiefly of silica, alumina, oxide of iron and lime..	160° F.	3.55 "
No. 6087—No. 7b.....	50.12 "	Consists chiefly of silica, alumina, oxide of iron and lime..	160° F.	2.91 "
No. 6087—No. 7c.....	49.73 "	Consists chiefly of silica, alumina, oxide of iron and lime..	160° F.	2.27 "
No. 6087—No. 7d.....	53.77 "	Consists chiefly of silica, alumina, oxide of iron and lime..	160° F.	4.15 "
No. 6088—No. 8.....	48.27 "	Consists chiefly of silica, alumina, oxide of iron and lime..	170° F.	1.72 "
No. 6089—No. 9.....	46.32 "	Consists chiefly of silica, alumina, oxide of iron and lime..	230° F.	2.29 "
No. 6090—No. 10.....	45.08 "	Consists chiefly of silica, alumina, oxide of iron and lime..	185° F.	0.48 "

As the percentage of moisture in the sample is constantly varying, we have made all of the above determinations on the dry samples.

Very truly yours,

(Signed) RICKETTS AND BANKS.

P. S.—Samples No. 6087 (No. 7a, No. 7b, No. 7c, No. 7d), No. 6088 (No. 8), No. 6089 (No. 9) and No. 6090 (No. 10), were also marked "Trinidad Asphalt."

Sample No. 5 is from Hadley's heap, and from excavation adjoining village lot No. 76.

Sample No. 6 is from Da Sanlo mine.

Samples Nos. 7a, 7b, 7c and 7d are from different parts of the Pitch Lake.

Sample No. 8 is from Ferras' heap, village lot No. 22.

Sample No. 9 is from Roman Catholic Church lot.

Sample No. 10 is from Hadley's mine, Crown lands.

It will be seen from the report that there is a difference of 3.80 per cent. in the bitumen contained in the respective samples. A marked difference in the softening points will also be observed, the variation being as great as 90 degrees F. In asphaltic oil there is a difference of 3.68 per cent. These differences are in favor of the Lake asphalt which contains a much larger quantity of bitumen and asphaltic oil than the samples of the other deposits, and will require the addition of less residuum oil in the preparation of the asphaltic cement for street pavements.

In my judgment asphalt showing a deficiency of asphaltic oil is not suitable for pavements, as deficiency in that oil detracts from the durability of the asphalt.

The analyses also show that the asphalts containing the least asphaltic oil have the highest softening point, and are consequently harder and more brittle than asphalts with a lower softening point, and correspondingly greater elasticity, which latter quality paving experts consider essential as it gives the pavement the necessary adhesiveness.

Trinidad asphalt is extensively used in Europe in the pavement of sidewalks, and a condition in the specifications for such work is that the asphalt shall be "viscous and not brittle under ordinary temperatures."

The following table furnished by Mr. John Fanning, Collector of Customs, Port of Spain, shows the quantities of asphalt exported from Trinidad:

Statement Prepared by John Fanning, Collector of Customs, Showing Quantity of Pitch Exported from the Island of Trinidad during 1888, 1889, 1890, and to September 30, 1891.

YEAR.	FROM PITCH LAKE.				FROM LAND OTHER THAN PITCH LAKE.			
	TO UNITED STATES.		TO OTHER COUNTRIES.		TO UNITED STATES.		TO OTHER COUNTRIES.	
	Raw Tons.	Refined Tons.	Raw Tons.	Refined Tons.	Raw Tons.	Refined Tons.	Raw Tons.	Refined Tons.
1888.....	24,480	8	8,290	9,308	5,020 <sup>287</sup> <sub>1000</sub>	4,905	600 <sup>2</sup> <sub>8</sub>	1,810 <sup>10</sup> <sub>000</sub>
1889.....	46,690	504	10,186	8,932	9,747	2,042	....	....
1890.....	38,520	....	13,221	9,760	16,460	820	4	....
1891.....	45,470	....	8,466	8,394 <sup>1</sup> <sub>2</sub>	10,450 <sup>1</sup> <sub>3</sub>	....	127	....

It will be seen from the foregoing table that nearly the whole quantity of asphalt exported to Europe was from the Pitch Lake, viz.:

From the Lake..... 40,163 tons raw.  
..... 36,394 tons refined.

Total..... 76,557 tons.

From outside the Lake..... 728.0 tons raw.  
..... 1.8 tons refined.

Total..... 729.8 tons.

This large proportion of Lake asphalt exported to Europe would indicate that the Lake asphalt alone meets the requirements of foreign specifications.

The table also shows that 41,177 tons of raw and 4,827 tons of refined asphalt, taken from lands outside the Lake, were imported into the United States, the greater part having been used in pavements.

The Lake asphalt is mined and exported exclusively by the Trinidad Asphalt Company, and is imported into the United States by the Barber Asphalt Paving Company, the Warren-Scharf Asphalt Paving Company, and the Crawford Paving Company.



Asphalt from the deposits outside the Lake is mined by different parties and imported into the United States for pavements, principally by George Christall, James Brand, the Trinidad Paving Company, the Matt Taylor Paving Company and the West India Asphalt Company.

The asphalt mined from the Pitch Lake is a merchantable commodity, and can be easily purchased by those desiring to do so and willing to pay the price. The additional export duty on Lake asphalt is only 40 cents per ton, the full duty being \$1.60, and on asphalt from lands other than the Lake, \$1.20.

The durability of asphalt pavements depends wholly on the suitability of the asphalt for the purpose. It must be of such a nature as to permanently and thoroughly cement together the sand and limestone powder forming the body of the pavement. It must be elastic, independent of the residuum oil required in making the paving cement, and in no degree brittle.

To secure materials that may be relied on to make the best pavements, it is the practice of European engineers to designate in the specifications not only the kind of asphalt to be used, but also to name the mines and companies that will be allowed to furnish the material, and only to receive bids from such contractors as have shown ability to furnish the material required, and have done satisfactory work.

It has been found necessary to follow this practice in this city as to material for rock asphalt pavement, and the same course should be followed with regard to the Trinidad asphalt pavements.

In view of the importance of obtaining the best asphalt, I would recommend that the asphalt from the Pitch Lake at La Brea, Trinidad, be made the standard of quality. This standard is now required by the specifications for asphalt pavements in Washington.

Numerous applications have been received from parties interested in special kinds of pavements for permission to lay samples on trial. These applications have been denied on account of the trouble, expense and inconvenience such tests have involved heretofore. To be of practical value these tests must be made on a large scale, and the introducers of new pavements are reluctant to lay sufficiently large areas for the purpose of thorough tests. When such experiments are at an end the City generally has to bear the expense of removing the new and restoring the old pavement.

Among the applicants for new pavements there are many who favor wood. These are persons who have seen the wooden pavements of Europe and returned home impressed with the idea that this kind of pavements is the only suitable one for such a thoroughfare as Fifth avenue and other similar avenues. Wooden pavements are a very expensive luxury. Their success in Europe is due not only to their expensive construction and careful and costly maintenance, but also to favorable conditions there which do not exist in this country. There the width of tires of wheels and the manner of shoeing horses are regulated by law, smooth shoes, without calks or toes and wide tires to wheels only are allowed. The narrow tires of wheels and the sharp toes and calks of horses' shoes in this country are very destructive to pavements, particularly those constructed with wood.

The people of this city would be unwilling to pay for the luxury of wooden pavements, the price London and Paris pays. The maintenance of these pavements alone costs fully thirty-six cents per square yard per year. Paris has recently made large contracts for laying wooden pavements, and pays for laying and maintenance for a period of seventeen years nearly eighty cents per square yard per year.

Berlin has discontinued the laying of wooden pavements for the reason that they are the most slippery in frosty weather, and not on account of their expense.

Brick pavements are now extensively laid in many Western cities, and their use in this city is very strongly urged by their advocates, who argue that their long use in Holland is a sufficient guarantee of their durability.

There is no doubt as to the long life of brick, and that brick pavements have the advantage of being less noisy than stone and more economical. But the use of brick pavements has been limited to streets subject only to the light travel of former times, and they are not strong enough to withstand the heavy traffic of the present day.

It is claimed that, by a new process of manufacture, a superior brick, equal to stone, is made for paving. This may be true, but I cannot advise the laying of this pavement except as an experiment and at the expense of the parties desiring to introduce it.

The asphalt block pavement laid a year ago on Eighty-seventh street is in good order, but until a sufficient time has elapsed to test its durability, I cannot advise that any more of it be laid.

The work of laying the new stone pavements has been pushed as rapidly as possible, and with the least inconvenience to business men and the public. The same is true of asphalt pavements.

The great comfort the asphalt pavements have been to occupants of houses on residential streets is evinced by the numerous demands and applications for more asphalt pavements.

In concluding my report I would again urge the necessity of the Legislature giving you without delay the authority you have so frequently asked for to compel railroad companies, gas, steam, electric and other corporations owning sub-pavement structures to lay suitable fixtures in conjunction with the laying of new pavements and properly maintain and restore the pavements about their property when necessary. I would also urge that you be vested with authority to lay house drains in advance of new pavements.

Very respectfully,

STEVENSON TOWLE, Consulting Engineer.

#### Document "G."

#### REPORT OF ENGINEER IN CHARGE OF SEWERS.

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF ENGINEER IN CHARGE OF SEWERS,  
NO. 31 CHAMBERS STREET, ROOM 9,  
NEW YORK, January 5, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

DEAR SIR—In compliance with your instructions, I hand you herewith my report of the transactions of the Office of the Engineer in Charge of Sewers for the quarter ending December 31, 1891:

10,958 linear feet of new sewers and twelve receiving-basins connected therewith have been built, making the present total length of the sewerage of the city 2,345,881 linear feet (444.89 miles), with 5,314 receiving-basins, which number includes seven built under special contract as hereafter stated.

In the schedule accompanying this report, you will find a detail statement showing the status of the several contracts under charge of this office.

Nineteen sewer and seven basin contracts have been completed, viz:

Sewer in One Hundred and Fortieth street, between Hamilton place and Amsterdam avenue, etc.

Sewer in One Hundred and Second street, between Boulevard and Amsterdam avenue, etc.

Sewer in Seventy-sixth street, between Boulevard and Amsterdam avenue, etc.

Sewer in One Hundred and Twenty-second street, between Manhattan avenue and Avenue St. Nicholas.

Sewer in One Hundred and Nineteenth street, between Avenue St. Nicholas and Eighth avenue, etc.

Sewer in One Hundred and Sixty-ninth street, between Amsterdam and Eleventh avenues.

Sewer in One Hundred and Third street, between Harlem river and First avenue.

Sewer in Sixty-fourth street, between property of New York Central and Hudson River Railroad Company and Eleventh avenue.

Sewer in First avenue, between Ninetieth and Ninety-first streets.

Sewer in Convent avenue, between manhole south of One Hundred and Thirty-fifth street and One Hundred and Thirty-fifth street, etc.

Sewer in South street, between Roosevelt street and Pike Slip, etc.

Sewer in West street, between Carlisle and Dey streets, etc.

Sewer in Astor place, between Broadway and Lafayette place.

Sewer in Amsterdam (Tenth) avenue, east side, between One Hundred and Thirty-first street and a point 180 feet north of the north house line of One Hundred and Thirty-third street.

Alteration and improvement to sewer in Ninth street, between Avenues C and D.

Alteration and improvement to sewer in South Fifth avenue, between Canal and Broome streets, etc.

Alteration and improvement to sewer in Sullivan street, between Canal and Broome streets, etc.

Repairs to sewer in Twentieth street, between Avenue A and First avenue.

Extension of sewer in Sixty-eighth street, between Fifth and Madison avenues.

Receiving-basin on the southwest corner of One Hundred and Ninth street and First avenue.

Receiving-basin on the northwest corner of Ninety-ninth street and Third avenue.

Receiving-basin on the northwest corner of Tompkins and Rivington streets.

Receiving-basin on the northeast corner of Horatio street and Eighth avenue.

Receiving-basin on the southwest corner of Seventy-fifth street and Central Park, West.

Catch-basin on the northwest and southwest corners of One Hundred and Thirteenth street and Amsterdam avenue.

There are now in progress twenty-eight contracts for new sewers and two contracts for receiving-basins.

1,540 receiving-basins and 76,584 linear feet of sewer have been cleaned.

Very respectfully,

HORACE LOOMIS, Engineer in Charge of Sewers.

#### Statement Showing Amount of Work Done on Uncompleted Contracts during Quarter ending December 31, 1891.

DATE.	NATURE AND LOCATION OF WORK.	Estimated Cost.	Amount of Work Done.	Time Allowed.	Time Consumed.	Time Remaining.	REMARKS.
				Days.	Days.	Days.	
1891. Oct. 23	Sewer in One Hundred and Fifteenth street, between Riverside avenue and Boulevard.....	\$3,938 40	\$0,928 00	70	50	20	
Sept. 24	Sewer in One Hundred and Twenty-second street, between Boulevard and Claremont avenue, and in Claremont avenue, between One Hundred and Nineteenth and One Hundred and Twenty-second streets.....	9,177 00	3,780 00	250	100	150	
Nov. 17	Sewer in One Hundred and Eighty-fifth street, between Boulevard and Claremont avenue.....	3,057 00	.....	110	30	80	
Aug. 3	Sewer in Sixty-fifth street, between property of New York Central and Hudson River Railroad Co. and West End avenue.....	2,162 50	2,559 50	45	.....	.....	Completed, but not accepted.
May 3	Alteration and improvement to sewer in Avenue St. Nicholas, west side, between One Hundred and Forty-eighth and One Hundred and Forty-ninth streets; sewer in One Hundred and Forty-ninth street, between Avenue St. Nicholas and Amsterdam avenue, east side, between One Hundred and Forty-ninth and One Hundred and Fiftieth streets.....	8,769 20	6,868 05	150	.....	.....	Completed, but not accepted.
" 3	Extension of sewer in Fifty-sixth street, between Hudson river and Eleventh avenue.....	7,554 00	7,539 46	75	.....	.....	Completed, but not accepted.
Apr. 24	Sewer in Edgecombe avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.....	41,315 00	6,480 00	800	250	550	
Nov. 7	Sewer in One Hundred and Twenty-fifth street, between present sewer and bulkhead wall at One Hundred and Twenty-fifth street and Harlem river.....	2,500 00	2,000 00	50	43	7	
" 20	Sewer in One Hundred and Seventeenth street, between Fifth and Madison avenues.....	6,022 50	500 00	140	30	110	
Apr. 29	Sewer in Seventy-second street, extending about 615 feet east of Avenue A.....	14,692 00	7,915 00	300	160	140	
Sept. 11	Sewer in Eighty-eighth street, between Avenue A and summit east	2,422 50	2,512 50	65	.....	.....	Completed, but not accepted.
" 11	Sewer in Lexington avenue, between Seventy-first and Seventy-second streets.....	1,823 00	2,056 60	50	.....	.....	Completed, but not accepted.
Nov. 10	Sewer in Park avenue, east side, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.....	900 35	758 50	30	.....	.....	Completed, but not accepted.
" 10	Sewer in First avenue, between Forty-second and Forty-third streets, connecting with present sewer in Forty-third street, east of First avenue.....	5,037 00	.....	140	25	115	Contractor has been delayed by Railroad Co.
" 16	Sewer in First avenue, between Forty-third and Forty-fourth streets.....	3,399 50	.....	90	20	70	Contractor has been delayed by Railroad Co.
" 10	Sewer in First avenue, between Eighty-ninth and Ninetieth streets.....	2,613 00	.....	65	25	40	Contractor has been delayed by Railroad Co.
Dec. 3	Sewer in One Hundred and First street, between Third and Park avenues.....	3,655 00	.....	100	10	90	Just commenced.
" 16	Sewer in One Hundredth street, between Third and Park avenues.....	4,154 00	.....	100	10	90	"
" 15	Basin southwest corner of One Hundred and Tenth street and Madison avenue.....	210 00	.....	5	.....	.....	"
" 16	Basin northwest corner of Fourteenth street and Avenue C.....	219 00	.....	5	.....	.....	"
May 25	Sewers in South street, between Market Slip and Montgomery street, connecting with outlet built by the Department of Docks, through Pier 36, East river, with curves into Clinton street, etc.....	36,122 00	10,060 00	250	100	150	
Oct. 9	Alteration and improvement to sewer in Thirty-fourth street, between Eleventh and Twelfth avenues, and new sewer in Twelfth avenue, between Thirty-fourth and Thirty-fifth streets.....	8,042 50	6,300 00	100	65	35	
Dec. 4	Alteration and improvement to sewer in Eighteenth street, between North river and Tenth avenue.....	17,363 00	.....	125	10	115	Just commenced.
Aug. 3	Alteration and improvement to sewer in Eighteenth street, between East river and Avenue A, connecting with outlet to be built by the Department of Docks; new sewer in Avenue C, between Sixteenth and Eighteenth streets, etc.....	27,547 50	8,854 00	170	80	90	
Nov. 17	Repairs to sewer in Second street, between Houston street and Avenue C.....	4,006 40	3,290 00	40	30	10	
Jan. 9	Sewers in One Hundred and Sixteenth street, between Amsterdam and Morningside avenues, West, connecting with present sewers in said avenues.....	12,180 00	11,413 00	300	250	50	
June 9	Sewers in One Hundred and Seventieth street, between Tenth avenue and Kingsbridge road, and in Kingsbridge road, east side, between One Hundred and Seventieth and One Hundred and Seventy-third streets.....	17,686 50	12,998 50	450	410	40	
Oct. 17	Sewers in Amsterdam avenue, west side, between One Hundred and Thirty-third street and a point 50 feet south of One Hundred and Thirty-sixth street.....	14,534 65	15,183 00	350	300	50	
Oct. 28	Sewers in Boulevard, west side, and West End avenue, between One Hundred and Fifth and One Hundred and Eighth streets, with curves into One Hundred and Fifth, One Hundred and Sixth and One Hundred and Seventh streets.....	16,087 00	15,234 00	400	310	90	
Dec. 14	Sewers in One Hundred and Sixth street, north side, between Central Park, West, and Manhattan avenue.....	3,608 00	.....	80	10	70	Just commenced.

#### REPORT OF THE TRANSACTIONS OF THE OFFICE OF THE ENGINEER IN CHARGE OF SEWERS FOR THE QUARTER ENDING DECEMBER 31, 1891.

Credit to General Fund—	
Amount received for 216 permits for sewer connections.....	\$7,197 10
Engineers' Fees—	
Amount of Engineers' fees assessed on property benefited, and charged to Street Improvement Fund.....	\$10,053 57
Sewers—Repairing and Cleaning—	
Balance on hand September 30, 1891.....	\$50,221 52
Vouchers transmitted to the Commissioner of Public Works—	
Pay-roll of Laborers, etc.....	\$24,352 25
Cleaning.....	7,094 74



Sewers—Repairing and Cleaning—	
Material and sundries.....	\$4,244 91
Balance, December 31, 1891.....	14,529 62
	\$ 50,221 52
Sewers—Repairing and Cleaning, 1890—	
Balance on hand, September 30, 1891.....	\$857 25
Vouchers transmitted to the Commissioner of Public Works—	
Cleaning.....	\$36 24
Balance, December 31, 1891.....	821 01
	857 25
Sewers—Repairing and Cleaning—Salaries—	
Balance on hand September 30, 1891.....	\$2,646 06
Vouchers transmitted to the Commissioner of Public Works—	
Pay-roll of Inspectors, etc.....	\$2,549 98
Balance, December 31, 1891.....	96 08
	2,646 06
Sewerage System—Salaries—	
Balance on hand September 30, 1891.....	\$2,553 83
Vouchers transmitted to the Commissioner of Public Works—	
Pay-roll of Engineers, etc.....	\$2,100 00
Balance, December 31, 1891.....	453 83
	2,553 83
Boring Examinations for Grading, etc.—	
Balance on hand September 30, 1891.....	\$1,342 50
Vouchers transmitted to the Commissioner of Public Works—	
Pay-roll of Axeman, etc.....	\$1,339 00
Balance, December 31, 1891.....	3 50
	1,342 50
Restoring and Repaving—Special Fund—	
Amount received for permits for street openings.....	\$9,798 50
Street Improvement Fund—	
Vouchers transmitted to the Commissioner of Public Works—	
Pay-roll of Engineers, etc.....	\$5,299 98
Pay-roll of Inspectors, etc.....	9,202 77
On contracts.....	109,558 71
	\$124,061 46
Work done by Mechanics and Laborers—	
189 receiving-basins relieved.	
1,540 receiving-basins and culverts cleaned.	
21,688 lineal feet of sewer cleaned.	
370,771 lineal feet of sewer examined.	
12 lineal feet of brick sewer built.	
32 lineal feet of box sewer built.	
33 lineal feet of brick sewer rebuilt.	
6 lineal feet of brick sewer repaired.	
9 lineal feet of brick culvert repaired.	
135 lineal feet of pipe culvert laid.	
12 lineal feet of spur pipe laid.	
6 lineal feet of pipe sewer laid.	
31 lineal feet of new curb set.	
18 lineal feet of curb reset.	
149 manhole heads reset.	
7 basin-heads reset.	
1 new manhole built.	
3 new basins built.	
2 new road boxes built.	
27 basins repaired.	
5 manholes repaired.	
79 new manhole-heads and covers put on.	
6 new basin-heads and covers put on.	
14 new basin covers put on.	
44 new manhole covers put on.	
984 cubic feet of brick work built.	
295 square feet of flagging relaid.	
381 square yards of pavement relaid.	
14 square yards of concrete relaid.	
4,636 cubic feet of earth excavated and refilled.	
4,957 cart-loads of dirt removed.	
41 cart-loads of earth filling.	

NEW YORK, January 8, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

DEAR SIR—In accordance with your instructions, I present the following as my report of the operations of this office for the year 1891:

There have been completed during the year—

Of brick sewer.....	23,850 linear feet.
Of pipe sewer.....	7,781 "
Of wooden barrel sewer.....	2,172 "
	33,803 linear feet=6.402 miles.

There have been made alterations and improvements to existing sewers, consisting in substituting brick for pipe, changes of size, grade, etc., amounting to 9,041 linear feet=1.712 miles, making a total of 8,114 miles of sewers completed during the year. In connection with the above work, there have been built 69 receiving-basins and 2,277 feet of culvert, costing \$571,380.

Adding the former amounts to the mileage, as reported in my last annual report, it appears that the sewerage system is now 2,345,881 feet in length, equal to 444.20 miles, and connected thereto there are 5,314 receiving-basins.

As compared with last year, the work completed during the season just ended exceeds the former by 20,870 feet, or nearly 4 miles, showing that there was an increased activity in building and a consequent demand for additional drainage.

All the particulars as to location, size of sewers, etc., are given in detail in tabular form accompanying this report.

While the location does not indicate that any particular section of the city has grown more than another, it shows that vacant ground is being rapidly taken up by the buildings required for an increasing population.

Aside from water-front improvements which will be described separately, the most important works completed during the year are—

Sewers in Amsterdam (Tenth) avenue, as follows:

West side, between a point 316 feet north of One Hundred and Seventy-eighth street and a point about 10 feet north of One Hundred and Ninetieth street.

East side, between One Hundred and Thirty-eighth and One Hundred and Forty-first streets, connecting with sewer in One Hundred and Forty-first street.

East side, between One Hundred and Thirty-first and a point 180 feet north of One Hundred and Thirty-third street.

West side, between One Hundred and Thirty-eighth and One Hundred and Fortieth streets, connecting with sewer in Hamilton place and One Hundred and Fortieth street.

East side, between One Hundred and Thirty-fifth and One Hundred and Thirty-eighth streets, connecting with sewer in Convent avenue, south of One Hundred and Thirty-fifth street.

Sewer in Fifth avenue, between One Hundred and Thirty-fifth and One Hundred and Thirty-seventh streets, and in One Hundred and Thirty-seventh street, between Fifth and Sixth avenues.

Sewer in Ninetieth street, between Avenue A and Second avenue.

Sewer in One Hundred and Fourth street, between First avenue and Harlem river.

Alterations and improvements to sewers, as follows:

Park avenue, between Seventy-first and Seventy-third streets, and in Seventy-second street, between Park and Madison avenues.

Eighth avenue, west side, between One Hundred and Twenty-fourth and One Hundred and Thirty-seventh streets, etc.

Fifty-fifth street, between Eighth and Ninth avenues.

South Fifth avenue, between Canal and Broome streets, etc.

The sewerage of Tenth avenue is now completed, as far as is necessary, in advance of other improvements.

One portion of the sewerage of this avenue is still without a proper outlet, viz.: the part between One Hundred and Sixty-second and One Hundred and Seventy-third streets, discharging at One Hundred and Sixty-seventh street and Harlem river.

The amendments to the laws relating to the condemnation of property for such purposes, which was deemed necessary by the Corporation Counsel, failed to pass the last Legislature on account of the dead-lock which occurred in the Senate during the latter part of the session.

The bill will be introduced again this year, and it is hoped, in the interest of the public health, that it will be speedily passed, so that the work of building can be commenced in the spring.

With a view of completing the sewerage system in certain important avenues of the city, sewers have been laid, and contracts let for others, in Fourth or Park avenue and in First avenue.

The work of rebuilding those portions of the old system which have gone much to decay and have proved inadequate for the purpose has gone on to the extent of about one and one-half miles. Much yet remains to do in this respect, as will appear further on in this report.

The fund available for repairs being small, it was not advisable to let contracts for such work until the latter part of the season, since emergencies might arise where the fund would be otherwise needed. Therefore, only 539 feet of sewer were repaired with tile bottom or otherwise.

Two contracts for such work are still unfinished, covering 868 feet of sewer.

One new sewerage district, No. 26, has been laid out according to law, comprising the territory bounded south by One Hundred and Seventy-third street, east by Eleventh and Audubon avenues and Kingsbridge road; northerly line of Two Hundred and Fifteenth street, west by Hudson river and Washington Ridge road.

The plans for the above are now ready for filing.

The outlet will be into the Hudson river at Dyckman street. The work of grading this street is now in progress and will be sufficiently advanced to permit a beginning to be made upon the outlet in the spring.

The grading and sewerage of Dyckman street will without doubt open this whole region to improvement. Although it lacks rapid transit facilities, yet the demand for property is increasing and public improvements must keep pace with it.

There are now 4.38 miles of sewer under construction as appears from an examination of the tabular statement that accompanies this report.

The most important of these are, outlet sewers at East and West Eighteenth street and Thirty-fourth street and North river.

Marginal sewers in South street, between Market Slip and Montgomery street, with outlet through Pier 36, East river.

Edgcombe avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.

One Hundred and Seventieth street, between Tenth avenue and Kingsbridge road, and in Kingsbridge road, between One Hundred and Seventieth and One Hundred and Seventy-third street.

One Hundred and Twenty-second street, between Boulevard and Claremont avenue, and in Claremont avenue, between One Hundred and Nineteenth and One Hundred and Twenty-second streets.

## MARGINAL AND OUTFALL SEWERS.

The work of building marginal sewers and extending the various outfall sewers in the lower part of the city to the outer end of piers, for the purposes of discharging sewage matter into deep water, has been well advanced during the past season.

The work accomplished thus far is sufficient to justify me in saying that the river front is now practically free from the nuisances which were complained of several years ago.

The following is a more particular account of contracts of this character finished during the year, as well as those now under way:

## West Street, between Jay and Canal Streets, etc.

The portion between Jay and Desbrosses streets, with the lateral sewers, were taken to the outlet under and to the end of the new pier at Vestry street; the remaining portion, from Desbrosses to Canal street, being carried to the existing Canal street outlet. The total length of sewers built under this contract was 4,039 linear feet. By the construction of these sewers seven separate outlets which emptied at the bulkhead or into the slips were done away with.

## West Street, between Dey and Murray Streets, etc.

This sewer was taken, together with the laterals, under and to the end of the new pier between Vesey and Fulton streets.

The total length of sewer built under this contract was 2,244 linear feet. By this work 5 separate outlets which discharged, as in all other cases, at the bulkhead line, have been connected with the marginal sewers and merged into one.

## West Street, between Carlisle and Dev Streets, etc.

This sewer was taken, together with the laterals, to an outlet under and to the end of the pier between Albany and Cedar streets. The total length of sewers built under this contract was 2,281 linear feet. This sewer renders unnecessary 4 separate outlets which emptied into the slips, and they have been abandoned.

## South Street, between Broad and Whitehall Streets, etc.

This sewer now connects with the existing Broad street sewer. The outlet could not be extended to deep tidal water at the present time on account of the lack of a suitable pier at this point. Whenever the Department of Docks constructs the same, the usual barrel outlet will be built. The total length of sewers built under this contract was 983 linear feet. By the construction of these sewers 3 separate outlets were done away with, the principal one being that which discharged under the South Ferry building and into the slip.

## South Street, between Roosevelt Street and Pike Slip, etc.

This sewer was taken, together with the laterals, to the end of Pier, new 29, at Market street. There is 1 outlet now in place of 4 which emptied at the bulkhead line, one of them under the Hunter's Point Ferry, and one under the Catharine Street Ferry. The total length of sewers built under this contract was 2,849 linear feet.

The following marginal and outlet sewers are now under construction:

South street, between Market Slip and Montgomery street, with outlet under new pier at Jefferson street.

There are also contracts now being carried out for the following:

Alteration and improvement to sewer in Eighteenth street, between Tenth avenue and North river, etc. The old sewer is to be rebuilt and be connected with the box sewer under pier built by the Department of Docks.

Alteration and improvement to sewer in Eighteenth street, between East river and Avenue A, etc. The old sewer is being rebuilt and connected with the barrel sewer built by the Department of Docks under new pier now being constructed.

In 1887 there were 43 outlets on the North river and 42 on the East river south of Twenty-third street; since that time marginal sewers have been built on the North river, with outlets at Morris, Rector, Albany, Vesey, Duane and Vestry streets; these sewers have done away with 18 separate outlets, or 24 have been replaced by 6.

On the East river outlets have been built at Broad, Roosevelt and Market streets; these sewers have done away with 13 separate outlets, which have been replaced by 3.

Besides these the outlet has been rebuilt at East Twenty-eighth street, and extended and connected with sewer built by the Department of Docks, and at Rivington street and East river the sewer has been rebuilt and extended to the end of pier. At Ninety-fifth street and East river a sewer was rebuilt connecting sewer in First avenue with the outlet built by the Department of Docks under new pier.

The outlet at One Hundred and Twenty-fifth street and Harlem river was also rebuilt and carried out to the new bulkhead-wall, as soon as this was completed by the Department of Docks. A contract has also been completed for the extension of sewer in Fifty-sixth street, between Hudson river and Eleventh avenue, and connection made with outlet built by the Department of Docks.

South of Twenty-third street there are now 56 outlets against 85 in 1887. The North river front is now protected as far north as West Eleventh street, between West Eleventh and Fourteenth streets. Contracts are in course of preparation as follows:

Alteration and improvement to sewers in Little West Twelfth street and in Thirteenth avenue, and in Bloomfield street, between Thirteenth avenue and West street, etc.

Alteration and improvement to sewers in Gansevoort and Horatio streets, between Thirteenth avenue and West street, and in Thirteenth avenue, between Gansevoort and Bloomfield streets, etc.

Sewer in West Eleventh street, between North river and West street with outlet through pier at West Eleventh street, North river, etc.



Alteration and improvement to sewers in Jane and West Twelfth streets, between Thirteenth avenue and Washington street; in Bethune street, between Thirteenth avenue and West street, and sewer in Thirteenth avenue, between Bethune and Horatio streets, etc.

Between Eighteenth and Twenty-third streets another outlet will be built next season. Also on Twelfth avenue, between Fifth and Fifty-second streets, to connect with sewer built by the Department of Docks under new pier at Fifth street.

Also on South street, between Fulton and Wall streets, the outlet for which has not been definitely determined.

Contracts will soon be advertised for sewer in South street, between Broad and Wall streets, with outlet through new Pier 6, East river, etc.

The work of building the marginal and outlet sewers has not progressed as rapidly on the East as on the North river, owing to the fact that the Dock Department has not built as many piers or made as many improvements. The cause of this, I am informed, is, that some of the piers are private property, and some the City owns only one-half, and many legal obstacles involving the City's title to the lands to be improved have been interposed.

Below will be found a statement of the work for which specifications have been prepared, and which will be commenced in the early spring.

Sewer in One Hundred and Sixteenth street, between Harlem river and Pleasant avenue.

Sewer in One Hundred and Twenty-first street, between Harlem river and Pleasant avenue.

Sewer in Park avenue, east side, between Ninety-fifth and Ninety-sixth streets, etc.

Sewer in South street, between Broad and Wall streets, etc.

Sewer in Thirty-third street, between Lexington and Fourth avenues.

Alteration and improvement to sewer in Second avenue, between Seventy-first and Seventy-second streets, etc.

Sewer in One Hundred and Fifteenth street, between Harlem river and Pleasant avenue.

Sewer in One Hundred and Forty-eighth street, between Boulevard and Amsterdam (Tenth) avenue, and in Amsterdam (Tenth) avenue, west side, between One Hundred and Forty-eighth and One Hundred and Forty-ninth streets.

Sewer in Avenue B, west side, between Eighty-eighth and Eighty-ninth streets, and in Eighty-eighth street, between Avenue B and summit west.

Plans are made or being made and specifications will soon be prepared for the following:

Sewer in One Hundred and Eighty-first street, between Amsterdam and Eleventh avenues, etc.

Sewer in Park avenue, west side, between Ninety-fifth and Ninety-ninth streets, etc.

Sewer in Sixty-eighth street, between Avenue A and East river.

Sewer in Ninety-eighth street, between Third and Park avenues.

Sewer in Ninety-first street, between Avenue A and East river.

The system of examination and report as to the cleanliness and state of repair of the sewer system, which has been employed heretofore, has been kept up during the past year. By this method the condition of the sewers are known in advance. If cleaning or repairs are found necessary, the work can be ordered before any damage has been done or cause of complaint has arisen.

In this way 1,015,472 linear feet of brick sewer, or about 200 miles, were examined. Of this amount 133,008 feet, or about 13-100, of the whole distance examined was cleaned under contract.

This work was done for sanitary reasons, as in no case was there sufficient deposits to interfere with the ordinary flow of the sewage. The cost was \$17,360.88, or at the average rate of 13 cents per linear foot.

The amount spent in 1890 for the same class of work was \$36,792.62, a saving of over \$19,000.

This shows how small an amount of money will keep the system clean when the accumulation of years has been once removed.

For the coming year I do not expect that more than \$12,000 will be needed for this purpose.

The pipe sewers have been cared for by the day labor force, employed for general purposes of maintenance.

During the year they cleaned 72,297 feet, at a cost of \$6,678.50, equal to about 9 cents per linear foot.

Altogether there was cleaned 205,305 feet of sewer at a cost of about 11 cents per foot.

After deducting the laborers' pay-roll, the balance of funds appropriated was spent for various repairs; some of it was done by order, some by contract, but all small repairs by day labor.

The money was expended under the following heads:

Appropriation for 1891.....	\$125,000 00
Pay-roll of Laborers.....	\$85,247 62
Materials, etc.....	7,134 57
Work done under orders.....	16,962 16
Work done under contract.....	1,126 00
Liabilities outstanding.....	14,453 53
	<hr/> 124,923 91
Balance.....	\$76 09

The force of laborers, mechanics, etc., was increased during the year by two gangs, employed in cleaning of catch-basins, consisting of 1 foreman, 2 laborers, and 2 horses and carts each.

The force now stands:

Laborers.....	57
Bricklayers.....	6
Horses and carts.....	31
Skilled Laborers.....	2
Foremen.....	16
Assistant Foremen.....	2
Timekeeper.....	1
Total.....	<hr/> 115

A statement of the various items of work performed by these men will be found in another part of this report.

In replacing the old style 5-piece basin-heads with granite heads, and repairing the brickwork of the basins, I have required the old fashioned trap stones to be removed, and cast-iron detachable hood traps to be substituted there. I consider this a great improvement in many respects. The hoods can be easily taken off should any obstruction occur in the culvert, and the same removed without digging up the street. The water seal is preserved full as well as formerly, and the danger of explosive gas accumulating under the trap is avoided. I recommend that these traps be used in all new work as well as for repairs.

The attempt of this Department to suppress the nuisance caused by the discharge of steam and hot water into the public sewers has been attended with considerable success, although not to the extent that is desired. In the early part of the present year I was convinced that more stringent regulations in this matter was needed to enable the Department to deal successfully with it. Accordingly, an amendment to the steam ordinance was recommended and passed by the Board of Aldermen, giving the Department power to close all pipes and house connections used for this purpose. Under this ordinance 259 examinations were made of sewer connections of buildings from which steam or hot water was discharged.

The examinations were made at no little risk to the lives of the examiners on account of the great heat (reaching 200 degrees Fahr. in many cases), and the foetid atmosphere breathed.

In 113 cases notices were served on the offending parties, and the nuisance abated for the time at least.

It is apparent at the present time, however, that there are many cases where a permanent cure has not been effected, and many others which have never been reached.

The ordinance is obeyed unwillingly on account of the expense involved, and certain inconveniences in operating a steam plant caused thereby.

To entirely abate this nuisance I am satisfied the co-operation of all Departments having to do with steam boilers or the use of steam in the city is needed.

The boiler is operated under a permit from the Police Department and is annually inspected. If this Department would require adequate means for condensing steam and returning the same at a low temperature to the sewer to be used, the first important step would be taken.

The Engineers in charge of the steam plant are licensed by the same Department. In my opinion this license should be revocable on proof of the violation of the steam ordinance. My belief is that these engineers are largely responsible for the numerous infractions of this law. Their advice is taken and acted upon by owners and occupants of buildings, as the latter are generally ignorant of details in such cases, so that a feeling on their part that their license depended upon their obedience to law would have a very salutary effect.

The Board of Health is also largely interested in this matter. Their powers are very extensive in all cases where the public health is affected. Their assistance would be most valuable. I therefore recommend that these several Departments be requested to aid this Department in its efforts to enforce the ordinance in question.

I see no improvement in the method of the New York Steam Company during the past year. As long as their mains are located close to sewers we must expect the latter to be hot in proportion to their closeness to the main. Their stop-cocks and leaky joints still send forth volumes of steam at the surface of the public streets. I know no way to cause a cessation of this annoyance and obstruction to traffic except to bring suit for the penalty against the company, and I would recommend that that course be taken.

The following are the number of permits issued to connect buildings with the public sewers, and the number of permits to repair or relay old house connections. Also, the amount of money received for connecting with sewers and drains, and for repaving over sewer connections, and for repaving new pavement taken up by gas companies, subways, electric light companies, vaults, gutter bridges, guy posts, etc., for the year 1891:

Permits for new sewer connections.....	1,017
Permits for repairing old connections.....	1,107
Number of buildings in the above.....	3,685

Amount received for sewer connections.....	\$30,167 72
Amount received for repairing connections.....	33,954 61

Total.....\$64,122 33

The force of draughtsmen engaged in this office have made during the year 22 filed plans, 81 contract plans, 81 assessment lists, containing 261 sheets, showing 10,090 separate pieces of property. In addition to the above, the new general plan of the sewerage system of the city, which has been in preparation for the past two years, has been completed. It comprises 8 large sheets, and contains a vast amount of information never before put on paper.

This was obtained by an actual underground examination of the sewer system, and many things, which have heretofore been matters of tradition or dependent only upon the recollection of old residents, have been settled and put in shape for easy reference.

The Inspector of Cement reports that he has examined in all 1,826 specimens, out of which 90 were rejected as being below the standard, distributed as follows:

Bureau of Water Purveyor.....	1,367
Office of Engineer in charge of Sewers.....	443
Bureau of Repairs and Supplies.....	14
Bureau of Street Improvements.....	2
	<hr/> 1,826

These tests show generally that a high grade of cement is being manufactured, and that our standard could be raised to 75 pounds per square inch on the short test for Rosendale, with confidence that cement of this quality could easily be obtained.

During the past season the party detailed for preliminary examination of rock to be excavated under sewer contracts, have tested by boring 17,507 linear feet of such work, and on the basis of their reports 24,245 cubic yards of rock have been estimated.

The appropriation was exhausted about the middle of December and the men discharged.

This work should be resumed in a short time to prepare for contracts which will be let as soon as next season opens.

In concluding this report, I record my satisfaction with the faithful services rendered by the Assistant Engineers, Clerks and other employees of this office during the year.

Respectfully submitted,

HORACE LOOMIS, Engineer in Charge of Sewers.

#### DURING THE YEAR THE FOLLOWING REPAIRS HAVE BEEN MADE ON SEWERS.

Seventy-first street, at Third avenue.  
Forty-fifth street, at outlet, East river.  
Twentieth street, between Avenue A and First avenue.  
One Hundred and Thirty-fifth street, at Fifth avenue.  
Second street, between Houston street and Avenue C.  
Rivington street, between Goerck and Columbia streets. This contract has been let but not ordered on.

The following basins have been repaired, the old heads being replaced by new granite ones, and where the basins were found untrapped the new iron traps were put in:

Southwest corner of Goerck and Broome streets.  
Northeast corner of Thompson and Houston streets.  
Northeast corner of Spring and Sullivan streets.  
Northwest corner of Spring and Sullivan streets.  
Northwest corner of Broome and Thompson streets.  
Southwest corner of Broome and Thompson streets.  
Southwest corner of Broome and Columbia streets.  
Southwest corner of Avenue D and Sixteenth street.  
Northwest corner of Avenue D and Sixteenth street.  
Northeast corner of Avenue C and Sixteenth street.  
Northwest corner of Avenue C and Ninth street.  
Northwest corner of Avenue B and Tenth street.  
Northeast corner of Avenue C and Tenth street.  
Southeast corner of Avenue C and Fourteenth street.  
Southwest corner of Avenue C and Fourteenth street.  
Southwest corner of Avenue C and Fifteenth street.

Permits have been issued during the year for the following:

Alteration to receiving-basin southeast corner Twenty-seventh street and Madison avenue.  
New manhole on sewer in Tenth avenue, north of Thirtieth street, and receiving-basin southeast corner of Thirtieth street and Tenth avenue.  
Receiving-basin, northwest corner of Greene and Houston streets.  
New culvert for basin, southeast corner of Vesey and Church streets.  
New culvert for basin, Union Square and Fourteenth street.  
Remove three old and rebuild three new basins on northeast, northwest and southwest corners of Fifth avenue and One Hundred and Tenth street.  
Take up existing and build new sewers in Houston street at Broadway, and in Broadway, between Houston and Bleecker streets.  
New 15-inch pipe drain from basins, etc., Post Office Building.

#### WORK DONE BY LABORERS, MECHANICS, ETC., FOR YEAR ENDING DECEMBER 31, 1891.

1,614 receiving-basins relieved.  
4,969 receiving-basins and culverts cleaned.  
72,297 linear feet of sewer cleaned.  
3,525 linear feet of sewer relieved.  
1,015,472 linear feet of sewer examined.  
52 linear feet of brick sewer built.  
32 linear feet of box sewer built.  
24 linear feet of box sewer repaired.  
324 linear feet of brick sewer repaired.  
227 linear feet of brick sewer rebuilt.  
43 linear feet of culvert rebuilt.  
57 linear feet of new pipe sewer laid.  
344 linear feet of new pipe culvert laid.  
60 linear feet of new spur pipe laid.  
257 linear feet of new curb set.  
40 linear feet of curb reset.  
729 manhole-heads reset.  
32 basin-heads reset.  
114 basins repaired.  
35 manholes repaired.  
1 new bulkhead built.  
2 new manholes built.  
3 new basins built.  
2 new road boxes built.  
202 new manhole-heads and covers put on.  
45 new basin-heads and covers put on.  
71 new basin covers put on.  
133 new manhole covers put on.  
16 steam pipes plugged.  
4,625 cubic feet of brickwork built.  
1,455 square feet of flagging relaid.  
1,531 square yards of pavement relaid.  
14 square yards of concrete relaid.  
20,400 cubic feet of earth excavated and refilled.  
16,532 cart-loads of dirt removed.  
101 cart-loads of earth filling.



Contracts Completed During the Year 1891.

LOCATION OF WORK.	BRICK SEWERS.										PIPE SEWERS.		WOODEN BAR SEWER.		Culvert.	Basins.	Rock Excavation.	18" Pipe Sewer.	TOTAL COST.
	2' 6" x 2' 6"	3' x 2'	3' 6" x 2'	3' 6" x 2' 4"	3' 6" x 2' 8"	4' x 2' 8"	5' x 3' 6"	3 cir.	4 cir.	Tiles Laid.	12"	15"	3' cir.	4' cir.					
New Sewers.																			
Seventy-seventh street, between Boulevard and Amsterdam avenue												273					360		\$3,266 73
Ninety-ninth street, between Madison and Fifth avenues												341			26	1			1,993 04
Ninety-ninth street, between Boulevard and West End avenue			30									196			15	1			1,647 82
First avenue, between Forty-fifth and Forty-sixth streets												201½					642		4,959 90
Bridge street, between Broad and Whitehall streets		322½																	3,339 92
Madison avenue, between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth streets		215½																	2,741 47
Sixty-third street, between Amsterdam and Columbus avenues											39				60	1			947 92
Fifty-second street, between Hudson river and Eleventh avenue			600						303								1,795		13,077 50
One Hundred and Second street, between Boulevard and West End avenue			29									240					713		4,656 00
One Hundred and Fourth street, between Harlem river and First avenue			68½																7,213 23
Twenty-eighth street, between East river and First avenue											150								2,805 39
South street, between Broad and Whitehall streets, connecting with sewer in Whitehall street, and in Moore street, between South and Water streets, etc.		408									575				9				21,760 97
Eighty-second street, between Boulevard and Amsterdam avenue			28									292					625		5,076 25
Tenth avenue, west side, between a point 316 feet north of One Hundred and Seventy-eighth street, and a point about 10 feet north of One Hundred and Ninetieth street				1,427			1,435								47	5	6,358		41,007 02
West street, between Jay and Desbrosses streets, connecting with sewer to be constructed by Department of Docks through Pier 30, and alterations in Watts, Desbrosses, Vestry streets, etc.							1,552½	1,337 60	56			34			329	8			51,331 98
Twelfth avenue, east side, between Thirty-fifth and Thirty-seventh streets, with outlet through pier at Thirty-sixth street, North river, and connections to sewers in Thirty-sixth and Thirty-seventh streets					340		368			185				530	73	4			19,915 44
Park avenue, west side, between Ninety-second and Ninety-third streets, and improvement in Ninety-second street, between Park and Madison avenues												336				2	426		4,113 37
Ninetieth street, between Avenue A and Second avenue			1,205												39		1,620		14,515 74
Park avenue, east side, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets												239½							992 15
Ninety-first street, between Tenth avenue and summit east												632					2,070		12,851 31
First avenue, between Forty-fourth and Forty-fifth streets												214½					256½		3,583 83
One Hundred and First street, between Park and Madison avenues												373			15	1			1,851 50
One Hundred and Second street, between Park and Madison avenues												370			15	1			2,422 67
Fifth avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets, and in One Hundred and Thirty-seventh street, between Fifth and Sixth avenues, with alteration in Fifth avenue, between One Hundred and Thirty-fifth and One Hundred and Thirty-sixth streets		851½					270½								46	2			12,878 14
Seventy-ninth street, between Boulevard and Amsterdam avenue			350														240		3,493 02
Rivington street (outlet), at East river												295		220	6				9,237 24
Ninety-fifth street, between Harlem river and First avenue												481							10,693 05
West street, between Dey and Murray streets, with outlet through Pier 14, North river, and alteration in Dey, Fulton, etc., streets							1,239			1,005					130	1			40,710 20
Boulevard, east side, between One Hundred and Twelfth and One Hundred and Thirteenth streets, and One Hundred and Thirteenth street, between Boulevard and Amsterdam avenue																			
Seventy-first street, between Boulevard (Sherman Square) and summit west												1,020			71	2			13,318 78
Amsterdam (Tenth) avenue, east side, between One Hundred and Thirty-eighth and One Hundred and Forty-first streets, connecting with sewer in One Hundred and Forty-first street												288					553		4,449 68
Edgecombe avenue, between One Hundred and Thirty-ninth and One Hundred and Fortieth streets, etc.			364									468					1,453		9,447 34
Astor place, between Broadway and Lafayette place												299					154½		1,842 66
Amsterdam (Tenth) avenue, east side, between One Hundred and Thirty-first street and a point 180 feet north of One Hundred and Thirty-third street		730													37	2	1,654		12,045 78
One Hundred and Fortieth street, between Hamilton place and Amsterdam avenue, and in Amsterdam avenue, west side, between One Hundred and Fortieth and One Hundred and Thirty-eighth streets			475									438			18	1	1,685		11,865 12
West street, between Carlisle and Dey streets, with outlet through Pier 13, North river, and alteration and improvement to sewers in Albany, Cedar, Liberty and Cortlandt streets						1,635							646		124				35,696 16
First avenue, between Ninetieth and Ninety-first streets		195													38	2	461		3,394 16
One Hundred and Nineteenth street, between Avenue St. Nicholas and Eighth avenue, etc.			166									165½			35	2			2,215 82
One Hundred and Sixty-ninth street, between Amsterdam and Eleventh avenues			726												32		473		6,501 10
One Hundred and Third street, between Harlem river and First avenue			605½																5,606 35
One Hundred and Twenty-second street, between Manhattan avenue and Avenue St. Nicholas												172							778 51
Convent avenue, between manhole south of One Hundred and Thirty-fifth street and One Hundred and Thirty-fifth street, One Hundred and Thirty-fifth street, between Convent and Amsterdam avenues, and in Amsterdam avenue, east side, between One Hundred and Thirty-fifth and One Hundred and Thirty-eighth streets			622									680			90	2	1,900		14,221 27
Seventy-sixth street, between Boulevard and Amsterdam avenue				30								158					28		1,076 26
Sixty-eighth street, between Fifth and Madison avenues		49															10		658 19
Sixty-fourth street, between property of New York Central and Hudson River Railroad Co. and Eleventh avenue												77			9	1	80		1,419 24
South street, between Roosevelt street and Pike Slip, with outlet through Pier 29, East river, and alteration to sewers in James Slip, Oliver street, Catharine street and Market Slip			728			160		30	1,155				776		152	1		47	44,850 97
One Hundred and Second street, between Boulevard and Amsterdam avenue				27								196					114		1,425 53
Total		2,937½	8,224	397	1,635	5,024½	1,397	333	3,902		39	7,695	1,422	750	1,416	40	23,581	47	\$475,927 37
Alteration and Improvement to Sewers.																			
Fourth (Park) avenue (west side), between Seventy-first and Seventy-third streets and in Seventy-second street, between Park and Madison avenues			244												33	1	261		\$4,749 44
Ludlow street, between Delancey and Broome streets			331												12	1			3,518 43
Eighth avenue, west side, between One Hundred and Twenty-fourth and One Hundred and Thirty-seventh streets, and connections with present sewers in One Hundred and Twenty-sixth, One Hundred and Twenty-seventh, One Hundred and Twenty-eighth, One Hundred and Thirty-third, One Hundred and Thirty-fourth, One Hundred and Thirty-fifth and One Hundred and Thirty-sixth streets		169	1,837½	1,013		536½									33				35,580 08
Mercer street, between Canal and Grand streets						520													5,525 54
Essex street, between Delancey and Broome streets			314																2,946 30
Fifty-fifth street, between Eighth and Ninth avenues			875														227		7,771 76
South Fifth avenue, between Canal and Broome streets, with overflow at junction of Broome street, etc.	450		157			260									48				9,920 36
Sullivan street, between Canal and Broome streets; in Broome street, between Sullivan and Thompson streets, and in Thompson streets, between Broome and Spring streets						535		792		6					138				18,826 50
Ninth street, between Avenue C and Avenue D				689											12	1			4,106 72
Fifth avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets (included in contract for sewer in Fifth avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets, and in One Hundred and Thirty-seventh street, between Fifth and Sixth avenues)						285													2,107 50
Total	450	169	3,758½	1,702		2,163½		792		6					276	3	488		\$95,452 63
Repairs to Sewer.																			
Twentieth street, between Avenue A and First avenue										539									\$1,260 75
Recapitulation.																			
Receiving-basins															585	26	42		7,526 10
New sewers		2,937½	8,224	397	1,635	5,024½	1,397	333	3,902		39	7,695	1,422	750	1,416	40	23,581	47	475,927 37
Alteration and improvement to sewers	450	169	3,758½	1,702		2,163½		792		6					276	3	488		95,452 63
Totals	450	3,106½	11,982½	2,099	1,635	7,188½	1,397	333	4,694	539	45	7,695	1,422	750	2,277	69	24,111	47	\$80,166 85



LOCATION OF WORKS.	BASINS.	CULVERTS.	ROCK EXCAVATIONS.	TOTAL COST.	LOCATION OF WORK.	SEWER.		CULVERT, LINEAR FEET.	RECEIVING BASINS.	ESTIMATED COST.
						Size.	Linear Feet.			
Receiving-basin, northwest corner One Hundred and Thirty-first street and Amsterdam avenue.....	1	9	..	\$240 51	First avenue, between Forty-second and Forty-third streets, connecting with present sewer in Forty-third street east of First avenue.....	3' 6" x 2' 15" Pipe.	147 171	..	..	5,037 00
Receiving-basin, southeast corner Ninety-eighth street and First avenue.....	1	45	..	328 82	First avenue, between Forty-third and Forty-fourth streets.....	15" Pipe.	202	..	..	3,399 50
Receiving-basins, northwest and southwest corners One Hundred and Eighth street and Boulevard.....	2	30	..	808 72	Seventy-second street, between Avenue A and 615 feet east of Avenue A.....	3' x 2' 6" House Connection.	670 35	36	1	14,692 00
Receiving-basins, northeast and southeast corners Ninety-sixth street and Boulevard.....	2	33	..	543 05	First avenue, between Eighty-ninth and Ninetieth streets. One Hundredth street, between Third and Park avenues, etc.....	3' x 2' 15" Pipe.	198 105 326	..	..	2,613 00
Receiving-basin, southwest corner One Hundred and Sixteenth street and Fifth avenue.....	1	16½	..	388 23	One Hundred and First street, between Third and Park avenues.....	15" Pipe.	341	..	..	4,154 00
Receiving-basin, northwest corner One Hundred and Forty-sixth street and Eighth avenue.....	1	33	..	300 69	One Hundred and Seventeenth street, between Fifth and Madison avenues.....	3' x 2' 4" Pipe.	405	15	1	3,655 00
Receiving-basin, southeast corner One Hundred and Fifteenth street and Fifth avenue.....	1	14	..	287 07	One Hundred and Twenty-fifth street, between present sewer and bulkhead-wall at One Hundred and Twenty-fifth street and Harlem river.....	4' x 2' 8" Pipe.	250	..	..	6,022 50
Receiving-basin, northeast corner Fifty-fifth street and Avenue A.....	1	44½	39½	458 58	Edgecombe avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.....	3' 6" x 2' 4" Drain Pipe.	2,267 1,600	80	4	2,500 00
Receiving-basins, northeast and southeast corners Fifty-second street and Twelfth avenue.....	2	32	..	520 13	Receiving-basin, southwest corner of One Hundred and Tenth street and Madison avenue.....	..	..	15	1	41,315 00
Receiving-basins, northwest and southwest corners One Hundred and Tenth street and Pleasant avenue.....	2	28½	..	473 64	Alteration and improvement to receiving-basin, northwest corner of Fourteenth street and Avenue C.....	..	..	33	1	211 00
Receiving-basins, southeast and northeast corners One Hundred and Eighth street, and southeast corner One Hundred and Ninth street and First avenue.....	3	108	..	829 57	Repairs to sewer in Second street, between Houston street and Avenue C.....	4' x 3' 12" Pipe.	733	..	..	219 00
Receiving-basin, southwest corner One Hundred and Ninth street and First avenue.....	1	16½	..	241 33	Completed, but not Accepted.	..	..	..	..	4,006 40
Receiving-basin, southwest corner Ninety-ninth street and Third avenue.....	1	6	2½	298 69	Sixty-fifth street, between property of New York Central and Hudson River Railroad Co. and West End avenue.....	16" Iron. 15" Pipe. 2" Pipe.	26 151 ..	6	1	..
Receiving-basins, northeast and southeast corners One Hundred and Twenty-second street and Pleasant avenue.....	2	39	..	448 97	Alteration and improvement in Avenue St. Nicholas, west side, between One Hundred and Forty-eighth and One Hundred and Forty-ninth streets, sewer in One Hundred and Forty-ninth street, between Avenue St. Nicholas and Amsterdam avenue, and in Amsterdam avenue, south side, between One Hundred and Forty-ninth and One Hundred and Fiftieth streets.....	3' 6" x 2' 4" 3' 6" x 2' 4"	237 887	9	..	2,559 50
Receiving-basin, northwest corner Tompkins and Rivington streets.....	1	18	..	260 00	Extension of sewer in Fifty-sixth street, between Hudson river and Eleventh avenue.....	3' Cir.	730	..	..	6,868 05
Catch-basin, northwest and southwest corners One Hundred and Thirteenth street and Amsterdam avenue.....	2	52	..	486 12	Eighty-eighth street, between A and summit east.....	15" Pipe.	375	..	..	7,539 45
Receiving-basin, northeast corner Horatio street and Eighth avenue.....	1	39	..	314 94	Lexington avenue, between Seventy-first and Seventy-second streets.....	15" Pipe.	140	..	..	2,512 50
Receiving-basin, southwest corner Seventy-fifth street and Central Park, West	1	21	..	297 04	Park avenue, east side, between One Hundred and Fifteenth and One Hundred and Sixteenth streets..	12" Pipe.	2 8	..	..	2,056 60
Total.....	26	585	42	\$7,526 10	Total.....	..	23,155	889	9	\$279,862 56

## Recapitulation.

NATURE OF WORK.	NEW.	ALTERATION AND IMPROVEMENT.	REPAIRS.
Linear feet brick sewer, 2' 6" x 2' 6".....	..	450	..
" 3' x 2' .....	2,937½	169	..
" 3' 6" x 2' .....	8,224	3,758½	..
" 3' 6" x 2' 4" .....	397	1,702	..
" 3' 6" x 2' 8" .....	1,635	..	..
" 4' x 2' 8" .....	5,024½	2,165½	..
" 5' x 3' 6" .....	1,397	..	..
" 3' circular.....	333	..	..
" 4' " .....	3,902	792	..
Total.....	23,850	9,935½	..
Linear feet pipe sewer, 12".....	39	6	..
" 15".....	7,695	..	..
" 18".....	47	..	..
Total.....	7,781	6	..
Linear feet wooden barrel sewer, 3' circular.....	1,422	..	..
" 4' " .....	750	..	..
Total.....	2,172	..	..
Linear feet culvert.....	1,416	276	..
" .....	585	..	..
Total.....	2,001	276	..
Receiving-basins.....	66	3	..
Cubic yards rock excavation.....	23,623	..	..
Linear feet of Tiles laid.....	..	..	539

## Contracts Now Under Way.

LOCATION OF WORK.	SEWER.		CULVERT, LINEAR FEET.	RECEIVING BASINS.	ESTIMATED COST.
	Size.	Linear Feet.			
Alteration and improvement to sewer in Thirty-fourth street, between Eleventh and Twelfth avenues; new sewer in Twelfth avenue, between Thirty-fourth and Thirty-fifth streets.....	3' 6" x 2' 4" 4' Cir. 4' x 2' 8" 3' 6" x 2'	805 1,103 1,200 240	15	..	\$8,042 50
South street, between Market Slip and Montgomery street, with outlet through Pier 36, East river, etc.....	6' x 8' 4' x 2' 8" 3' x 2' 18" Pipe.	1,055 465 20	130	3	36,122 00
Alteration and improvement in Eighteenth street, between East river and Avenue A, connecting with outlet to be built by the Dock Department; new sewer in Avenue C, between Sixteenth and Eighteenth streets, etc.....	Overflow. 4' x 3' 4' x 6' 4' x 6' 4' x 2' 8" 3' 6" x 2' 15" Pipe.	20 60 162 457 30 36 320	75	1	27,547 50
Alteration and improvement in Eighteenth street, between North river and Tenth avenue, connecting with outlet built by the Department of Docks.....	4' x 3' 4' x 6' 4' x 2' 8" 3' 6" x 2' 15" Pipe.	60 162 457 30 36 320	75	1	17,363 00
One Hundred and Sixth street, north side, between Eighth and Manhattan avenues.....	3' 6" x 2' 15" Pipe.	993	75	5	3,608 00
Boulevard, west side, and West End avenue, between One Hundred and Fifth and One Hundred and Eighth streets, with curves into One Hundred and Fifth, One Hundred and Sixth and One Hundred and Seventh streets.....	3' 6" x 2' 15" Pipe.	958 748	80	4	16,087 00
One Hundred and Seventieth street, between Tenth avenue and Kingsbridge road, and in Kingsbridge road, between One Hundred and Seventieth and One Hundred and Seventy-third streets.....	3' 6" x 2' 15" Pipe.	821	10	2	17,686 50
Amsterdam (Tenth) avenue, west side, between One Hundred and Thirty-third street and a point 50 feet south of centre line of One Hundred and Thirty-sixth street.....	3' 6" x 2' 15" Pipe.	221 758	20	..	14,534 65
One Hundred and Sixteenth street, between Amsterdam and Morningside avenues, West, connecting with present sewers in said avenues.....	3' 6" x 2' 15" Pipe.	415 207 35	40	2	12,180 00
One Hundred and Fifteenth street, between Riverside avenue and Boulevard, with curves into Boulevard.....	3' 6" x 2' 15" Pipe.	1,062	60	2	3,938 40
One Hundred and Twenty-second street, between Boulevard and Claremont avenue, and in Claremont avenue, between One Hundred and Nineteenth and One Hundred and Twenty-second streets.....	3' 6" x 2' 15" Pipe.	36 345	..	..	9,577 00
One Hundred and Eighty-fifth street, between Amsterdam and Audubon avenues.....	3' 6" x 2' 15" Pipe.	..	..	..	3,057 00

## Document "H."

## REPORT OF THE SUPERINTENDENT OF STREET IMPROVEMENTS.

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF STREET IMPROVEMENTS, ROOM 5, NO. 31 CHAMBERS STREET,  
NEW YORK, January 7, 1891.

Hon. THOS. F. GILROY, Commissioner of Public Works:

SIR—In compliance with your instructions, I have the honor to herewith submit my report of the operations of the Bureau of Street Improvements for the three months of October, November and December, 1891, also for the year 1891:

During the year 107 contracts have been completed at a cost of \$615,694.57, and for which assessment lists have been transmitted to the Chief Clerk's office.

The most important contracts completed during the year are the following:

One Hundred and Thirty-ninth street, from Tenth avenue to Boulevard, West.  
One Hundred and Twentieth street, from Morningside avenue to Broadway Boulevard.  
One Hundred and Forty-third street, from Seventh avenue to Harlem river.  
One Hundred and Forty-ninth street, from Tenth avenue to Western Boulevard.  
One Hundred and Forty-second street, from Seventh avenue to Harlem river.  
Edgecombe avenue, from One Hundred and Forty-fifth street to St. Nicholas place.  
Jumel Terrace, from One Hundred and Sixtieth to One Hundred and Sixty-second street.  
Kingsbridge road, from One Hundred and Ninetieth street to Harlem river.

## WORKS UNDER CONTRACT.

Claremont avenue, from One Hundred and Twenty-second to One Hundred and Twenty-seventh street—  
This is a very large rock cut; the contractor is working with a large force; the same will be completed about August.

Dyckman street, Hudson river to Exterior street—  
This large contract is in active progress and will require a long time to complete it.

F street, Dyckman street to Bolton road—  
This work is progressing very rapidly and will be completed early in the spring.

Amsterdam avenue, One Hundred and Ninety-fourth street to Fort George avenue—  
This work is so far advanced that the grading will be completed this month.

One Hundred and Sixth street, Boulevard to Riverside Drive—  
This was an abandoned contract, and since it has been relet the work has been prosecuted in a vigorous manner, and will be finished early in the spring.

One Hundred and Eighteenth street, Morningside avenue to Amsterdam avenue—  
Good progress has been made on this contract, and it is being done in a satisfactory manner; it will be completed this summer.

One Hundred and Twenty-third street, Tenth avenue to Boulevard—  
This work, which is mainly rock cutting, has well progressed during the year, and will be finished in July.

One Hundred and Twenty-fourth street, Boulevard to Amsterdam avenue—  
This is also a heavy rock cut and filling job, and will take this year to complete it.

One Hundred and Twenty-seventh street, St. Nicholas avenue to Lawrence street—  
The grading of this street is done; all that is necessary to complete same is the laying of the flagging, which cannot take place until spring.

One Hundred and Thirty-second street, Boulevard to Twelfth avenue.

One Hundred and Thirty-eighth street, Fifth avenue to Lenox avenue.

One Hundred and Forty-first street, Seventh avenue to Harlem river.

One Hundred and Forty-eighth street, Boulevard to Twelfth avenue—

These works consist entirely of filling, and are progressing in a satisfactory manner; they will be completed by the end of the year.

One Hundred and Forty-seventh street, Boulevard to 500 feet west—

This work will be finished this month.

One Hundred and Forty-ninth street, Boulevard to Twelfth avenue—

This work has been ordered to commence on January 1, 1892.

One Hundred and Sixty-fifth street, Eleventh avenue to Boulevard—

This was a large rock cut; the excavation is almost completed, and the grading of the street will take all this month.

One Hundred and Eighty-third street, Amsterdam avenue to Kingsbridge road—

The work on this street is progressing satisfactorily and will be completed early in the spring.



## Fifty-first street, east of Beekman place—

This is the work of building a retaining-wall with steps. The contractor is now working satisfactorily and, weather permitting, the work will be completed this month.

## APPROPRIATIONS.

## Street Improvements—For Surveying, Monumenting, etc.

The appropriation for this purpose amounted to \$3,000, of which sum \$2,444.50 has been expended, leaving a balance of \$555.50 unexpended.

## Flagging Sidewalks and Fencing Vacant Lots in Front of City Property.

The amount originally appropriated for this purpose was \$2,000, but as the year progressed it was found that it was necessary to do the work of repairing the sidewalks around Clinton and Essex markets, and the Corporation Yard, foot of Rivington street; as the original amount was insufficient to pay for this work, the sum of \$3,699.31 was transferred to this appropriation, making the total amount \$5,699.31; in my opinion this entire appropriation will be used to pay for these works.

Respectfully submitted,

W. M. DEAN, Superintendent of Street Improvements.

## STATEMENT OF AMOUNT OF WORK DONE DURING THE QUARTER ENDING DECEMBER 31, 1891.

Earth excavated .....	cubic yards.	13,321
Rock excavated .....	"	33,280
Filling furnished .....	"	39,887
Curb-stones set .....	lineal feet.	14,736
" reset .....	"	3,879
Flagging laid .....	square feet.	128,260
" relaid .....	"	12,432
Picket fence built .....	lineal feet.	1,514
Cast-iron frames set .....	"	1
Culvert built .....	lineal feet.	46

## AMOUNT OF VOUCHERS DRAWN.

Street Improvement Fund .....	\$107,065 23
Street Improvements—For Surveying, etc. ....	637 50
Flagging Sidewalks, etc., in front of City Property .....	155 00
Contingencies—Department of Public Works .....	353 08
Retaining-walls in East Fifty-first and East Forty-second Streets .....	308 00

Total .....

## APPROPRIATIONS.

Street Improvements—For Surveying, Monumenting, etc. ....	\$3,000 00
Amount of vouchers drawn during first quarter .....	\$577 50
Amount of vouchers drawn during second quarter .....	585 00
Amount of vouchers drawn during third quarter .....	644 50
Amount of vouchers drawn during fourth quarter .....	637 50
Balance (estimated) .....	555 50

Flagging Sidewalks, etc., in front of City Property .....	\$5,699 31
Amount of vouchers drawn during third quarter .....	\$266 05
Amount of vouchers drawn during fourth quarter .....	155 00
Outstanding liabilities (estimated) .....	5,278 26

Contingencies—Department of Public Works—	
Amount of voucher drawn during quarter .....	\$353 08

Retaining-walls in East Fifty-first and East Forty-second Streets—	
Amount of vouchers drawn during quarter .....	\$308 00

## WORKS COMPLETED DURING QUARTER ENDING DECEMBER 31, 1891.

Regulating, Grading, etc.—	
One Hundred and Forty-ninth street, from Tenth avenue to Western Boulevard .....	\$17,011 81
One Hundred and Twenty-seventh street, from Boulevard to Riverside Drive .....	3,359 88
One Hundred and Forty-third street, from Seventh avenue to Harlem river .....	13,462 38
One Hundred and Ninth street, from Manhattan to Columbus avenue .....	6,110 53
One Hundred and Twentieth street, from Morningside avenue to Broadway Boulevard .....	13,249 33
One Hundred and Fortieth street, from Amsterdam to Convent avenue .....	2,711 90
One Hundred and Ninetieth street, from Amsterdam to Audubon avenue .....	2,826 22
One Hundred and Thirty-third street, from Amsterdam to Convent avenue .....	2,586 72
One Hundred and Forty-second street, from Seventh avenue to Harlem river .....	12,011 03
One Hundred and Twenty-first street, from Amsterdam to Morningside avenue .....	6,666 57
One Hundred and Nineteenth street, from Morningside to Amsterdam avenue .....	6,431 79
Kingsbridge road, from One Hundred and Ninetieth street to Harlem river .....	226,889 38
Flagging, Curbing, etc.—	
North side Eleventh street and south side Twelfth street, from Second to Third avenue .....	\$54 18
South side One Hundred and Thirteenth street, from Eighth to Manhattan avenue .....	225 90
North side One Hundred and Twenty-fifth street, from west of Seventh avenue, etc. ....	955 26
South side Rivington street, from Mangin to East street .....	704 39
East side Park avenue, from One Hundred and Seventeenth to One Hundred and Eighteenth street .....	511 83
Seventy-fifth and Seventy-sixth streets, from Columbus avenue to Central Park, West .....	2,492 56
North side One Hundred and Third street, from Central Park, West, to Columbus avenue .....	1,484 86
One Hundred and Thirty-fifth street, from Amsterdam to Convent avenue .....	1,360 47
Northwest and southwest corners of One Hundred and Twenty-second street and Mount Morris avenue .....	327 39
South side One Hundred and Twentieth street, from Madison to Lenox avenue .....	1,580 31
Southwest corner Thirty-second street and Sixth avenue .....	309 37
One Hundred and Twenty-fifth street, from Eighth to Columbus avenue .....	1,482 12
Madison avenue, from Seventy-first to Seventy-second street .....	276 83
East side Amsterdam avenue, north of Seventy-second street .....	37 44
South side Rivington street, from Norfolk to Suffolk street .....	610 67
East side Fifth avenue, from Eighty-sixth to Ninety-first street .....	1,947 08
North side Eighty-sixth street, from Madison to Fifth avenue .....	979 65
West side Tompkins street, from Broome to Delancey street .....	405 54
Fencing Vacant Lots—	
South side One Hundred and Forty-fourth street, from Eighth to Bradhurst avenue .....	\$53 04
North side Ninety-second street, from Central Park, West, to Columbus avenue .....	143 66
Northeast corner Eighty-sixth street and Fifth avenue .....	74 92

## Fencing Vacant Lots—

North side Ninety-eighth street, from Columbus to Amsterdam avenue .....	\$106 67
Southwest corner Eighty-first street and Amsterdam avenue .....	108 95
One Hundred and Seventh street, from Park to Madison avenue .....	203 39
North side Ninetieth street, from Park to Madison avenue .....	19 34
Eighty-ninth and Ninetieth street, from Madison to Fifth avenue .....	66 98
Total .....	\$776 95
Total .....	\$329,840 34

## RECAPITULATION.

12 Contracts for regulating, grading, etc. ....	\$313,317 54
18 Contracts for flagging, curbing, etc. ....	15,745 85
8 Contracts for fencing vacant lots .....	776 95
38 Contracts .....	\$329,840 34

## Statement of Work During the Year 1891.

NATURE OF WORK.	JANUARY 1 TO MARCH 31.	APRIL 1 TO JUNE 30.	JULY 1 TO SEPTEMBER 30.	OCTOBER 1 TO DECEMBER 31.	TOTAL.
Earth excavated, cubic yards .....	6,185	10,100	8,326	13,321	37,932
Rock excavated, cubic yards .....	9,226	14,778	25,169	33,280	82,653
Filling furnished, cubic yards .....	21,215	69,751	51,182	39,887	181,835
Curb-stones set, lineal feet .....	7,496	5,040	8,629	14,736	35,295
Curb-stones reset .....	778	2,045	3,169	3,879	9,871
Flagging laid, square feet .....	44,554	29,063	56,006	128,260	257,883
Flagging relaid, square feet .....	7,367	2,014	11,862	12,432	33,705
Picket fence, lineal feet .....	3,821	1,566	3,830	1,514	10,731
Rubble masonry, cubic yards .....		482			482
Iron fence, lineal feet .....		1,510	384		1,894
Culverts built, lineal feet .....				46	46
New blue stone steps set .....		5			5
Old blue stone steps reset .....		28			28
Cast-iron frames .....	4			1	5

## Amount of Vouchers Drawn.

ON ACCOUNT OF.	JANUARY 1 TO MARCH 31.	APRIL 1 TO JUNE 30.	JULY 1 TO SEPTEMBER 30.	OCTOBER 1 TO DECEMBER 31.	TOTAL.
Local Improvement Fund .....	\$1,548 47				\$1,548 47
Street Improvement Fund .....	95,066 78	\$51,384 93	\$60,993 15	\$167,003 23	374,712 14
Street Improvements—For surveying, etc. ....	577 50	575 00	644 50	37 50	2,444 50
Flagging, etc., in front of city property .....			266 05	155 00	421 05
Contingencies—Department of Public Works .....	270 00	283 35	310 85	353 08	1,217 28
Retaining-walls in East Fifty-first street, etc. ....	292 00	2,470 80	316 00	3 80	3,386 80
Boring Examination for Grading, etc. ....	551 00				551 00
Total .....	\$98,305 75	\$54,924 13	\$122,332 55	\$168,512 81	\$384,281 24

## Work Completed during the Year 1891.

Regulating, Grading, etc.—	
One Hundred and Fortieth street, from Seventh to Eighth avenue .....	\$3,800 79
One Hundred and Thirty-ninth street, from Tenth avenue to Boulevard, West .....	11,004 75
Edgecombe avenue, from One Hundred and Forty-fifth street to St. Nicholas place .....	177,306 97
One Hundred and Forty-ninth street, from St. Nicholas avenue to Boulevard .....	4,358 51
Fifth avenue, from One Hundred and Thirty-eighth street to Harlem river .....	21,318 57
One Hundred and Forty-eighth street, from Seventh avenue to Harlem river .....	2,527 65
One Hundred and Eleventh street, from Eighth to Manhattan avenue .....	1,565 84
Ninety-ninth street, from Third to Park avenue .....	8,493 97
One Hundred and Third street, from First avenue to East river .....	1,871 56
One Hundred and Eleventh street, from Fifth to Sixth avenue .....	2,078 16
One Hundred and Forty-sixth street, from Boulevard to Hudson River Railroad .....	7,933 82
Jumel Terrace, from One Hundred and Sixtieth to One Hundred and Sixty-second street .....	8,066 80
One Hundred and Forty-second street, from Boulevard to Twelfth avenue .....	4,670 84
One Hundred and Forty-ninth street, from Tenth avenue to Western Boulevard .....	17,011 81
One Hundred and Twenty-seventh street, from Boulevard to Riverside Drive .....	3,359 88
One Hundred and Forty-third street, from Seventh avenue to Harlem river .....	13,462 38
One Hundred and Ninth street, from Manhattan to Columbus avenue .....	6,110 53
One Hundred and Twentieth street, from Morningside avenue to Broadway Boulevard .....	13,249 33
One Hundred and Fortieth street, from Amsterdam to Convent avenue .....	2,711 90
One Hundred and Ninetieth street, from Amsterdam to Audubon avenue .....	2,826 22
One Hundred and Thirty-third street, from Amsterdam to Convent avenue .....	2,586 72
One Hundred and Forty-second street, from Seventh avenue to Harlem river .....	12,011 03
One Hundred and Twenty-first street, from Amsterdam to Morningside avenue .....	6,666 57
One Hundred and Nineteenth street, from Morningside to Amsterdam avenue .....	7,431 79
Kingsbridge road, from One Hundred and Ninetieth street to Harlem river .....	226,889 38
Flagging, Curbing, etc.—	
Northeast corner Park avenue and One Hundred and Twentieth street .....	\$382 56
East side Park avenue, from One Hundred and Fifteenth to One Hundred and Sixteenth street .....	1,138 25
South side Sixty-ninth street, from Second to Third avenue .....	627 64
East side Third avenue, from Ninety-second to Ninety-third street .....	1,085 55



Flagging, Curbing, etc.—

North side One Hundred and Thirty-second street, from Seventh to Eighth avenue.....	\$434 27
South side Fifty-ninth street, from Seventh avenue to Broadway....	578 80
Nos. 805, 807, 809 and 811 First avenue.....	379 36
Seventy-seventh street, from Boulevard to West End avenue.....	386 70
East side West End avenue and west Southern Boulevard, Seventy-sixth to Seventy-seventh street.....	253 01
South side Fifty-first street, from Eleventh to Twelfth avenue.....	1,711 34
One Hundred and Forty-second street, from Amsterdam avenue to Hamilton place.....	518 41
South side One Hundred and Thirteenth street, from Fifth to Madison avenue.....	244 59
One Hundred and Twenty-second street, from Manhattan to Columbus avenue.....	284 40
South side Sixtieth street, 100 feet east of Eleventh avenue.....	300 77
Nos. 7 and 9 Abingdon Square.....	194 22
Nos. 10, 12 and 14 West Fifty-sixth street.....	92 90
Thirty-second street, from Lexington to Fourth avenue.....	1,698 75
Seventy-seventh street, from Avenue A to East river.....	1,136 17
North side One Hundred and Tenth street, from Seventh to Eighth avenue.....	432 90
South side One Hundred and First street, from Ninth to Tenth avenue.....	983 25
Seventy-ninth street, from Amsterdam avenue to Boulevard.....	1,188 14
South side One Hundred and Thirty-first street, from Amsterdam avenue to Western Boulevard.....	1,065 41
South side Fifty-ninth street, west of Grand Circle.....	100 88
West side Amsterdam avenue, from One Hundred and First to One Hundred and Second street.....	257 79
One Hundred and Seventeenth street, from St. Nicholas to Seventh avenue.....	331 47
West side Church street, from Vesey to Fulton street.....	314 63
North side Seventy-third street, from First to Second avenue.....	234 62
South side Sixty-sixth street, from Columbus to Amsterdam avenue.....	277 27
East side Fifth avenue, from One Hundred and Sixteenth to One Hundred and Seventeenth street.....	165 39
South side One Hundred and Thirty-first street, from Fifth to Lenox avenue.....	380 01
One Hundred and Twenty-ninth street, from Lexington to Park avenue.....	1,270 14
North side Eighth street, east of Broadway.....	172 25
Northwest corner One Hundred and Twentieth street and Seventh avenue.....	369 00
North side Eleventh street and south side Twelfth street, from Second to Third avenue.....	54 18
South side One Hundred and Thirteenth street, from Eighth to Manhattan avenue.....	225 90
North side One Hundred and Twenty-fifth street, west of Seventh avenue.....	955 26
South side Rivington street, from Mangin to East street.....	704 39
East side Park avenue, from One Hundred and Seventeenth to One Hundred and Eighteenth street.....	511 83
Seventy-fifth and Seventy-sixth streets, Columbus avenue to Central Park, West.....	2,492 56
North side One Hundred and Third street, Central Park, West, to Columbus avenue.....	1,484 86
One Hundred and Thirty-fifth street, from Amsterdam to Convent avenue.....	1,360 47
Northwest and southwest corners of One Hundred and Twenty-second street and Mount Morris avenue.....	327 39
South side One Hundred and Twentieth street, from Madison to Lenox avenue.....	1,580 31
Southwest corner Thirty-second street and Sixth avenue.....	309 37
One Hundred and Twenty-fifth street, from Eighth to Columbus avenue.....	1,482 12
Madison avenue, from Seventy-first to Seventy-second street.....	276 83
East side Amsterdam avenue, north of Seventy-second street.....	37 44

Flagging, Curbing, etc.—

South side Rivington street, from Norfolk to Suffolk street.....	\$610 67
East side Fifth avenue, from Eighty-sixth to Ninety-first street.....	1,947 08
North side Eighty-sixth street, from Madison to Fifth avenue.....	979 65
West side Tompkins street, from Broome to Delancey street.....	405 54
\$34,736 69	
Fencing vacant lots, etc.—	
Northeast and northwest corners Madison avenue and One Hundred and Eighth street.....	\$172 47
South side Ninety-fifth street, west of Columbus avenue.....	88 67
One Hundred and Fifth and One Hundred and Sixth streets, Madison and Park avenues.....	437 13
Southeast corner Eighty-eighth street and Columbus avenue.....	141 27
South side One Hundred and Thirty-fifth street, from Park to Lenox avenue.....	543 57
North side One Hundred and Seventeenth street, from Park to Madison avenue.....	158 47
South side Ninety-ninth street, 100 feet east of Ninth avenue.....	120 53
Southeast corner Seventy-second street and Madison avenue.....	143 45
One Hundred and Nineteenth and One Hundred and Twentieth streets, from Madison to Park avenue.....	242 70
Northwest corner of Eighth avenue and Seventy-fourth street.....	92 03
South side One Hundred and Eleventh street, from Fifth to Madison avenue.....	81 73
North side Ninety-ninth street, from Eighth to Ninth avenue.....	39 75
Eighty-eighth street, from Central Park, West, to Riverside Drive.....	802 49
One Hundred and Second street, from Columbus to Amsterdam avenue.....	105 77
Eighty-fifth and Eighty-sixth streets, from Boulevard to West End avenue.....	292 91
One Hundred and Twenty-first and One Hundred and Twenty-second streets, from St. Nicholas to Manhattan avenue.....	234 25
South side One Hundred and Nineteenth street, from Fifth to Lenox avenue.....	220 95
South side One Hundred and Seventh street, from Park to Madison avenue.....	492 51
One Hundred and Third and One Hundred and Fourth streets, from Central Park, West, to Manhattan avenue.....	583 70
Northwest corner of Avenue B and Eighty-first street.....	98 31
South side Seventy-seventh street and Columbus avenue.....	144 77
One Hundred and Fourth and One Hundred and Fifth streets, from Fifth to Madison avenue.....	380 03
South side One Hundred and Forty-fourth street, from Eighth to Bradhurst avenue.....	53 04
North side Ninety-second street, from Central Park, West, to Columbus avenue.....	143 66
Northeast corner Eighty-sixth street and Fifth avenue.....	74 92
North side Ninety-eighth street, from Columbus to Amsterdam avenue.....	106 67
Southwest corner Eighty-first street and Amsterdam avenue.....	108 95
One Hundred and Seventh street, from Park to Madison avenue.....	203 39
North side Ninetieth street, from Park to Madison avenue.....	10 34
Eighty-ninth and Ninetieth streets, Madison and Fifth avenues.....	66 98

Iron fence built—

East side Edgcombe avenue, from One Hundred and Forty-fifth street to St. Nicholas place.....	6,247 70
Total.....	\$615,694 57

RECAPITULATION.

25 contracts for regulating, grading, etc.....	\$568,315 77
51 contracts for flagging, curbing, etc.....	34,736 69
30 contracts for fencing vacant lots.....	6,394 41
1 contract for iron fence.....	6,247 70
107 contracts.....	Total..... \$615,694 57

Statement Showing Works under Contract in the Bureau of Street Improvements on the 31st day of December, 1891.

LOCATION OF WORK.	CONTRACTOR.	SURVEYOR.	INSPECTOR.	CONTRACT TIME.	ESTIMATED COST.	AMOUNT EARNED.	AMOUNT RETAINED.	AMOUNT PAID.	REMARKS.
<i>Regulating and Grading, etc.</i>									
Claremont avenue, One Hundred and Twenty-second to One Hundred and Twenty-seventh street.....	Benjamin J. Carr, Jr.	Thomas Slator.....	David Simmons.....	200 days.	\$17,368 88	\$13,215 00	\$3,964 50	\$9,250 50	
Dyckman street, Hudson river to Exterior street.....	William E. Dean.....	R. L. Waters.....	Robt. V. Davis.....	450 "	128,165 57	1,940 00	582 00	1,358 00	
" F " street, Dyckman street to Bolton road.....	Bart. Dunn.....	R. L. Waters.....	John McCue.....	75 "	8,396 21				
Amsterdam avenue, One Hundred and Ninety-fourth street to Fort George avenue.....	George Connolly.....	M. A. Lacy.....	Theophilus Pratt.....	38 "	1,588 75				
One Hundred and Sixth street, Boulevard to Riverside Drive.....	R. McLaughlin.....	R. L. Waters.....	P. H. Sullivan.....	150 "	7,604 95				
One Hundred and Eighteenth street, Morningside to Amsterdam avenue.....	John J. Farley.....	C. J. L. Lynch.....	Wm. J. V. Hart.....	120 "	10,302 54	6,631 87	1,989 56	4,642 31	
One Hundred and Twenty-third street, Tenth avenue to Boulevard.....	M. Fortunato.....	F. E. Towle.....	Bernard Martin.....	200 "	10,815 00	8,443 00	2,532 90	5,910 10	
One Hundred and Twenty-fourth street, Boulevard to Amsterdam avenue.....	William J. Riley.....	F. E. Towle.....	Sylvester Bennett.....	300 "	13,351 34	1,530 00	459 00	1,071 00	
One Hundred and Twenty-seventh street, St. Nicholas avenue to Lawrence street.....	James Slattery.....	G. A. Wheeler.....	Thomas W. Gibbons.....	50 "	3,905 35				
One Hundred and Thirty-second street, Boulevard to Twelfth avenue.....	John J. Hopper.....	G. A. Wheeler.....	Isaac Smith.....	250 "	4,320 00				
One Hundred and Thirty-eighth street, Fifth to Lenox avenue.....	Charles V. Hough.....	J. McI. Smith.....	Charles M. Torpey.....	200 "	5,622 66				
One Hundred and Forty-first street, Seventh avenue to Harlem river.....	Charles V. Hough.....	M. A. Lacy.....	James Kearney.....	200 "	9,490 36	2,441 60	732 48	1,709 12	
One Hundred and Forty-seventh street, Boulevard to 500 feet west.....	Harry Van Zandt.....	Robert J. Dodge.....	Dennis O'Connor.....	170 "	4,595 00				
One Hundred and Forty-eighth street, Boulevard to Twelfth avenue.....	Matthew Baird.....	F. E. Towle.....	Frederick G. Fay.....	200 "	13,883 30				
One Hundred and Forty-ninth street, Boulevard to Twelfth avenue.....	Matthew Baird.....	R. L. Waters.....	Thomas W. Gibbons.....	200 "	15,588 18				
One Hundred and Sixty-fifth street, Eleventh avenue to Boulevard.....	George F. Doak.....	R. L. Waters.....	James L. Brown.....	200 "	23,910 35	19,380 00	5,814 00	13,566 00	Work not yet commenced.
One Hundred and Eighty-third street, Amsterdam avenue to Kingsbridge road.....	B. F. Coleman.....	R. L. Waters.....	John E. Wilson.....	100 "	24,076 25	9,880 00	2,964 00	6,916 00	
East side Avenue A, Seventy-third to Seventy-fourth street, etc.....	Thomas J. Dunn.....	George E. Babcock.....	James H. McGraw.....	24 "	4,039 33				
One Hundred and Sixteenth street, Madison to Eighth avenue.....	A. E. Moran.....	Chas. H. Haswell.....	John McGuire.....	40 "	8,607 70				
Hester street, north side, Clinton to Suffolk street.....	Bart. Dunn.....	George A. Wheeler.....		2 "	480 00				Work completed, but not accepted.
Delancey street, Mangin to East street.....	Bart. Dunn.....	J. A. Briggs.....		4 "	1,962 00				Work completed, but not accepted.
Nineteenth street, Avenue A to First avenue.....	Thomas J. Dunn.....	J. A. Briggs.....		4 "	1,953 40				Work completed, but not accepted.
One Hundred and Fifteenth street, north side, Third to Lexington avenue.....	James Slattery.....	Thomas Slator.....		15 "	587 48				Work not yet commenced.
Tenth avenue, east side, Twenty-ninth to Thirtieth street.....	A. E. Moran.....	J. A. Briggs.....		12 "	1,620 70				Work not yet commenced.
Madison avenue, One Hundred and Thirty-first to One Hundred and Thirty-second street.....	A. E. Moran.....	R. L. Waters.....		4 "	495 26				Work not yet commenced.
<i>Special Contracts.</i>									
Eighty-ninth street, south side, Second to Third avenue.....	Thomas J. Dunn.....	M. Cox.....	John Lawrence.....	4 "	156 50				Work not yet commenced.
Columbus avenue, east side, Niney-third to Ninety-fourth street.....	Thomas J. Dunn.....	F. E. Towle.....	L. A. Russell, Jr.....	2 "	100 00				
One Hundred and Second street, Columbus to Amsterdam avenue.....	Thomas J. Dunn.....	A. P. Hartman.....	David H. Davis.....	4 "	316 78				
Thirty-seventh street, Eighth to Ninth avenue.....	James Slattery.....	F. E. Towle.....		6 "	108 56				Work not yet commenced.
Twenty-sixth street, north side, Twenty-seventh street, south side, Third to Lexington avenue.....	P. Larney.....	G. A. Wheeler.....		2 "	84 00				Work completed, but not accepted.
Nos. 4 and 6 Christopher street.....	P. Larney.....	J. A. Briggs.....		2 "	143 90				Work completed, but not accepted.
No. 419 Pearl street.....	D. McGrath.....	M. Cox.....		4 "	64 15				Work completed, but not accepted.
Eighty-fifth street, northeast corner, and Fifth avenue.....	James Slattery.....	R. J. Dodge.....		10 "	402 00				Work completed, but not accepted.
One Hundred and Fifteenth street, south side, Madison to Fifth avenue..	Thomas J. Dunn.....	R. L. Waters.....		3 "	139 02				Work completed, but not accepted.
<i>In Front of City Property.</i>									
Corporation Yard—Rivington, Mangin and Tompkins streets.....	Thomas J. Dunn.....	H. Mesa.....		10 "	1,604 75				Work completed, but not accepted.
Clinton Market—Spring, Washington, West and Canal streets.....	Thomas J. Dunn.....	H. Mesa.....		7 "	2,701 00				Work completed, but not accepted.
Essex Market—Grand, Essex and Ludlow streets, and Essex Market place	W. J. Ford.....	H. Mesa.....			890 00				
Totals ..					\$329,441 22	\$63,461 47	\$19,038 44	\$44,423 03	







BY WHAT GAS COMPANY.	New Lamps Fitted up.	Lamp-posts Removed.	Lamp-posts Reset.	Lamp-posts Straightened.	Columns Refitted.	Columns Replaced.	Service-pipes Refitted.	Stand-pipes Refitted.
Standard Gas-light Co.....	38	11	18	42	7	101	237	171
Central Gas-light Co.....	224	214	195	195	5	2	50	10
Northern Gas-light Co.....	366	164	157	33	1	6	17	17
Yonkers Gas-light Co.....	61	....	....	162	....	....	....	....
N. Y. and N. J. Globe Gas-light Co.....	2	....	....	....	....	....	....	....
Totals .....	1,273	535	696	1,481	145	1,201	1,322	997

The following table will show the number of new lamps lighted by the several gas and electric-light companies in each of the years from 1884 to 1891, both inclusive :

BY WHAT COMPANY.	NEW LAMPS LIGHTED IN—							
	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.
Consolidated Gas Co., Branch 1 .....	18	23	19	26	12	6	28	19
Consolidated Gas Co., Branch 2 .....	22	50	27	20	17	8	8	18
Consolidated Gas Co., Branch 3 .....	....	....	11	44	26	10	21	16
Consolidated Gas Co., Branch 4 .....	67	159	62	264	181	251	197	110
Consolidated Gas Co., Branch 6 .....	308	312	342	332	230	243	412	405
Equitable Gas-light Co.....	....	7	14	5	....	9	23	14
New York Mutual Gas-light Co.....	5	....	....	1	....	....	1	4
Standard Gas-light Co.....	....	....	....	....	....	....	14	34
Central Gas-light Co.....	134	74	103	89	113	149	50	224
Northern Gas-light Co .....	109	178	72	145	216	77	55	366
Yonkers Gas-light Co .....	2	10	2	91	21	108	....	61
N. Y. and N. J. Globe Gas-light Co .....	....	50	70	....	....	6	12	2
Brush Electric Illuminating Co .....	292	....	1	30	13	....	....	....
United States Illuminating Co .....	227	61	2	....	45	18	....	4
East River Electric-light Co.....	....	....	....	....	408	1	....	....
Mount Morris Electric-light Co.....	....	....	....	....	18	....	....	26
Harlem Lighting Co .....	....	....	....	95	12	....	....	....
North New York Lighting Co .....	....	....	....	26	....	....	....	141
Totals .....	1,184	924	723	1,168	1,317	886	822	1,444

The following statement will show the average number of lamps lighted under the supervision of the Bureau of Lamps and Gas in each of the years from 1884 to 1891, inclusive :

BY WHAT COMPANY.	AVERAGE NUMBER OF LAMPS LIGHTED IN—							
	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.
Consolidated Gas Co., Branch 1 .....	3,046	3,450	3,865	3,863	3,199	2,912	3,455	3,142
Consolidated Gas Co., Branch 2 .....	6,053	4,456	3,229	2,593	1,912	1,648	1,871	1,650
Consolidated Gas Co., Branch 3 .....	....	....	1,122	3,152	2,163	2,322	2,282	1,826
Consolidated Gas Co., Branch 4 .....	4,504	4,172	3,719	2,725	3,063	3,075	3,468	3,323
Consolidated Gas Co., Branch 6 .....	5,122	5,767	5,787	5,640	5,535	5,785	5,709	4,960
Equitable Gas-light Co.....	....	1,411	1,586	1,853	1,925	2,685	3,698	4,035
New York Mutual Gas-light Co.....	591	316	216	202	158	206	326	221
Standard Gas-light Co.....	....	....	....	....	....	....	1,694	2,432
Central Gas-light Co.....	2,072	2,205	2,256	2,350	2,316	2,474	2,682	2,290
Northern Gas-light Co.....	1,429	1,551	1,686	1,780	1,922	2,123	2,187	2,360
Yonkers Gas-light Co.....	325	331	337	373	444	477	557	562
* N. Y. & N. J. Globe Gas-light Co.....	....	50	90	120	120	121	134	138
† Brush Electric Illuminating Co.....	246	347	347	343	366	320	210	250
† United States Illuminating Co.....	243	338	361	363	395	457	246	291
† Harlem Lighting Co.....	....	....	....	88	102	92	111	160
† East River Electric-light Co.....	....	....	....	....	379	314	143	141
† Mount Morris Electric-light Co.....	....	....	....	....	18	31	92	133
† North New York Lighting Co.....	....	....	....	25	26	26	....	94
Total.....	23,931	24,394	24,611	25,471	24,343	25,068	28,865	28,008

\* Naphtha lamps.

† Electric lamps.

New gas-mains have been laid by the several gas-light companies during the year, as follows :

	Feet.	In.
Consolidated Gas Company .....	151,296	
Consolidated Gas Company has relaid .....	2,381	
New York Mutual Gas-light Company .....	3,054	
Equitable Gas-light Company .....	44,323	3
Standard Gas-light Company .....	21,578	8
Central Gas-light Company .....	21,045	
Northern Gas-light Company .....	22,200	
Yonkers Gas-light Company .....	6,700	

Total laid in 1891..... 272,577 11

Or 51,887 miles.

Consolidated Gas Company has taken up 97,347 feet.  
Consolidated Gas Company has abandoned 35,096 feet.  
Northern Gas-light Company has taken up 5,800 feet.

The total miles of gas mains in the streets of this city on December 31, 1891, was as follows :

	Miles.	Feet.	In.
Consolidated Gas Company .....	795	4,090	1
New York Mutual Gas-light Company .....	123	5,246	
Equitable Gas-light Company .....	133	1,311	
Standard Gas-light Company .....	138	4,576	1
Central Gas-light Company .....	59	3,427	
Northern Gas-light Company .....	37	4,281	
Yonkers Gas-light Company .....	17	331	
Total .....	1,306	2,142	2

Of these mains 1,191,488 miles are on Manhattan Island, and 114,880 miles are in the annexed territory north of Harlem river.

The franchise of the Equitable Gas-light Company, as fixed by the Gas Commission, requires this company to pay to the City at the rate of twenty cents for each lineal foot of main laid ; hence it has necessarily paid into the City Treasury the sum of \$140,710.20. It is also compelled to light all the public street lamps situated on the lines of its mains at a rate not to exceed twelve dollars per year for each lamp. This company has taken from the Consolidated Gas Company 781 public lamps during the year 1891, on which there is a saving of \$4,295.50 per year. Since 1885 it has taken 4,397 lamps from the Consolidated Company and 248 lamps from the Mutual Company on which there is now a saving of \$25,547.50 per year.

The Standard Gas-light Company is required by its charter (Chapter 248 of the State Laws of 1886), to light the public lamps on the lines of its mains at the rate of \$12.50 for each lamp per year of 3,833½ hours, but as the New York City Lighting Table has a total of 4,000 hours per year, the company makes a charge of \$13.04½ per year for each lamp, this being the pro rata amount. This company has taken from the Consolidated Gas Company 421 public lamps, and from the Mutual Company 17 lamps during the year 1891, on which there is a saving of \$1,952.01. Since the commencement of the public lighting in 1890 it has taken from the Consolidated Gas Company 2,591 lamps and from the Mutual Company 24 lamps, on which there is now an annual saving of \$11,654.18.

The gas supplied by the Consolidated Gas Company is manufactured at seven stations, viz.: Fourteenth Street Station (formerly Manhattan Gas-light Company), located at Fourteenth street and Avenue C ; manufactures coal-gas.

Eighteenth Street Station (formerly Manhattan Gas-light Company), located at Eighteenth street and Tenth avenue ; manufactures coal-gas.

Twenty-first Street Station (formerly New York Gas-light Company), located at Avenue A and Twenty-first street ; manufactures water-gas.

Forty-second Street Station (formerly Metropolitan Gas-light Company), located at Forty-second street, North river ; manufactures coal-gas.

Forty-fourth Street Station (formerly Municipal Gas-light Company), located at Forty-fourth street, North river ; manufactures water-gas.

Ninety-ninth Street Station (formerly Knickerbocker Gas-light Company), located at Ninety-ninth street, East river ; manufactures water-gas.

One Hundred and Eleventh Street Station (formerly Harlem Gas-light Company), located at One Hundred and Eleventh street and First avenue ; manufactures coal-gas.

The general office of the company is at No. 4 Irving place, its capital is \$35,430,000, and the capacity of the several works is 30,000,000 cubic feet of gas per day.

Branch Office No. 1, at corner of Hester and Elizabeth streets, attends the gas supply, including the lighting of the public lamps in that part of the city lying south of the centre line of Houston street.

Branch Office No. 2, at No. 4 Irving place, attends to the gas supply, including the lighting of the public lamps, in that part of the city lying north of the centre line of Houston street and south of the centre line of Twenty-third street.

Branch Office No. 3, at the corner of Fourth avenue and Twenty-sixth street, attends to the gas supply, including the lighting of the public lamps, in that part of the city lying north of the centre line of Twenty-third street and east of the centre line of Fifth avenue to Fifty-ninth street, and all east of the Central Park, from Fifty-ninth street to the centre line of Seventy-ninth street.

Branch Office No. 4, at Broadway and Forty-sixth street, attends to the gas supply, including the lighting of the public lamps, in that part of the city lying north of the centre line of Twenty-third street and west of the centre line of Fifth avenue to Fifty-ninth street, and on the west side of Central Park, between Fifty-ninth and One Hundred and Tenth streets, and south of the centre line of One Hundred Tenth streets, from Eighth avenue to the North river, including Transverse Roads Nos. 1 and 2.

Branch Office No. 6, at No. 2084 Third avenue, attends to the gas supply, including the lighting of the public lamps in that part of the city lying north of the centre line of Seventy-ninth street to One Hundred and Tenth street, east of the Central Park, and all the city north of One Hundred and Tenth street to Harlem river, including Transverse Road No. 3 and the bridges over the Harlem river.

The New York Mutual Gas-light Company has mains in various streets or parts of streets between Battery place and Sixty-fifth street, and lights a portion of the public lamps north of Thirty-fourth street. It manufactures water-gas at its works at Eleventh street, East river, and its office is at Fourth avenue and Sixteenth street. The capital is \$3,500,000, and the capacity of its works is 4,000,000 cubic feet per day.

The Equitable Gas-light Company has mains in various streets, between Division street and Seventy-fourth street, and it lights the public lamps on the lines of its mains. Its works are at Forty-first street, East river. It manufactures water-gas, and its office is at Third avenue and Twenty-fifth street. The capital is \$4,000,000, and the capacity of its works is 6,000,000 cubic feet per day.

The Standard Gas-light Company has mains in various streets between Thirteenth street and One Hundred and Thirty-eighth street, and between Avenue C and St. Nicholas avenue. It has also a main under the Harlem river, from Second avenue to Lincoln avenue, and in a few streets in the Twenty-third Ward ; but it has not yet supplied gas to the territory north of Harlem river. The works of this company are at One Hundred and Fifteenth street, East river, and its main office is at No. 2 Cortlandt street, with branch office at the corner of Forty-second street and Lexington avenue, and at No. 19 West One Hundred and Twenty-fifth street. The manufacture is water-gas. Its capital is \$10,000,000, and the capacity of its present works is 4,000,000 cubic feet per day.

The Central Gas-light Company supplies gas to the Twenty-third Ward (formerly the town of Morrisania), and lights all the public gas-lamps therein. It manufactures coal-gas at its works at One Hundred and Thirty-eighth street, East river, and its office is at No. 350 Alexander avenue. The capital is \$487,000, and the capacity of its works is 800,000 cubic feet per day.

The Northern Gas-light Company supplies gas to that part of the Twenty-fourth Ward (formerly town of West Farms), and lights all the public lamps therein. It manufactures coal-gas at its works on the Bronx river, and its office is at No. 1845 Vanderbilt avenue. The capital is \$125,000, and the capacity of its works is 250,000 cubic feet per day.

The Yonkers Gas-light Company has mains in, lights the public lamps, and supplies gas to that part of the Twenty-fourth Ward (formerly town of Kingsbridge), except the section known as Woodlawn Heights. Its gas-works and office are in the City of Yonkers, Westchester County, and its manufacture is water-gas. This company has been leased to the United Gas Improvement Company, and its business is principally confined to the City of Yonkers.

The New York and New Jersey Globe Gas-light Company lights 140 lamps at Woodlawn Heights in the Twenty-fourth Ward, being at the extreme northeastern section of the city, and which is at present beyond the reach of gas-mains. The lamps are lighted by means of naphtha contained in a tank or reservoir on each lamp.

The following additional streets have been lighted by gas during the year :

Twentieth street, from Avenue B to the East river.  
Twenty-second street, from Avenue A to the East river.  
Sixtieth street, from First avenue, east 200 feet.  
Sixty-first street, from the Boulevard to Eighth avenue.  
Sixty-third street, from Tenth to Eleventh avenue.  
Sixty-eighth street, from Avenue A to near East river.  
Seventy-second street, from Avenue A to the East river.  
Eighty-sixth street, from East End avenue to East river.  
Ninetieth street, from Avenue A to Second avenue.  
Ninety-first street, from Columbus to Amsterdam avenue.  
Ninety-third street, from First avenue to Avenue A.  
Ninety-fourth street, from First to Second avenue.  
One Hundred and First street, from First to Second avenue.  
One Hundred and First street, from Third to Lexington avenue.  
One Hundred and Second street, from Ninth to Manhattan avenue.  
One Hundred and Second street, from West End avenue to Riverside Drive.  
One Hundred and Third street, from First avenue to Avenue A.  
One Hundred and Fifth street, from First avenue to East river.  
One Hundred and Seventh street, from Madison to Fifth avenue.  
One Hundred and Eighth street, from Madison to Fifth avenue.  
One Hundred and Eighth street, from Amsterdam avenue to the Boulevard.  
One Hundred and Ninth street, from Amsterdam avenue to the Boulevard.  
One Hundred and Tenth street, from First avenue to the East river.  
One Hundred and Twelfth street, from Amsterdam avenue to the Boulevard.  
One Hundred and Thirteenth street, from Fifth to Seventh avenue.  
One Hundred and Fourteenth street, from Fifth to Lenox avenue.  
One Hundred and Seventeenth street, from Park to Fifth avenue.  
One Hundred and Eighteenth street, from Fifth to Lenox avenue.  
One Hundred and Nineteenth street, from Eighth to St. Nicholas avenue.  
One Hundred and Twenty-first street, from Manhattan to Columbus avenue.  
One Hundred and Twenty-sixth street, from Amsterdam avenue to the Boulevard.  
One Hundred and Thirty-second street, from Amsterdam avenue to Old Broadway.  
One Hundred and Thirty-eighth street, from Amsterdam avenue to Hamilton place.  
One Hundred and Thirty-ninth street, from Eighth to Edgecombe avenue.  
One Hundred and Forty-sixth street, from the Boulevard, west 545 feet.  
One Hundred and Forty-seventh street, from Amsterdam avenue to the Boulevard.  
One Hundred and Forty-seventh street, from the Boulevard to 400 feet west.



One Hundred and Forty-ninth street, from St. Nicholas to Amsterdam avenue.  
One Hundred and Sixtieth street, from St. Nicholas avenue to Jumel place.  
One Hundred and Sixty-fifth street, from Amsterdam avenue to Kingsbridge road.  
One Hundred and Eighty-first street, from Amsterdam avenue to Kingsbridge road.  
Eleventh avenue, from One Hundred and Fifty-ninth to One Hundred and Sixty-second street.  
Eleventh avenue, from One Hundred and Seventieth to One Hundred and Seventy-sixth street.  
Twelfth avenue, from One Hundred and Twenty-ninth to Manhattan street.  
Amsterdam avenue, from One Hundred and Tenth to One Hundred and Twenty-fourth street.  
Amsterdam avenue, from One Hundred and Ninetieth street to Fort George.  
Bradhurst avenue, from One Hundred and Forty-second to One Hundred and Forty-third street.  
Columbus avenue, east side, from One Hundred and Fourteenth to Manhattan street.  
Edgecombe avenue, from One Hundred and Thirty-seventh to One Hundred and Forty-second street.  
Park avenue, west side, from One Hundred and Fifteenth to One Hundred and Sixteenth street.

The following additional streets in the Twenty-third Ward :

One Hundred and Fifty-sixth street, from St. Ann's to Cauldwell avenue.  
One Hundred and Sixty-second street, from Prospect to Westchester avenue.  
One Hundred and Sixty-fifth street, from Prospect avenue to Hall place.  
Arcularius place, from Sheridan avenue, west 339 feet.  
Bristow street, from Boston road to Stebbins avenue.  
Brook avenue, from One Hundred and Thirty-second to One Hundred and Thirty-eighth street.  
Hall place, from One Hundred and Sixty-fifth to One Hundred and Sixty-seventh street.  
Hunt's Point road, from Southern Boulevard to Lafayette lane.  
Jennings street, from Union to Stebbins avenue.  
Southern Boulevard, from Leggett's lane to Twenty-fourth Ward line.  
Tinton avenue, from One Hundred and Sixty-fifth to One Hundred and Sixty-sixth street.  
Webster avenue, from One Hundred and Sixty-ninth street to Twenty-fourth Ward line.  
Westchester avenue, from Prospect avenue to Southern Boulevard.  
The following additional streets in the Twenty-fourth Ward :  
One Hundred and Seventy-seventh street, from Jerome avenue to McComb's Dam road.  
One Hundred and Eightieth street, from Washington to Vanderbilt avenue.  
One Hundred and Eighty-third street, from Rye to Anthony avenue.  
One Hundred and Eighty-eighth street, from Third avenue to Hoffman street.  
Andrew's avenue, from 100 feet south of Hampden street to 500 feet north.  
Aqueduct avenue, from Hampden street to 200 feet north.  
Bainbridge avenue, from Southern Boulevard to Suburban street.  
Briggs avenue, from Garfield to Suburban street.  
Daly avenue, from Tremont avenue to Kingsbridge road.  
Davidson avenue, from St. James street to Highbridge street.  
First avenue, from Highbridge street to Devoe street.  
Highbridge street, from Claremont avenue to First avenue.  
Honeywell avenue, from Samuel street to Kingsbridge road.  
Hull avenue, from Olin avenue to Eclipse street.  
Jerome avenue, from Southern Boulevard to Grand avenue.  
Lafayette avenue, from Tremont avenue to Lebanon street.  
Marcher avenue, from Highbridge street to Devoe street.  
Olin avenue, from Harlem Railroad to the pipe line.  
Perry avenue, from Olin avenue to Eclipse street.  
Potter place, from Jerome avenue to 600 feet east.  
Southern Boulevard, from Perry to Jerome avenue.  
Southern Boulevard, from Twenty-third Ward line to Tremont avenue.  
Southern Boulevard, from Kingsbridge road to Pelham avenue.  
Suburban street, from Bainbridge to Anthony avenue.  
Undercliff place, from Undercliff to Aqueduct avenue.  
Valentine avenue, from Suburban to Garfield street.  
Valentine avenue, from One Hundred and Seventy-ninth to Clark street.  
Webster avenue, from Twenty-third Ward line to One Hundred and Seventy-third street.  
The aggregate length of additional streets lighted during the year was 18<sup>1</sup>/<sub>2</sub> miles.  
The total aggregate length of streets of the city lighted on December 31, 1891, was 528<sup>1</sup>/<sub>2</sub> miles.  
The total aggregate length of piers lighted was <sup>3</sup>/<sub>8</sub> of a mile.  
The total length of bridges lighted was 2<sup>4</sup>/<sub>8</sub> miles.  
The total area of parks lighted was 66 acres.  
The total area of Gansevoort Market Square lighted was 3<sup>1</sup>/<sub>4</sub> acres.

On December 10 last bids were received by the Gas Commission for the lighting and maintenance of the public lamps for the year 1892, and awards of contracts have been made, as follows :

CONTRACTORS.	For Gas and Light- ing each Lamp, per annum.	For each Lamp-post Straightened.	For each Column Replaced.	For each Column Refitted.	For each Service-pipe Refitted.	For each Stand-pipe Refitted.	For each Lamp-post Removed.	For each Lamp-post Reset.	For each new Lamp Fitted up.
Equitable Gas-light Co.....	\$12 00	\$1 50	\$1 50	\$3 50	\$4 00	\$4 00	\$3 50	\$10 00	\$10 00
Standard Gas-light Co.....	13 04 <sup>1</sup> / <sub>2</sub>	1 50	1 50	3 50	5 50	2 50	3 50	10 00	10 00
New York Mutual Gas-light Co...	17 50	1 50	1 50	3 50	3 50	3 50	3 50	8 00	8 00
Consolidated Gas Co.....	17 50	1 50	1 50	3 50	5 50	2 50	3 50	8 00	8 00
Central Gas-light Co.....	27 00	1 50	1 50	1 50	3 50	2 00	3 50	8 00	8 00
Northern Gas-light Co.....	28 00	1 50	1 50	3 00	3 50	2 00	3 50	8 00	8 00
Yonkers Gas-light Co.....	28 00	1 00	1 00	1 00	3 50	2 00	1 50	8 00	8 00
*New York and New Jersey Globe Gas-light Co.....	22 00	....	....	....	....	....	....	....	....

\* Naphtha lamps.

The following awards have been made for electric-lighting :  
Brush Electric Illuminating Company—

	Lamps.
Fifth avenue, from Washington square to Twenty third street.....	17
Eighth avenue, from Fourteenth to Forty-second street.....	25
Fourteenth street, from Broadway to North river.....	20
Twenty-third street, from Fourth avenue to North river.....	22
Thirty-fourth street, from Broadway to North river.....	17
Forty-second street, from Broadway to North river.....	15
Bowery, from Park Row to Houston street.....	19
Park Row, from Ann street to Bowery.....	15

Brush Company, at 40 cents per night for each lamp..... 150

Also—

Broadway, from Fifteenth to Fifty-ninth street.....	46
Madison Park.....	14
Union Park.....	9

Brush Company, 45 cents per night for each lamp..... 69

Total, 234 lamps.

The United States Illuminating Company—

Avenue B, from Houston to Sixth street.....	5
Sixth avenue, from Fourteenth to Thirty-third street.....	18
Barclay street, from Broadway to North river.....	7
Battery Park.....	24
Canal street, from Bowery to Broadway.....	10
Chambers street, from Broadway to North river.....	8
City Hall Park.....	13
Cortlandt street, from Broadway to North river.....	6
East Broadway, from Chatham Square to Grand street.....	20

	Lamps.
Fulton street, from North to East river.....	17
Grand street, from Goerck to Sullivan street.....	30
Houston street, from Broadway to Avenue C.....	17
Liberty street, from Broadway to North river.....	5
South street, from Whitehall to Catharine street.....	32
West street, from Battery place to Desbrosses street.....	28

United States Company, at 40 cents per night for each lamp..... 240

East River Electric-light Company—

First avenue, from Houston to Fourteenth street.....	13
Third avenue, from Sixth to Fifty-first street.....	43
Fourth avenue, from Bowery to Forty-second street.....	33
Eighth street, from Fourth to Sixth avenue.....	10
Tenth street, from Second avenue to East river.....	12
Fourteenth street, from Broadway to East river.....	21
Twenty-third street, from Fourth avenue to East river.....	14
Thirty-fourth street, from Broadway to East river.....	20
Forty-second street, from Broadway to East river.....	23
Bowery, from Houston street to Third avenue.....	9
Irving place, from Fourteenth to Twentieth street.....	6
Stuyvesant Park, West.....	8
Stuyvesant Park, East.....	8
Stuyvesant street, from Eighth to Tenth street.....	3
Tompkins Park.....	16
Avenue D, from Sixth to Fourteenth street.....	8

East River Company, at 40 cents per night for each lamp..... 247

Mount Morris Electric Light Company—

Bleecker street, from Christopher to Thirteenth street.....	13
Bloomfield street, from West street to Thirteenth avenue.....	1
Canal street, from Broadway to North river.....	16
Christopher street, from West to Fourth street.....	8
Gansevoort street, from West street to Thirteenth avenue.....	1
Gansevoort Market square.....	13
Greenwich street, from Battery place to Chambers street.....	18
Lenox avenue, from One Hundred and Tenth to One Hundred and Thirty-sixth street.....	26
One Hundred and Twenty-fifth street, from Lenox to St. Nicholas avenue.....	11
Thirteenth avenue, from Gansevoort to Bloomfield street.....	3
West Broadway, from Chambers to Canal street.....	10
West street, from Desbrosses to West Eleventh street.....	22
West Washington market.....	12

Total at 40 cents per night for each lamp..... 154

Harlem Lighting Company—

Third avenue, from Fifty-first street to Harlem bridge.....	82
Seventh avenue, from Forty-sixth to Fifty-ninth street.....	13
Eighth avenue, from Forty-second to Fifty-ninth street.....	16
Fifty-ninth street, from Third to Eighth avenue.....	19
One Hundred and Twenty-fifth street, from East river to Lenox avenue.....	18
Harlem Bridge, southerly fixed span.....	2

Harlem Company, at 40 cents per night for each lamp..... 159

Also Mount Morris Park, at 50 cents per night..... 19

Grand total, 178 lamps.

North New York Lighting Company—

Third avenue, from Harlem Bridge to One Hundred and Seventieth street.....	47
One Hundred and Thirty-fourth street, from Lincoln avenue to Southern Boulevard.....	6
One Hundred and Thirty-sixth street, from Third avenue to Southern Boulevard.....	6
One Hundred and Thirty-eighth street, from Madison Avenue Bridge to Southern Boulevard.....	16
One Hundred and Forty-second street, from Alexander to Brook avenue.....	3
One Hundred and Forty-third street, from Alexander to St. Ann's avenue.....	5
One Hundred and Forty-fourth street, from Third to St. Ann's avenue.....	4
One Hundred and Forty-fifth street, from Third to St. Ann's avenue.....	4
One Hundred and Forty-eighth street, from Willis to St. Ann's avenue.....	3
One Hundred and Forty-ninth street, from Mott avenue to Southern Boulevard.....	15
One Hundred and Fiftieth street, from Third to Morris avenue.....	3
One Hundred and Fifty-first street, from Third to Morris avenue.....	3
One Hundred and Fifty-second street, from Third to Morris avenue.....	3
One Hundred and Fifty-sixth street, from Morris to Cauldwell avenue.....	7
Alexander avenue, from Southern Boulevard to One Hundred and Forty-second street.....	8
Courtlandt avenue, from Third avenue to One Hundred and Sixty-first street.....	14
Harlem Bridge, northerly fixed span.....	2
Lincoln avenue, from Southern Boulevard to One Hundred and Thirty-eighth street.....	5
Madison Avenue Bridge, easterly span.....	1
Morris avenue, from One Hundred and Thirty-ninth to One Hundred and Sixty-fourth street.....	22
Mott avenue, from One Hundred and Thirty-eighth to One Hundred and Fifty-first street.....	9
Southern Boulevard, from Third avenue to One Hundred and Thirty-eighth street.....	14
Willis avenue, from Third avenue to One Hundred and Thirty-eighth street.....	14
St. Ann's avenue, from Southern Boulevard to One Hundred and Sixty-first street.....	23
Westchester avenue, from Third avenue to Robbins avenue.....	8

Total, at 45 cents per night for each lamp..... 245

The foregoing awards cover the streets for which the prices named in the bids are the same as the rates paid during the year 1891. In all streets and places for which the prices are in excess of the rates paid in 1891 no awards have yet been made.

All the contracts have been prepared in accordance with the awards and are ready for execution when the sureties have been approved by the Comptroller.

An award of contract has been made by yourself with the Equitable Gas-light Company for furnishing illuminating gas, of not less than thirty-candle power, to the several public buildings situated on the lines of the gas-mains of said company, at the rate of one dollar and twenty-five cents per 1,000 cubic feet. Also one to the Consolidated Gas Company for furnishing gas of not less than twenty-candle power at the rate of one dollar and twenty-five cents per 1,000 cubic feet.

The following statement will show the average amount of impurities found in the gases of such of the companies as have mains on the line of our photometric stations, as determined by the analyses made by Dr. E. G. Love, our Gas Examiner, in the laboratories of this Bureau.

OF WHAT COMPANY.	SULPHUR. (Grains in 100 Cubic Feet).				AMMONIA. (Grains in 100 Cubic Feet).				SULPHURET HYDROGEN.
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	
Consolidated Gas Co., Twenty- first Street Station.....	7.47	4.77	4.46	5.14	5.61	1.16	2.60	1.82	
Consolidated Gas Co., Four- teenth and Eighteenth Streets Stations.....	8.88	7.99	5.98	7.06	6.91	8.09	3.13	4.18	
Consolidated Gas Co., Forty- fourth Street Station.....	4.13	3.96	2.80	3.98	0.44	0.67	0.50	0.68	
Consolidated Gas Co., Forty- second Street Station.....	11.76	13.70	16.36	17.10	3.23	23.24	12.53	10.36	
Consolidated Gas Co., One Hun- dred and Eleventh Street Station.....	3.35	4.78	2.42	4.04	0.54	1.22	0.58	0.50	Trace.
New York Mutual Gas-light Co..	6.49	3.44	4.60	5.12	0.67	0.23	0.38	0.41	Trace.
Equitable Gas-light Co.....	6.04	6.96	6.04	6.36	0.38	0.15	0.15	0.18	



The following table will show the specific gravity of the gases :

OF WHAT COMPANY.	FIRST QUARTER.	SECOND QUARTER.	THIRD QUARTER.	FOURTH QUARTER.
Consolidated Gas Co., Twenty-first Street Station.....	.589	.616	.587	.610
Consolidated Gas Co., Fourteenth and Eighteenth Streets Stations.....	.497	.525	.532	.537
Consolidated Gas Co., Forty-fourth Street Station.....	.651	.639	.652	.670
Consolidated Gas Co., Forty-second Street Station.....	.541	.504	.516	.546
Consolidated Gas Co., Ninety-ninth and One Hundred and Eleventh Streets Stations.....	.636	.608	.650	.638
New York Mutual Gas-light Co.....	.717	.728	.754	.721
Equitable Gas-light Co.....	.687	.699	.705	.706

The gases manufactured by the several companies are of the following kinds :

Consolidated Gas Company, Twenty-first Street Station, water-gas, "Tessie du Motay" process.  
Consolidated Gas Company, Fourteenth and Eighteenth Streets Stations, coal-gas.  
Consolidated Gas Company, Forty-fourth Street Station, water-gas, "Tessie du Motay" process.  
Consolidated Gas Company, Forty-second Street Station, coal-gas.  
Consolidated Gas Company, Ninety-ninth Street Station, water-gas, "Tessie du Motay" process.  
Consolidated Gas Company, One Hundred and Eleventh Street Station, coal gas.  
New York Mutual Gas-light Company, water-gas, "Wilkinson's" process.  
Equitable Gas-light Company, water-gas, "Jerzmanowski" process.  
Standard Gas-light Company, water-gas, "Flannery" process.  
Central Gas-light Company, coal-gas.  
Northern Gas-light Company, coal-gas.  
Yonkers Gas-light Company, water-gas, "Saulsbury" process.

The following statement will show the average maximum and minimum pressure on the mains of such of the companies as connect with our photometric stations, as recorded on the pressure register during the year, the average being made for the time during which the public lamps are required to be kept lighted :

OF WHAT COMPANY.	AVERAGE MAXIMUM PRESSURE.				AVERAGE MINIMUM PRESSURE.			
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
Consolidated Gas Co., Twenty-first Street Station.....	Inches. 2.58	Inches. 2.04	Inches. 2.10	Inches. 2.57	Inches. 2.07	Inches. 2.01	Inches. 2.01	Inches. 1.95
Consolidated Gas Co., Fourteenth and Eighteenth Streets Stations.....	2.87	3.01	2.32	3.10	1.44	1.45	1.51	1.45
Consolidated Gas Co., Forty-fourth Street Station.....	3.10	2.78	2.44	3.08	1.47	1.74	1.89	1.34
Consolidated Gas Co., Forty-second Street Station.....	2.32	2.14	2.24	1.85	1.16	1.13	1.12	0.96
Consolidated Gas Co., One Hundred and Eleventh Street Station.....	2.88	2.64	2.49	2.98	1.46	1.47	1.43	1.57
New York Mutual Gas-light Co.....	3.54	3.39	3.31	3.55	2.16	2.18	2.22	2.05
Equitable Gas-light Co.....	3.33	3.28	3.17	3.23	1.57	1.78	1.88	1.45

Statement showing the streets or parts of streets and public places lighted by electric-lamps on December 31, 1891, with the number of such lamps and number of gas-lamps displayed :

STREETS AND PLACES LIGHTED.	NUMBER OF ELECTRIC- LAMPS.	NUMBER OF GAS-LAMPS DISPLACED.
Avenue B, from Houston to Sixth street.....	5	18
First avenue, from Houston to Fourteenth street.....	13	54
Third avenue, from Forty-fourth street to Harlem Bridge.....	89	368
Third avenue, from Harlem Bridge to One Hundred and Seventieth street.....	47	191
Fifth avenue, from Washington Square to Twenty-third street.....	17	62
Sixth avenue, from Fourteenth to Thirty-third street.....	18	59
Seventh avenue, from Fourteenth to Fifty-ninth street.....	43	189
Eighth avenue, from Fourteenth to Fifty-ninth street.....	41	171
Thirteenth avenue, from Gansevoort to Bloomfield street.....	3	13
Eighth street, from Sixth to Fourth avenue.....	10	32
Tenth street, from Second to First avenue.....	3	6
Fourteenth street, from North to East river.....	41	153
Twenty-third street, from North to East river.....	36	119
Thirty-fourth street, from North to East river.....	37	110
Forty-second street, from North to East river.....	38	127
Fifty-ninth street, from Third to Eighth avenue.....	19	52
One Hundred and Twenty-fifth street, from East river to Ninth avenue.....	29	132
One Hundred and Thirty-eighth street, from Madison Avenue Bridge to Southern Boulevard.....	16	62
One Hundred and Forty-third street, from Alexander to St. Ann's avenue.....	5	21
Alexander avenue, from Southern Boulevard to One Hundred and Forty-second street.....	8	27
Barclay street, from Broadway to North river.....	7	19
Battery Park.....	24	195
Bleecker street, from Christopher to Thirteenth street.....	13	33
Bloomfield street, from West street to Thirteenth avenue.....	1	6
Bowery, from Park Row to Third avenue.....	28	102
Broadway, from Battery place to Fifty-ninth street.....	99	353
Canal street, from Bowery to North river.....	26	89
Catharine street, from East Broadway to East river.....	7	24
Chambers street, from Broadway to North river.....	8	20
Christopher street, from West Fourth to West street.....	8	30
City Hall Park.....	13	110
Cortlandt street, from Broadway to North river.....	6	22
East Broadway, from Chatham Square to Grand street.....	20	86
Fulton street, from North to East river.....	17	52
Gansevoort street, from West street to Thirteenth avenue.....	1	8
Gansevoort Market Square.....	13	68
Greenwich street, from Battery place to Chambers street.....	18	63
Grand street, from Broadway to Sullivan street.....	5	20
Grand street, from Bowery to Sheriff street.....	14	68
Harlem Bridge (Third avenue) fixed span.....	4	30

## STREETS AND PLACES LIGHTED.

NUMBER OF  
ELECTRIC-  
LAMPS.NUMBER OF  
GAS-LAMPS  
DISPLACED.

Houston street, from Mulberry street to Avenue C.....	16	52
Lenox avenue, from One Hundred and Tenth to One Hundred and Thirty-sixth street.....	26	139
Liberty street, from Broadway to North river.....	5	14
Lincoln avenue, from Southern Boulevard to One Hundred and Thirty-eighth street.....	5	19
Madison Park.....	14	104
Madison Avenue Bridge, easterly span.....	1	34
Mount Morris Park.....	19	0
Morris avenue, from One Hundred and Thirty-ninth to One Hundred and Sixty-fourth street.....	22	83
Mott avenue, from One Hundred and Thirty-eighth to One Hundred and Fifty-first street.....	9	28
Park Row, from Ann street to the Bowery.....	15	65
South street, from Whitehall to Catharine street.....	32	106
Southern Boulevard, from Third avenue to One Hundred and Thirty-eighth street.....	14	69
St. Ann's avenue, from Southern Boulevard to One Hundred and Sixty-first street.....	23	111
Stuyvesant street, from Eighth to Tenth street.....	3	7
Stuyvesant Park, East and West.....	16	23
Tompkins Park.....	16	137
Union Park.....	9	34
Washington Park.....	15	105
West street, from Battery place to West Eleventh street.....	50	208
West Broadway, from Chambers to Canal street.....	10	46
West Washington Market.....	12	0
Whitehall street, from Bowling Green to South Ferry.....	6	20
Willis avenue, from Southern Boulevard to Third avenue.....	14	57
Totals.....	1,202	4,885

We have been unable to make any tests of the gas supplied to this city by the Standard Gas-light Company, for the reason that the company did not have a gas-main near our Seventy-ninth Street Photometric Station, and hence, we could not get its gas into our testing-room. On December 15 last, you directed this company to lay a gas-main in Seventy-ninth street, from its Second avenue to its Third avenue mains, and this work is now being done, and I have directed the company to cause a service-pipe to be placed into the photometric station. I will, therefore, make a requisition for the necessary gas-fitting and for a pressure register, and when these are furnished our Gas Examiner will have the proper facilities for making regular daily tests of the gas supplied to the city by this company.

In addition to the contracts for the public lighting and for gas to the public buildings, contracts have been executed and completed during the year, and final payments made, with M. J. Drummond, for 1,000 cast-iron lamp-posts (average weight 350 pounds each), at  $01\frac{24}{100}$  cents per pound; with the E. P. Gleason Manufacturing Company, for 2,500 street lamps, at  $\$2.23\frac{1}{2}$  each; and the Bartlett Lamp Manufacturing Company, for 550 Boulevard lamps, at  $\$4.90$  each, and 1,500 additional globes, at  $\$1.90$  each. These prices are the lowest ever before paid by this city for such kinds of supplies, while the articles furnished have been of a superior quality.

The breaks of glass in the public lamps of this city still continues to a very serious extent, and the evil is a cause of much trouble and annoyance. During the year 1891, 130,258 lights of glass and more than 1,500 Boulevard lamp-globes were broken. Lanterns have been reglazed during the morning hours and then found broken at lighting time, and hence, during high winds these lamps are extinguished, and then complaints are received that the lamps have not been lighted.

Yours, respectfully,

S. McCORMICK, Superintendent of Lamps and Gas.

## EXHIBIT "A."

Statement Showing the Amounts on Vouchers drawn for Gas to the Various Public Markets, Offices, etc., and for Fitting up, Repairing, Lighting, etc., the Public Lamps for the First, Second, Third and Fourth Quarters of the Year 1891, with the Totals for the whole Year.

	FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.
Washington Market.....	\$1,106 74	\$872 12	\$858 49	\$1,225 86	\$4,063 21
Catharine Country Market.....	48 12	40 25	34 00	50 76	173 13
Catharine Meat Market.....	24 50	19 25	18 01	20 87	82 63
Fulton Meat Market.....	439 63	306 75	315 37	373 13	1,434 88
Fulton Country Market.....	593 25	457 62	448 50	532 00	2,031 37
Essex Market.....	34 25	24 75	29 25	32 25	120 50
Centre Market.....	137 13	99 63	99 25	127 25	463 26
Clinton Market.....	316 62	263 62	233 99	269 24	1,083 47
Union Market.....	13 63	6 00	7 50	12 88	40 01
Tompkins Market.....	161 50	110 75	94 00	112 75	479 00
Jefferson Market.....	247 13	105 25	59 00	187 75	599 13
First District Police Court.....	406 25	358 63	298 01	364 12	1,427 01
Second District Police Court.....	166 50	103 00	53 75	117 75	441 00
Third District Police Court.....	63 00	48 00	32 00	63 25	206 25
Fourth District Police Court.....	158 75	116 00	69 50	124 25	468 50
Fifth District Police Court.....	81 63	27 62	1 74	39 26	150 25
First District Civil Court.....	10 49	2 51	50	8 12	21 61
Second District Civil Court.....	12 13	8 75	7 25	9 75	37 88
Fourth District Civil Court.....	20 00	15 50	5 83	15 75	57 13
Fifth District Civil Court.....	59 25	38 00	21 25	50 00	168 50
Sixth District Civil Court.....	3 75	1 25	25	4 00	9 25
Eighth District Civil Court.....	11 00	9 25	6 25	10 75	37 25
Ninth District Civil Court.....	12 87	5 26	4 01	11 13	33 27
Court of Special Sessions.....	95 76	55 24	34 63	73 00	258 63
Brown stone (Court Room) Building.....	280 75	216 62	140 38	274 24	911 99
New Court House.....	1,773 87	1,633 39	1,418 50	1,795 50	6,621 26
City Hall.....	608 63	565 49	444 99	520 89	2,140 00
Corporation Counsel's Office.....	36 99	13 00	5 89	50 49	106 37
Corporation Attorney.....	63 76	34 13	21 36	45 62	164 87
Public Administrator.....	9 24	2 87	3 63	8 13	23 87



	FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.		FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.						
Board of Assessors .....	\$17 12	\$9 88	\$5 88	\$8 75	\$41 63	Lighting public naphtha-lamps.....	\$517 50	\$771 94	\$763 32	\$1,024 65	\$3,077 41						
Department of Public Works.....	338 00	206 87	168 13	254 51	967 51	Lighting incandescent-lamps .....	.....	360 c8	.....	104 13	464 21						
Department of Taxes.....	14 25	7 25	3 62	7 11	32 23	Totals.....	\$123,643 32	\$187,541 54	\$186,880 67	\$261,634 37	\$759,699 80						
City Record Book Bindery .....	4 25	4 63	4 00	4 89	17 77	RECAPITULATION.											
Register's Office .....	136 26	92 75	47 37	98 87	375 25		FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.						
County Jail.....	447 00	344 50	312 50	381 50	1,485 50	Gas to public offices, etc.....	\$15,106 14	\$11,501 49	\$8,189 71	\$13,816 21	\$48,613 55						
Pipe Yard, Rivington street .....	5 25	3 88	3 25	5 01	17 39	Supplies to public lamps, etc.....	2,703 77	8,160 52	8,096 46	13,915 26	31,876 01						
Pipe Yard, East Twenty-fourth street.....	9 37	6 13	6 88	11 87	34 25	Fitting-up new lamps.....	264 00	1,438 00	1,062 00	2,264 00	5,028 00						
Water Purveyor, Mulberry street.....	2 00	1 87	1 37	1 12	6 36	Fitting-up new lamps, Twenty-third and } Twenty-fourth Wards.....	192 00	992 00	184 00	3,840 00	5,208 00						
Water Purveyor, West Thirtieth street.....	15 75	9 75	4 75	10 50	40 75	Resetting and repairing lamp-posts.....	1,616 50	4,559 00	5,079 50	5,062 00	16,317 00						
Water Purveyor, East Eighty-seventh street.....	8 01	7 88	5 88	8 26	30 03	Resetting and repairing lamp-posts, Twenty- } third and Twenty-fourth Wards.....	192 00	611 50	1,407 00	2,743 50	4,954 00						
Water Purveyor, East One Hundred and } Twenty-fifth street.....	15 37	13 25	8 25	17 49	54 36	Lighting public gas-lamps.....	58,094 02	86,954 45	85,437 09	114,483 52	344,969 08						
Water Purveyor, No. 3351 Third avenue .....	.....	.....	.....	36 96	36 96	Lighting public gas-lamps, Twenty-third and } Twenty-fourth Wards.....	25,119 01	36,538 71	34,932 94	46,792 10	143,382 76						
South Gate-house .....	65 00	38 25	31 26	63 37	197 88	Lighting public electric-lamps.....	19,838 38	33,724 25	36,584 25	48,529 05	138,675 93						
Engine-house, High Bridge.....	149 62	129 88	116 00	155 01	550 51	Lighting public electric-lamps, Twenty-third } and Twenty-fourth Wards.....	.....	1,929 60	5,144 40	9,059 85	16,133 85						
Engine-house, West Ninety-eighth street.....	246 01	276 62	266 50	281 38	1,070 51	Lighting public naphtha-lamps.....	517 50	771 94	763 32	1,024 65	3,077 41						
Clock Tower, Third District Court-house .....	389 75	356 75	269 50	238 50	1,274 50	Lighting incandescent lamps.....	.....	360 08	.....	104 13	464 21						
New York City Civil Service Board.....	8 12	2 75	1 87	6 13	18 87	Totals .....	\$123,643 32	\$187,541 54	\$186,880 67	\$261,634 27	\$759,699 80						
Bureau of Streets and Roads, West One Hun- } dred and Nineteenth street .....	6 50	4 24	3 24	7 12	21 10	EXHIBIT "B."											
Bureau of Incumbrances, East Sixteenth street...	6 12	3 38	3 50	6 12	19 12	Summary of the Appropriation for "Lamps and Gas and Electric Lighting," for 1891, Showing the Amounts Expended during each of the Quarters of the Year, with the Balance Standing to the Credit of the Appropriation.	Amount appropriated for Lamps and Gas and Electric Lighting .....	\$760,000 00	Amount of vouchers drawn in first quarter .....	\$123,643 32	Amount of vouchers drawn in second quarter.....	187,541 54	Amount of vouchers drawn in third quarter.....	186,880 67	Amount of vouchers drawn in Fourth quarter .....	261,634 27	
Dog Pound, East One Hundred and Second street	6 13	5 87	4 88	5 88	22 76	Amount appropriated for Lamps and Gas and Electric Lighting .....	\$760,000 00	Amount of vouchers drawn in first quarter .....	\$123,643 32	Amount of vouchers drawn in second quarter.....	187,541 54	Amount of vouchers drawn in third quarter.....	186,880 67	Amount of vouchers drawn in Fourth quarter .....	261,634 27		
Photometer Room, Grand street.....	23 62	15 00	7 62	23 25	69 49	Total amount of vouchers drawn during the year .....	759,699 80	Surplus balance .....	\$300 20	EXHIBIT "C."							
Photometer Room, East Seventy-ninth street ....	12 63	3 75	50	9 00	25 88	Summary of the Appropriation for "Lamps and Gas and Electric Lighting—Salaries" for 1891, Showing the Amounts Expended during each of the Quarters of the Year, with the Balance Standing to the Credit of the Appropriation.	Amount of appropriation for Lamps and Gas and Electric Lighting—Salaries.....	\$6,500 00	Amount of vouchers drawn in first quarter .....	\$1,624 95	Amount of vouchers drawn in second quarter.....	1,624 95	Amount of vouchers drawn in third quarter.....	1,624 95	Amount of vouchers drawn in fourth quarter .....	1,614 20	
Chief Engineer of Croton Aqueduct, High Bridge	10 88	.....	11 84	8 32	31 04	Amount of appropriation for Lamps and Gas and Electric Lighting—Salaries.....	\$6,500 00	Amount of vouchers drawn in first quarter .....	\$1,624 95	Amount of vouchers drawn in second quarter.....	1,624 95	Amount of vouchers drawn in third quarter.....	1,624 95	Amount of vouchers drawn in fourth quarter .....	1,614 20		
Commissioner of Street Improvements, Twenty- } third and Twenty-fourth Wards.....	.....	.....	.....	111 84	111 84	Total amount of vouchers drawn during the year .....	\$6,489 05	Surplus balance .....	\$10 95	EXHIBIT "D."							
Seventh Regiment Armory .....	1,762 50	904 00	253 75	1,605 75	4,526 00	Summary of the "Lamp Account," Showing the Number of New Lamps Lighted, Old Lamps Relighted and Lamps Discontinued by each Gas and Electric Light Company during the Quarter ending December 31, 1891; also a Statement for the Year.	CONSOLIDATED GAS COMPANY, BRANCH 1.					Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11
Eighth Regiment Armory.....	962 50	883 87	380 87	694 49	2,921 73	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,039
Ninth Regiment Armory .....	504 00	347 13	118 00	380 00	1,349 13	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Twelfth Regiment Armory .....	627 25	572 50	316 25	626 00	2,142 00	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Twenty-second Regiment Armory.....	1,178 00	921 50	452 38	1,287 99	3,839 87	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Sixty-ninth Regiment Armory.....	211 25	143 12	110 25	191 25	655 87	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Seventy-first Regiment Armory.....	528 25	310 25	73 87	220 25	1,132 62	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Troop "A" Armory.....	138 51	92 63	34 50	124 39	390 03	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
First Battery Armory.....	131 50	107 00	73 75	148 75	461 00	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Second Battery Armory.....	128 25	91 25	48 25	127 50	395 25	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Battery .....	.....	4 12	21 12	5 87	31 11	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Duane street, North river.....	.....	.....	23 00	2 38	25 38	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Horatio street, North river.....	.....	3 75	21 00	3 25	28 00	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Market street, East river.....	.....	1 25	20 88	7 00	29 13	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Grand street, East river.....	.....	.....	26 75	2 87	29 62	Number of lamps lighted September 30, 1891.....	3,025	Number of new lamps lighted during the quarter.....	3	Number of old lamps relighted during the quarter.....	11	Less lamps discontinued during the quarter.....	2	Less lamps discontinued on account of electric-lights .....	5	Number of lamps lighted December 31, 1891.....	3,032
Public Bath, Fifth street, East river.....	.....	2 25	20 88	3 75</													



CONSOLIDATED GAS COMPANY, BRANCH 6.				BRUSH ELECTRIC ILLUMINATING COMPANY.			
Number of lamps lighted September 30, 1891.....	5,011			Number of lamps lighted September 30, 1891.....	273		
Number of new lamps lighted during the quarter.....	185			Number of new lamps lighted during the quarter.....	0		
Number of old lamps relighted during the quarter.....	45	5,241		Number of old lamps relighted during the quarter.....	0	273	
Less lamps discontinued during the quarter.....	18			Less lamps discontinued during the quarter.....		0	
Less lamps discontinued on account of electric-lights.....	127	145		Number of lamps lighted December 31, 1891.....			273
			5,096				
Number of lamps lighted December 31, 1891.....				EAST RIVER ELECTRIC-LIGHT COMPANY.			
Total number of lamps lighted by Consolidated Gas Company, December 31, 1891.....		14,691		Number of lamps lighted September 30, 1891.....	134		
				Number of new lamps lighted during the quarter.....	0		
NEW YORK MUTUAL GAS-LIGHT COMPANY.				Number of old lamps relighted during the quarter.....	4	138	
Number of lamps lighted September 30, 1891.....	205			Less lamps discontinued during the quarter.....		2	
Number of new lamps lighted during the quarter.....	0			Number of lamps lighted December 31, 1891.....			136
Number of old lamps relighted during the quarter.....	1	206					
Less lamps discontinued during the quarter.....		1		MOUNT MORRIS ELECTRIC-LIGHT COMPANY.			
Number of lamps lighted December 31, 1891.....			205	Number of lamps lighted September 30, 1891.....	128		
				Number of new lamps lighted during the quarter.....	26		
EQUITABLE GAS-LIGHT COMPANY.				Number of old lamps relighted during the quarter.....	0	154	
Number of lamps lighted September 30, 1891.....	4,220			Less lamps discontinued during the quarter.....		0	
Number of new lamps lighted during the quarter.....	12			Number of lamps lighted December 31, 1891.....			154
Number of old lamps relighted during the quarter.....	14	4,246					
Less lamps discontinued during the quarter.....	2			HARLEM LIGHTING COMPANY.			
Less lamps discontinued on account of electric-lights.....	20	22		Number of lamps lighted September 30, 1891.....	175		
Number of lamps lighted December 31, 1891.....			4,224	Number of new lamps lighted during the quarter.....	0		
				Number of old lamps relighted during the quarter.....	0	175	
STANDARD GAS-LIGHT COMPANY, MADISON SQUARE BRANCH.				Less lamps discontinued during the quarter.....		0	
Number of lamps lighted September 30, 1891.....	1,083			Number of lamps lighted December 31, 1891.....			175
Number of new lamps lighted during the quarter.....	0						
Number of old lamps relighted during the quarter.....	5	1,088		NORTH NEW YORK LIGHTING COMPANY.			
Less lamps discontinued during the quarter.....		0		Number of lamps lighted September 30, 1891.....	165		
Number of lamps lighted December 31, 1891.....			1,088	Number of new lamps lighted during the quarter.....	2		
				Number of old lamps relighted during the quarter.....	0	167	
STANDARD GAS-LIGHT COMPANY, HARLEM BRANCH.				Less lamps discontinued during the quarter.....		0	
Number of lamps lighted September 30, 1891.....	1,503			Number of lamps lighted December 31, 1891.....			167
Number of new lamps lighted during the quarter.....	7			Total number of electric-lamps lighted December 31, 1891..			1,199
Number of old lamps relighted during the quarter.....	0	1,510					
Less lamps discontinued during the quarter.....	1			RECAPITULATION FOR QUARTER.			
Less lamps discontinued on account of electric-lights.....	12	13		Number of gas-lamps lighted September 30, 1891.....	26,557		
Number of lamps lighted December 31, 1891.....			1,497	Number of naphtha-lamps lighted September 30, 1891.....	138		
Total number of lamps lighted by Standard Gas Co., Decem- ber 31, 1891.....			2,585	Number of electric-lamps lighted September 30, 1891.....	1,165	27,860	
				Number of new gas-lamps lighted during the quarter.....	657		
CENTRAL GAS-LIGHT COMPANY.				Number of new naphtha-lamps lighted during the quarter.....	2		
Number of lamps lighted September 30, 1891.....	2,009			Number of new electric-lamps lighted during the quarter.....	32	691	
Number of new lamps lighted during the quarter.....	174			Number of old gas-lamps relighted during the quarter.....	129		
Number of old lamps relighted during the quarter.....	41	2,224		Number of old naphtha-lamps relighted during the quarter.....	0		
Less lamps discontinued during the quarter.....	25			Number of old electric-lamps relighted during the quarter.....	4	133	
Less lamps discontinued on account of electric-lights.....	18	43		Less gas-lamps discontinued during the quarter.....		78	28,684
Number of lamps lighted December 31, 1891.....			2,181	Less gas-lamps discontinued on account of electric-lights.....		182	
				Less electric-lamps discontinued during the quarter.....		2	262
NORTHERN GAS-LIGHT COMPANY.				Total number of lamps lighted December 31, 1891.....			28,422
Number of lamps lighted September 30, 1891.....	2,416						
Number of new lamps lighted during the quarter.....	178			Summary of the "Lamp Account" for the Year 1891.			
Number of old lamps relighted during the quarter.....	3	2,597		CONSOLIDATED GAS COMPANY, BRANCH 1.			
Less lamps discontinued during the quarter.....		18		Number of lamps lighted December 31, 1890.....	3,387		
Number of lamps lighted December 31, 1891.....			2,579	Number of new lamps lighted during the year 1891.....	19		
				Number of old lamps relighted during the year.....	31	3,437	
YONKERS GAS-LIGHT COMPANY.				Less lamps discontinued during the year.....	21		
Number of lamps lighted September 30, 1891.....	557			Less lamps discontinued on account of electric-lights.....	107		
Number of new lamps lighted during the quarter.....	61			Less lamps transferred to Equitable Gas-light Co.....	277	405	
Number of old lamps relighted during the quarter.....	0	618		Number of lamps lighted December 31, 1891.....			3,032
Less lamps discontinued during the quarter.....		0					
Number of lamps lighted December 31, 1891.....			618	CONSOLIDATED GAS COMPANY, BRANCH 2.			
Total number of gas-lamps lighted December 31, 1891.....			27,083	Number of lamps lighted December 31, 1890.....	1,695		
				Number of new lamps lighted during the year 1891.....	18		
NAPHTHA-LAMPS.				Number of old lamps relighted during the year.....	86	1,799	
NEW YORK AND NEW JERSEY GLOBE GAS-LIGHT COMPANY.				Less lamps discontinued during the year.....	13		
Number of lamps lighted September 30, 1891.....	138			Less lamps discontinued on account of electric-lights.....	8		
Number of new lamps lighted during the quarter.....	2			Less lamps transferred to Equitable Gas-light Co.....	142		
Number of old lamps relighted during the quarter.....	0			Less lamps transferred to Standard Gas-light Co.....	18	181	
Less lamps discontinued during the quarter.....		140		Number of lamps lighted December 31, 1891.....			1,618
Number of naphtha lamps lighted December 31, 1891.....			140				
				CONSOLIDATED GAS COMPANY, BRANCH 3.			
ELECTRIC-LAMPS.				Number of lamps lighted December 31, 1890.....	2,054		
UNITED STATES ILLUMINATING COMPANY.				Number of new lamps lighted during the year 1891.....	16		
Number of lamps lighted September 30, 1891.....	290			Number of old lamps relighted during the year.....	5	2,075	
Number of new lamps lighted during the quarter.....	4			Less lamps discontinued during the year.....	10		
Number of old lamps relighted during the quarter.....	0			Less lamps discontinued on account of electric-lights.....	54		
Less lamps discontinued during the quarter.....		294		Less lamps transferred to Equitable Gas-light Co.....	34		
Number of lamps lighted December 31, 1891.....			294	Less lamps transferred to Standard Gas-light Co.....	277	375	
				Number of lamps lighted December 31, 1891.....			1,700



CONSOLIDATED GAS COMPANY, BRANCH 4.				NAPHTHA LAMPS.			
Number of lamps lighted December 31, 1890.....	3,449			Number of lamps lighted December 31, 1890.....	138		
Number of new lamps lighted during the year 1891.....	110			Number of new lamps lighted during the year 1891.....	2		
Number of old lamps relighted during the year.....	120	3,679		Number of old lamps relighted during the year.....	0	140	
Less lamps discontinued during the year.....	39			Less lamps discontinued during the year.....		0	
Less lamps discontinued on account of electric-lights.....	30			Number of lamps lighted December 31, 1891.....			140
Less lamps transferred to Equitable Gas-light Co.....	328						
Less lamps transferred to Standard Gas-light Co.....	37	434					
Number of lamps lighted December 31, 1891.....			3,245				
CONSOLIDATED GAS COMPANY, BRANCH 6.				ELECTRIC LAMPS.			
Number of lamps lighted December 31, 1890.....	4,881			UNITED STATES ILLUMINATING COMPANY.			
Number of new lamps lighted during the year 1891.....	495			Number of lamps lighted December 31, 1890.....	236		
Number of old lamps relighted during the year.....	121	5,407		Number of new lamps lighted during the year 1891.....	4		
Less lamps discontinued during the year.....	80			Number of old lamps relighted during the year.....	1		
Less lamps discontinued on account of electric-lights.....	141			Number of lamps transferred from Brush Electric Illuminating Co.....	60		
Less lamps transferred to Standard Gas-light Co.....	90	311		Number of lamps transferred from Mount Morris Electric Light Co.....	28	329	
Number of lamps lighted December 31, 1891.....			5,096	Less lamps discontinued during the year.....	1		
Total number of lamps lighted by Consolidated Gas Company December 31, 1891.....			14,691	Less lamps transferred to Brush Co.....	5		
				Less lamps transferred to Mount Morris Co.....	29	35	
NEW YORK MUTUAL GAS-LIGHT COMPANY.				Number of lamps lighted December 31, 1891.....			294
Number of lamps lighted December 31, 1890.....	264			BRUSH ELECTRIC ILLUMINATING COMPANY.			
Number of new lamps lighted during the year 1891.....	4			Number of lamps lighted December 31, 1890.....	223		
Number of old lamps relighted during the year.....	3	271		Number of new lamps lighted during the year 1891.....	0		
Less lamps discontinued during the year.....	20			Number of old lamps relighted during the year.....	63		
Less lamps discontinued on account of electric-lights.....	29			Number of lamps transferred from United States Co.....	5		
Less lamps transferred to Standard Gas-light Company.....	17	66		Number of lamps transferred from Harlem Lighting Co.....	15	306	
Number of lamps lighted December 31, 1891.....			205	Less lamps discontinued during the year.....	0		
				Less lamps transferred to East River Electric Light Co.....	20		
EQUITABLE GAS-LIGHT COMPANY.				Less lamps transferred to Harlem Lighting Co.....	13	33	
Number of lamps lighted December 31, 1890.....	3,717			Number of lamps lighted December 31, 1891.....			273
Number of new lamps lighted during the year 1891.....	14			EAST RIVER ELECTRIC LIGHT COMPANY.			
Number of old lamps relighted during the year.....	50			Number of lamps lighted December 31, 1890.....	189		
Number of lamps transferred from Consolidated Gas Company.....	781	4,570		Number of new lamps lighted during the year 1891.....	0		
Number of lamps transferred from Standard Gas Co.....	8			Number of old lamps relighted during the year.....	4		
Less lamps discontinued during the year.....	19			Number of lamps transferred from Brush Co.....	20		
Less lamps discontinued on account of electric-lights.....	327	346		Number of lamps transferred from Harlem Lighting Co.....	23	236	
Number of lamps lighted December 31, 1891.....			4,224	Less lamps discontinued during the year.....	28		
				Less lamps transferred to United States Co.....	60		
STANDARD GAS-LIGHT COMPANY, MADISON SQUARE BRANCH.				Less lamps transferred to Mount Morris Co.....	12	100	
Number of lamps lighted December 31, 1890.....	777			Number of lamps lighted December 31, 1891.....			136
Number of new lamps lighted during the year 1891.....	2			MOUNT MORRIS ELECTRIC LIGHT COMPANY.			
Number of old lamps relighted during the year.....	11			Number of lamps lighted December 31, 1890.....	109		
Number of lamps transferred from Consolidated Gas Company.....	359	1,166		Number of new lamps lighted during the year 1891.....	26		
Number of lamps transferred from New York Mutual Gas Company.....	17			Number of old lamps relighted during the year.....	10		
Less lamps discontinued during the year.....	5			Number of lamps transferred from United States Co.....	29		
Less lamps discontinued on account of electric-lights.....	65			Number of lamps transferred from East River Co.....	12	186	
Less lamps transferred to Equitable Gas-light Company.....	8	78		Less lamps discontinued during the year.....	4		
Number of lamps lighted December 31, 1891.....			1,088	Less lamps transferred to United States Co.....	28	32	
				Number of lamps lighted December 31, 1891.....			154
STANDARD GAS-LIGHT COMPANY, HARLEM BRANCH.				HARLEM LIGHTING COMPANY.			
Number of lamps lighted December 31, 1890.....	1,412			Number of lamps lighted December 31, 1890.....	124		
Number of new lamps lighted during the year 1891.....	32			Number of new lamps lighted during the year 1891.....	0		
Number of old lamps relighted during the year.....	5			Number of old lamps relighted during the year.....	76		
Number of lamps transferred from Consolidated Gas Co.....	63	1,512		Number of lamps transferred from Brush Co.....	13	213	
Less lamps discontinued during the year.....	2			Less lamps discontinued during the year.....	0		
Less lamps discontinued on account of electric-lights.....	13	15		Less lamps transferred to Brush Co.....	15		
Number of lamps lighted December 31, 1891.....			1,497	Less lamps transferred to East River Co.....	23	38	
Total number of lamps lighted by Standard Gas Co., December 31, 1891.....			2,585	Number of lamps lighted December 31, 1891.....			175
CENTRAL GAS-LIGHT COMPANY.				NORTH NEW YORK LIGHTING COMPANY.			
Number of lamps lighted December 31, 1890.....	2,694			Number of lights lighted December 31, 1890.....	0		
Number of new lamps lighted during the year 1891.....	224			Number of new lights lighted during the year 1891.....	141		
Number of old lamps relighted during the year.....	80	2,998		Number of old lamps relighted during the year.....	26		
Less lamps discontinued during the year.....	80			Less lamps discontinued during the year.....		167	
Less lamps discontinued on account of electric-lights.....	736			Number of lamps lighted December 31, 1891.....		0	
Less lamps transferred to Northern Gas-light Co.....	1	817		Total number of electric-lamps lighted December 31, 1891.....			167
Number of lamps lighted December 31, 1891.....			2,181				1,199
NORTHERN GAS-LIGHT COMPANY.				RECAPITULATION FOR THE YEAR.			
Number of lamps lighted December 31, 1890.....	2,227			Number of gas-lamps lighted December 31, 1890.....	27,114		
Number of new lamps lighted during the year 1891.....	366			Number of naphtha-lamps lighted December 31, 1890.....	138		
Number of old lamps relighted during the year.....	4			Number of electric-lamps lighted December 31, 1890.....	881	28,133	
Number of lamps transferred from Central Gas-light Co.....	1			Number of gas-lamps lighted during the year 1891.....	1,271		
Less lamps discontinued during the year.....		2,598		Number of new naphtha-lamps lighted during the year.....	2		
		19		Number of electric-lamps lighted during the year.....	173	1,446	
Number of lamps lighted December 31, 1891.....			2,579	Number of gas-lamps relighted during the year.....	516		
				Number of naphtha-lamps relighted during the year.....	0		
YONKERS GAS-LIGHT COMPANY.				Number of electric-lamps relighted during the year.....	178	694	
Number of lamps lighted December 31, 1890.....	557			Less gas-lamps discontinued during the year.....	308	30,273	
Number of new lamps lighted during the year 1891.....	61			Less gas-lamps discontinued on account of electric-lights.....	1,510		
Number of old lamps relighted during the year.....	0			Less naphtha-lamps discontinued during the year.....	0		
Less lamps discontinued during the year.....		618		Less electric-lamps discontinued during the year.....	33	1,851	
Number of lamps lighted December 31, 1891.....			618	Total number of lamps lighted December 31, 1891.....			28,422
Total number of gas-lamps lighted December 31, 1891.....			27,083				



## EXHIBIT "E."

Statement Giving the Illuminating Power in Candles of the Gas supplied to the City by the several Gas-light Companies during the Quarter ending December 31, 1891, as Shown by the Daily Observations at the Photometrical Rooms of the Department of Public Works, with the Average for the Year.

FOR WHAT TIME.	CONSOLIDATED GAS CO., BRANCH 1.			CONSOLIDATED GAS CO., BRANCH 2.			CONSOLIDATED GAS CO., BRANCH 3.			CONSOLIDATED GAS CO., BRANCH 4.			CONSOLIDATED GAS CO., BRANCH 6.			N. Y. MUTUAL GAS- LIGHT CO.			EQUITABLE GAS- LIGHT CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
Week ending—	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
Oct. 3, 1891.....	21.32	25.08	22.95	20.40	21.06	20.78	26.92	28.20	27.76	21.84	23.16	22.40	27.30	28.88	28.16	29.48	31.80	30.56	28.54	29.90	29.22
" 10, " .....	22.03	27.82	23.66	20.10	21.58	21.08	26.50	30.34	28.07	22.47	25.25	24.07	25.66	29.42	27.57	30.32	31.56	30.81	29.66	30.35	29.89
" 17, " .....	20.16	23.04	21.70	21.09	22.52	21.65	26.73	29.36	27.83	26.16	31.18	27.69	25.08	29.86	27.34	28.22	29.68	28.88	25.13	29.14	27.75
" 24, " .....	23.18	24.96	23.87	20.81	23.76	21.78	27.77	29.25	28.50	25.42	25.74	25.96	26.08	27.30	26.71	28.70	30.69	29.70	27.58	29.99	28.87
" 31, " .....	22.23	22.90	22.57	20.52	21.26	20.86	27.28	29.22	28.00	24.39	27.88	25.53	24.28	27.40	25.69	28.56	31.24	29.67	27.56	30.28	28.87
Nov. 7, " .....	20.65	22.34	21.54	20.56	21.83	21.46	23.66	27.18	26.27	21.24	24.31	23.08	24.16	25.54	25.00	28.62	29.54	29.04	28.80	29.60	29.30
" 14, " .....	23.30	24.28	23.67	20.49	22.46	21.61	25.20	27.88	26.71	22.46	24.42	23.80	24.00	26.68	25.47	27.92	30.54	29.67	29.14	30.26	29.81
" 21, " .....	20.46	25.25	23.46	20.89	22.66	21.84	26.40	27.92	27.40	22.03	27.72	24.48	24.60	28.70	26.39	29.14	30.30	29.87	28.46	29.77	29.07
" 28, " .....	23.04	24.04	23.55	21.58	22.14	21.94	26.48	28.22	27.29	21.83	24.34	23.14	25.48	25.88	25.70	29.56	30.03	29.81	29.31	30.14	29.71
Dec. 5, " .....	21.74	24.00	23.36	20.29	23.42	21.84	27.14	28.37	27.83	20.30	25.88	23.77	24.14	27.74	25.78	29.62	30.80	30.05	29.68	30.84	30.12
" 12, " .....	23.64	25.23	24.39	22.28	24.08	23.01	26.48	30.74	28.26	21.21	23.50	22.68	24.22	28.62	25.69	29.04	31.10	30.04	29.60	30.10	29.87
" 19, " .....	23.24	24.68	24.05	22.18	23.03	22.54	27.72	28.98	28.26	21.21	25.24	22.63	23.95	26.42	25.19	29.90	31.76	30.55	29.76	31.85	30.58
" 26, " .....	23.97	25.22	24.61	19.38	21.13	20.21	24.46	27.88	26.41	21.31	25.54	23.52	25.56	27.84	26.96	29.26	30.53	29.82	29.83	31.25	30.49
For the Quarter.....	20.16	27.82	23.34	19.38	24.08	21.58	23.66	30.74	27.58	20.30	31.18	24.06	23.95	29.86	26.28	27.92	31.80	29.88	25.13	31.85	29.50

## Average for the Year.

FOR WHAT TIME.	CONSOLIDATED GAS CO., BRANCH 1.			CONSOLIDATED GAS CO., BRANCH 2.			CONSOLIDATED GAS CO., BRANCH 3.			CONSOLIDATED GAS CO., BRANCH 4.			CONSOLIDATED GAS CO., BRANCH 6.			N. Y. MUTUAL GAS- LIGHT CO.			EQUITABLE GAS- LIGHT CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
Month of—	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
January, 1891.....	19.42	23.18	21.89	18.12	22.40	20.65	25.93	30.14	27.91	21.50	26.82	24.12	23.88	28.40	26.33	26.56	32.86	29.21	27.68	31.12	29.56
February, " .....	19.92	24.06	21.72	20.06	23.76	21.90	25.80	30.10	27.75	20.58	28.16	23.69	22.62	27.62	25.02	27.02	31.50	29.69	25.84	32.40	27.89
March, " .....	19.10	23.62	21.22	19.58	22.71	21.54	24.39	28.04	25.82	21.79	24.10	22.83	23.18	29.25	25.93	26.08	31.42	29.56	25.58	30.52	28.41
April, " .....	18.94	24.47	21.41	19.54	22.86	21.31	26.02	29.82	28.20	21.05	23.92	22.48	25.48	29.10	26.96	28.56	32.84	30.16	27.96	31.42	30.11
May, " .....	18.18	24.54	22.73	19.02	23.56	21.51	24.50	29.66	28.05	21.40	24.90	22.98	22.76	27.23	25.57	28.58	32.16	30.59	27.78	31.64	30.29
June, " .....	19.46	26.18	22.19	20.02	23.25	21.72	21.22	28.66	26.94	21.25	25.34	23.40	25.05	30.88	27.64	28.04	30.70	29.17	26.56	30.50	28.61
July, " .....	20.70	25.65	23.09	20.08	23.60	22.84	24.32	28.46	26.36	22.58	25.74	23.63	27.34	31.44	28.97	27.10	31.02	29.12	27.40	30.16	28.71
August, " .....	21.04	25.78	23.89	19.28	23.68	21.39	25.96	30.42	27.74	20.70	24.12	22.67	27.20	29.37	28.61	24.52	31.28	30.25	27.48	30.56	29.07
September, " .....	19.77	27.28	22.76	19.30	23.17	22.21	26.62	29.86	28.09	21.22	25.23	23.31	26.40	30.18	27.96	26.18	31.10	29.99	28.24	30.23	29.46
October, " .....	20.16	27.82	22.95	20.10	23.76	21.22	26.50	30.34	28.03	21.84	31.18	25.13	24.28	29.86	27.09	28.22	31.80	29.92	25.13	30.36	29.92
November, " .....	20.46	25.25	20.88	20.49	22.66	21.71	23.66	28.22	26.92	21.24	27.72	23.62	24.00	28.70	25.64	27.92	30.54	29.60	27.46	30.26	29.47
December " .....	21.74	25.23	24.10	19.38	24.08	21.90	24.46	30.74	27.69	20.30	25.88	23.15	23.95	28.62	25.90	29.04	31.76	30.11	29.60	31.86	30.26
Totals for the Year.....	18.18	27.82	22.40	18.12	24.08	21.66	21.22	30.74	27.54	20.30	31.18	23.42	22.62	31.44	26.88	24.52	32.86	29.78	25.13	32.40	29.31
Distance from gas-works.....	1 <sup>88</sup> / <sub>100</sub> Miles .....			1 <sup>68</sup> / <sub>100</sub> Miles .....			3 <sup>84</sup> / <sub>100</sub> Miles .....			3 <sup>33</sup> / <sub>100</sub> Miles .....			1 <sup>50</sup> / <sub>100</sub> Miles .....			1 <sup>61</sup> / <sub>100</sub> Miles.....			2 <sup>79</sup> / <sub>100</sub> Miles.		
Testing burner.....	Bray's Slit Union No. 7....			Bray's Slit Union No. 7....			Bray's Slit Union No. 7....			Bray's Slit Union No. 6....			Bray's Slit Union No. 6....			Bray's Slit Union No. 7....			Bray's Slit Union No. 7.		
Gas.....	Water-gas (Tessie du Motay)			Coal-gas, with water-gas...			Water-gas (Tessie du Motay)			Coal and naphtha .....			Water-gas (Tessie du Motay)			Water-gas.....			Water-gas (Jerzmanowski process).		

## EXHIBIT "F."

Time Table for Lighting and Extinguishing the Public Gas-lamps for the Year 1892.

MONTHS.	DATES.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	MONTHS.	DATES.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
January.....	1 to 7	H. M. 4.30	H. M. 6.30	June.....	4 to 10	H. M. 7.25	H. M. 3.15
" .....	8 to 14	4.40	6.30	" .....	11 to 17	7.25	3.15
" .....	15 to 21	4.50	6.25	" .....	18 to 24	7.30	3.15
" .....	22 to 28	5.00	6.25	" .....	25 to July 1	7.30	3.15
" .....	29 to Feb. 4	5.05	6.15	July.....	2 to 8	7.30	3.15
February.....	5 to 11	5.10	6.10	" .....	9 to 15	7.30	3.15
" .....	12 to 18	5.20	5.55	" .....	16 to 22	7.20	3.15
" .....	19 to 25	5.30	5.55	" .....	23 to 29	7.20	3.15
" .....	26 to Mar. 4	5.30	5.45	" .....	30 to Aug. 5	7.10	3.30
March.....	5 to 11	5.40	5.35	August.....	6 to 12	7.10	3.45
" .....	12 to 18	5.50	5.20	" .....	13 to 19	6.55	4.00
" .....	19 to 25	6.00	5.10	" .....	20 to 26	6.45	4.10
" .....	26 to Apr. 1	6.10	4.55	" .....	27 to Sept. 2	6.30	4.20
April.....	2 to 8	6.15	4.40	September.....	3 to 9	6.15	4.30
" .....	9 to 15	6.25	4.30	" .....	10 to 16	6.05	4.40
" .....	16 to 22	6.30	4.20	" .....	17 to 23	5.55	4.50
" .....	23 to 29	6.40	4.10	" .....	24 to 30	5.40	5.00
" .....	30	6.45	4.00	October.....	1 to 7	5.30	5.00
May.....	1 to 6	6.45	4.00	" .....	8 to 14	5.20	5.10
" .....	7 to 13	6.55	3.40	" .....	15 to 21	5.10	5.20
" .....	14 to 20	7.00	3.30	" .....	22 to 28	5.00	5.30
" .....	21 to 27	7.10	3.15	" .....	29 to Nov. 4	4.45	5.35
" .....	28 to June 3	7.15	3.15				

MONTHS.	DATES.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	MONTHS.	DATES.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
November.....	5 to 11	H. M. 4.40	H. M. 5.45	December.....	3 to 9	H. M. 4.20	H. M. 6.15
" .....	12 to 18	4.30	6.00	" .....	10 to 16	4.20	6.20
" .....	19 to 25	4.25	6.00	" .....	17 to 23	4.20	6.20
" .....	26 to Dec. 2	4.20	6.10	" .....	24 to 31	4.20	6.25

## DEPARTMENT OF PUBLIC WORKS—BUREAU OF LAMPS AND GAS, NEW YORK, December 24, 1891.

The above table will show the time for lighting and extinguishing the public lamps during the year 1892 (leap year). All the lamps to be lighted within one hour from the time of beginning.

THOMAS F. GILROY, Commissioner of Public Works.

S. McCORMICK, Superintendent of Lamps and Gas.

## INSTRUCTIONS TO LAMP-LIGHTERS.

I.—The lamps must be lighted and extinguished strictly in accordance with the time specified in this time-table, and all the lamps must be lighted within one hour from the time of beginning.

II.—The lamps must be kept clean and in good condition; the top glass, sides and bottom glass must be thoroughly cleaned, both on the outside and inside of the lantern, three times in each week, and oftener if necessary, to keep them clean, and dust and dirt must be brushed from the frames, and the glass street signs must also be cleaned. Lighters must bear in mind that with clean glass a greater brilliancy is obtained from the flame. In the winter season the snow must be brushed from the lanterns after each snow-fall. Dirty and disordered lamps will be considered as evidence of a careless and incompetent Lamp-lighter.

III.—The glass street signs and house numbers must be kept in their proper positions. The sign bearing the name of any avenue or main street must face the roadway of such avenue or street. One of the signs bearing the name of a cross street must face the roadway of such street and the other sign must be placed on the opposite side of the lantern. Be careful to observe that the name does not face the inside of the lantern.

IV.—Advertising signs on the lamp-posts or lantern, or colored or ground glass in the lantern, are a violation of a Corporation Ordinance, and must not be permitted, except the red glass near the fire-alarm boxes, and these must be kept in place.

V.—If a Lighter, on extinguishing a lamp should find a glass broken, he must replace the same before lighting time of the same day. If he should find a glass broken while lighting, he must replace the same before lighting time of the following day, and the bottom glass must be kept in place as well as sides and tops. If he should find any portion of the tin work broken, he must take the lantern to his Superintendent for repairs. Broken glass must not be deposited upon the street.



VI.—The burners must be kept in good condition to burn with a full, clear, steady flame, and not with a single or forked jet. If a burner, when lighted, should not emit the proper flame, then the same must be immediately cleared from its obstruction; and if it will not burn properly, another burner must be substituted.

VII.—If a Lighter, when lighting, finds that a lamp will not burn, he will leave such lamp and finish his route. He must then return to the unlighted lamps and endeavor to get them in burning order. If he cannot make the lamp burn, he must report the same on the following morning to the Superintendent of the Gas Company.

VIII.—Lamp-lighters will not be permitted to climb the lamp-posts. The lamps must be lighted either by means of a torch or the use of a ladder.

IX.—In case a lamp-post should be found broken or taken down, or requiring repairs, or an excavation should be made near the same which would endanger its safety, he must report the same at once to the Superintendent of the Gas Company, stating the correct location of the post and what repairs are required. If the post has been taken down, he must report by whom and for what purpose, and date when done. No excuse will be accepted from any Lamp-lighter who fails to report lamp-posts taken down or broken.

X.—Lighters must not break the lamp bottoms, nor the street-sign slots. Lamps furnished with these slots should be placed on corner lamp-posts.

XI.—Ladders must not be left tied to the lamp-posts.

XII.—Boys must not be permitted to act as Lamp-lighters.

S. McCORMICK,

Superintendent of Lamps and Gas.

The following is a summary of the awards and contracts under the foregoing resolutions:

CONTRACT AWARDED TO.	For Gas to and Light- ing each Lamp per Annum.	For each Lamp-post Straightened.	For each Column Re-loaded.	For each Column Re-fitted.	For each Service-pipe Re-fitted.	For each Stand-pipe Re-fitted.	For each Lamp-post Removed.	For each Lamp-post Reset.	For each New Lamp Fitted up.
Equitable Gas-light Co.....	\$12.00	\$1.50	\$1.50	\$3.50	\$4.00	\$4.00	\$3.50	\$10.00	\$10.00
Standard Gas-light Co.....	13.04 $\frac{3}{4}$	1.50	1.50	3.50	5.50	2.50	3.50	10.00	10.00
New York Mutual Gas-light Co..	17.50	1.50	1.50	3.50	3.50	3.50	3.50	8.00	8.00
Consolidated Gas Co.....	17.50	1.50	1.50	3.50	5.50	2.50	3.50	8.00	8.00
Central Gas-light Co.....	27.00	1.50	1.50	1.50	3.50	2.00	3.50	8.00	8.00
Northern Gas-light Co.....	28.00	1.50	1.50	3.00	3.50	2.00	3.50	8.00	8.00
Yonkers Gas-light Co.....	28.00	1.00	1.00	1.00	3.50	2.00	1.50	8.00	8.00
*New York and New Jersey Globe Gas-light Co.....	22.00	....	....	....	....	....	....	....	....

\*Naphtha Lamps.

For Electric Lighting.

BRUSH ELECTRIC ILLUMINATING COMPANY.

Fifth avenue, from Washington Square to Twenty-third street.....	17 lamps.
Seventh avenue, from Fourteenth to Forty-sixth street.....	30 "
Eighth avenue, from Fourteenth to Forty-second street.....	25 "
Fourteenth street, from Broadway to North river.....	20 "
Twenty-third street, from Fourth avenue to North river.....	22 "
Thirty-fourth street, from Broadway to North river.....	17 "
Forty-second street, from Broadway to North river.....	15 "
Bowery, from Park Row to Houston street.....	19 "
Park Row, from Ann street to Bowery.....	15 "
Washington Park.....	15 "

At forty cents per night each, for..... 195 lamps.

Broadway, from Fifteenth to Fifty-ninth street.....	46 lamps.
Madison Park.....	14 "
Union Park.....	9 "

At forty-five cents per night each, for..... 69 lamps.

UNITED STATES ILLUMINATING COMPANY.

Avenue B, from Houston to Sixth street.....	5 lamps.
Barclay street, from Broadway to North river.....	7 "
Battery Park.....	24 "
Broadway, from Battery place to Thirteenth street.....	53 "
Canal street, from Bowery to Broadway.....	10 "
Catharine street, from East Broadway to East river.....	7 "
Chambers street, from Broadway to North river.....	8 "
City Hall Park.....	13 "
Cortlandt street, from Broadway to North river.....	6 "
East Broadway, from Chatham Square to Grand street.....	20 "
Fulton street, from North river to East river.....	17 "
Grand street, from Goerck to Sullivan street.....	30 "
Houston street, from Broadway to Avenue C.....	17 "
Liberty street, from Broadway to North river.....	5 "
Sixth avenue, from Fourteenth to Thirty-third street.....	18 "
South street, from Whitehall to Catharine street.....	32 "
West street, from Battery place to Desbrosses street.....	28 "
Whitehall street, from Bowling Green to South Ferry.....	6 "

Total, at forty cents per night each, for..... 306 lamps.

EAST RIVER ELECTRIC-LIGHT COMPANY.

First avenue, from Houston to Fourteenth street.....	13 lamps.
Third avenue, from Sixth to Fifty-first street.....	43 "
Fourth avenue, from Bowery to Forty-second street.....	33 "
Eighth street, from Fourth to Sixth avenue.....	10 "
Tenth street, from Second avenue to East river.....	12 "
Fourteenth street, from Broadway to East river.....	21 "
Twenty-third street, from Fourth avenue to East river.....	14 "
Thirty-fourth street, from Broadway to East river.....	20 "
Forty-second street, from Broadway to East river.....	23 "
Bowery, from Houston street to Third avenue.....	9 "
Avenue D, from Sixth to Fourteenth street.....	8 "
Irving place, from Fourteenth to Twentieth street.....	6 "
Stuyvesant Park, West.....	8 "
Stuyvesant Park, East.....	8 "
Stuyvesant street, from Eighth to Tenth street.....	3 "
Tompkins Park.....	16 "

Total, at forty cents per night for each lamp, for..... 247 lamps.

Fifth avenue, from Twenty-third to Forty-second street..... 16 lamps at 50 cents.

THE MOUNT MORRIS ELECTRIC-LIGHT COMPANY.

Bleecker street, from Christopher to Thirteenth street.....	13 lamps.
Bloomfield street, from West street to Thirteenth avenue.....	1 "
Canal street, from Broadway to North river.....	16 "
Christopher street, from West to Fourth street.....	8 "
Gansevoort Market Square.....	13 "
Gansevoort street, from West street to Thirteenth avenue.....	1 "
Greenwich street, from Battery place to Chambers street.....	18 "
Lenox avenue, from One Hundred and Tenth to One Hundred and Thirty-sixth street.....	26 "
Thirteenth avenue, from Gansevoort to Bloomfield street.....	3 "
West street, from Desbrosses to West Eleventh street.....	22 "

West Broadway, from Chambers to Canal street.....	10 lamps.
West Washington Market.....	12 "
One Hundred and Twenty-fifth street, from Lenox avenue to Ninth avenue.....	11 "

Total, at forty cents per night for each lamp, for..... 154 lamps.

HARLEM LIGHTING COMPANY.

Third avenue, from Fifty-first street to Harlem Bridge.....	82 lamps.
Seventh avenue, from Forty-sixth to Fifty-ninth street.....	13 "
Eighth avenue, from Forty-second to Fifty-ninth street.....	16 "
Harlem Bridge (Third avenue), southerly fixed span.....	2 "
Fifty-ninth street, from Third to Eighth avenue.....	19 "
Eighty-sixth street, from Third avenue to East river.....	9 "
One Hundred and Twenty-fifth street, from East river to Lenox avenue.....	18 "
East River Park.....	15 "

Total, at forty cents per night for each lamp, for..... 174 lamps.

Mount Morris Park, at fifty cents per night each, for..... 19 "

193 lamps.

NORTH NEW YORK LIGHTING COMPANY.

Third avenue, from Harlem Bridge to One Hundred and Seventieth street.....	47 lamps.
One Hundred and Thirty-fourth street, from Lincoln avenue to Southern Boulevard.....	6 "
One Hundred and Thirty-fifth street, from Third avenue to Southern Boulevard.....	6 "
One Hundred and Thirty-eighth street, from Madison Avenue Bridge to Southern Boulevard.....	16 "
One Hundred and Forty-second street, from Alexander to Brook avenue.....	3 "
One Hundred and Forty-third street, from Alexander to St. Ann's avenue.....	5 "
One Hundred and Forty-fourth street, from Third to St. Ann's avenue.....	4 "
One Hundred and Forty-fifth street, from Third to St. Ann's avenue.....	4 "
One Hundred and Forty-eighth street, from Willis to St. Ann's avenue.....	3 "
One Hundred and Forty-ninth street, from Mott avenue to Southern Boulevard.....	15 "
One Hundred and Fiftieth street, from Third to Morris avenue.....	3 "
One Hundred and Fifty-first street, from Third to Morris avenue.....	3 "
One Hundred and Fifty-second street, from Third to Morris avenue.....	3 "
One Hundred and Fifty-sixth street, from Morris to Cauldwell avenue.....	7 "
Alexander avenue, from Southern Boulevard to One Hundred and Forty-second street.....	8 "
Courtlandt avenue, from Third avenue to One Hundred and Sixty-first street.....	14 "
Harlem Bridge, northerly fixed span.....	2 "
Lincoln avenue, from Southern Boulevard to One Hundred and Thirty-eighth street.....	5 "
Madison Avenue Bridge, easterly span.....	1 "
Morris avenue, from One Hundred and Thirty-ninth to One Hundred and Sixty-fourth street.....	22 "
Mott avenue, from One Hundred and Thirty-eighth to One Hundred and Fifty-first street.....	9 "
Southern Boulevard, from Third avenue to One Hundred and Thirty-eighth street.....	14 "
St. Ann's avenue, from Southern Boulevard to One Hundred and Sixty-first street.....	23 "
Willis avenue, from Southern Boulevard to Third avenue.....	14 "
Westchester avenue, from Third to Robbins avenue.....	8 "

Total, at forty-five cents per night for each lamp, for..... 245 lamps.

RECAPITULATION.

Brush Electric Illuminating Company—	
At 40 cents.....	195
At 45 cents.....	69
	264 lamps.
United States Illuminating Company, at 40 cents.....	306
East River Electric-light Company—	
At 40 cents.....	247
At 50 cents.....	16
	263
Mount Morris Electric-light Company, at 40 cents.....	154
Harlem Lighting Company—	
At 40 cents.....	174
At 50 cents.....	19
	193
North New York Lighting Company, at 45 cents.....	245
Total.....	1,424 lamps.

S. McCORMICK, Superintendent of Lamps and Gas, Secretary.

CORPORATION ORDINANCES RELATING TO PUBLIC LAMPS.

Sec. 68. Any person breaking, mutilating or obstructing any of the public lamps in the city of New York, shall be liable to a penalty of five dollars for each offense.

Sec. 69. Any person who shall break, misplace or carry away any of the glass street-signs now or hereafter to be placed in any of the public lamps, shall be liable to a penalty of three dollars for each offense.

Sec. 70. No person, without permission of the Commissioner of Public Works, shall take up, remove or carry away any public lamp-post in the City of New York, under the penalty of ten dollars for each offense.

Sec. 71. No person shall remove, or cause or permit to be removed, any public lamp-post now or hereafter to be placed in front of their premises, for the purpose of constructing a vault or otherwise, without the permission of the Superintendent of Lamps and Gas; and the owner or owners of such vault shall cause the lamp-posts so removed to be reset at their own expense immediately upon the completion of the vault, under the penalty of twenty-five dollars for each offense.

Sec. 226. No person shall attach, place or paste, or cause to be attached, placed or pasted, any sign or advertisement, or other matter, upon any public lamp-post now erected in the City of New York or that may hereafter be so erected, under the penalty named in the next section.

Sec. 227. The violation of any of the provisions of the preceding section shall be punishable by a fine of not less than one dollar, or more than ten dollars.

Sec. 412. It shall not be lawful to erect any telegraph-post within a distance of ten feet of any public street-lamp. Any person offending against any of the provisions of this section shall be deemed guilty of a misdemeanor, and on conviction thereof before any of the police magistrates or justices of this city, shall be punished by a fine not exceeding ten dollars, or in default of the payment of such fine, by imprisonment not exceeding ten days.

Sec. 1953 of the New York City Consolidation Act of 1882. If any person shall willfully break, take down, or carry away any glass lamp hung or fixed in any of the streets of the City of New York, or extinguish the lights therein, or by aiding or abetting in the same, shall be subject to a fine of twenty-five dollars, and in default of payment of such fine the offender shall be committed to the penitentiary for the term of two months.

Document "L."

REPORT OF THE SUPERINTENDENT OF REPAIRS AND SUPPLIES.

CITY OF NEW YORK—DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF REPAIRS AND SUPPLIES,  
SUPERINTENDENT'S OFFICE, NO. 31 CHAMBERS STREET, ROOM 15,  
NEW YORK, January 7, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

SIR—I have the honor to submit to you the following report of the transactions of this Bureau for the quarter ending December 31, 1891.

Among the principal items of work done by the Bureau, I refer to the following:

NEW CRIMINAL COURTS.

The following statement will show the condition of the new Criminal Court building at date.

The Elm street front of the building is up to within 36 feet of its full height. The Franklin street front for 105 feet east from Elm street is 53 feet 6 inches below its full height, and west from Centre street 68 feet below its full height. The White street front for a distance of 77 feet west from Centre street is 70 feet below its full height, and for about 94 feet east from Elm street 49 feet 6 inches below its full height.



The granite work in the main walls of the building is set in place, excepting the arch behind the Centre street portico.

The voussoirs for this arch are cut, and preparation is being made to put them in place.

Upon the completion of this archway the exterior walls of the building will be in condition to be progressed vigorously.

There are 16 interior walls in the building; 8 of these walls are 74 feet high or about 35 feet below the full height; 4 of the remaining walls are 61 feet 8 inches high, or about 50 feet below full height, and 4 others about 67 feet below full height.

Two stories of the marble arcade and the greater part of the third story is completed. The third story of this arcade is to have sixteen female figures or caryatides, supporting finely moulded arches, the spandrels of which are elaborately carved in high relief.

Thirteen of the figures are in place and several of the spandrels have been set. All the stone for the entablature of the third story is cut and delivered excepting two of the caryatides.

The ornamented terra cotta bosses are set in the Elm street front and 1,000 pieces of this terra cotta has been delivered at the building.

At this time 8,887,000 bricks of all kinds, including 75,000 fine front and enameled bricks have been delivered at the building; 208,000 fire-proof arch blocks have been delivered and 35,000 square feet of these have been set in place on the different floors.

The housesmith work, consisting of posts, columns, girders, floor beams, lintels and wrought-iron boiler stacks have been put in position without delay as far as the condition of the walls permit, and quantities of this material are on the ground ready to be placed in position.

The brown-stone work is progressing as speedily as the condition of the brick work will permit. Large quantities of the brown-stone is on hand with a full force of men to set it with steam-engines and large number of derricks along all the fronts of the building.

A large number of the window frames are stored in the building ready to be placed.

The steam heating and ventilating apparatus and the machinery for the elevator service is in an advanced condition, and can be used to supply heat for the plasterers immediately upon the inclosing of any portion of the building in which the plastering is ready to be begun.

The plumbing has progressed as far as the condition of the building will permit.

The number of men employed on the building at this date is 209, comprising among the whole number 36 bricklayers, 74 laborers, 13 stone-fitters, 25 derrickmen, 18 housesmiths.

The number of carpenters, brown-stone and marble cutters employed in the shops preparing work in the various branches has not been reported.

Days allowed by contract.....	500
Number of days since work began.....	545
Number of days unfit for work.....	125

Actual working days worked.....	420
---------------------------------	-----

Days remaining under contract.....	80
------------------------------------	----

#### NEW HARLEM COURT-HOUSE.

The front wall on Sylvan place is to the roof line or eaves course, excepting the gable over the large triple window, the cut stone arches of which are finished in place. The front walls on One Hundred and Twenty-first street are within about ten feet of the eaves course, and this portion of the work is delayed for want of front brick, which is daily expected to arrive, for the same reason the gable on this front and the round tower on the corner are also delayed.

The exterior walls are up to the roof level, and the platforms of the cells are in place, and the cell walls are topped out.

The roof trusses covering the centre portion of the building as well as the roof beams covering a portion of the prison side of the building are also in place.

The iron stairways in the male and female prisons are in place and nearly finished, and a large part of the fire-proof arching is finished.

The plumbing work in the prison has progressed as far as possible, the drain and water connections have been put in position. Two steam boilers have been set in the cellar of the building, and the steam connections have been made as far as practicable.

All the brown stone is cut and delivered, and, with favoring weather, the building should be inclosed within two or three weeks, permitting carpenters, plasterers, plumbers to push their branches of work to early completion.

#### THE NEW COURT-HOUSE.

Supreme Court—The window-shades in the several rooms have been repaired, and 32 new shades and 40 new rollers furnished.

Superior Court—The carpets in the several rooms have been taken up, cleaned and relaid with new lining. Law books have been furnished.

Court of Common Pleas—The window-shades in the several parts, and in the Judges and Clerks rooms have been repaired and 58 new ones hung to replace those worn out.

The carpets in the several rooms have been taken up, cleaned and relaid, with new lining. Some law books have been furnished.

Surrogate's Office—A roll-top desk and small table have been furnished and window-shades hung in Room No. 3.

The range in the Janitor's kitchen was cleaned and repaired, and a new galvanized-iron smoke stack put up.

The No. 3 steam-pump in the basement was overhauled and repaired, and the steam-pipes covered with asbestos, hair-felt and canvas where necessary.

New rubber treads have been put on the steps in the Chambers street entrance, and the steps and handrail painted and varnished.

#### THE CITY HALL.

The Mayor's Office—Two new cases have been built for use of the Stenographer. Protection ventilators put in the windows of the office and a rubber mat furnished.

City Court—In the Clerk's office shelving has been put up. A new fire-proof safe, some arm-chairs and law books have been furnished.

New window shades have been put up on the windows on the east, west and south fronts of the building.

New step-planks and hand-rails have been placed on the steps at the rear entrance. These have been covered with rubber treads.

A rubber mat has been furnished the Governor's room.

New chandeliers have been put in in the halls and corridors of the first and second floors.

New timbers have been put in the roof trusses to support and secure the flag-poles; new hall-yards have been reeved, new sheaves put in where required, and galvanized iron bands placed on the poles to prevent their splitting, and a new set of flags (consisting of three United States flags, one State, and one Municipal flag), have been furnished.

The storm-doors on the south front, have been repaired and painted.

#### THE BROWN-STONE BUILDING.

New carpet has been laid in Part III. of the Court of General Sessions.

Alterations have been made to the gas-fixtures in Parts I., II. and III. Some repairs have been made to the marble tiling in the halls.

The gutter on the west side of the roof has been relined with new tin, and the gutters on the other three sides have been repaired, and all the tin work on the roof has been painted two coats of metallic paint.

A new galvanized iron smoke pipe, with Emmerson head, has been put up on the roof of Judge Martine's room in the extension on the west side, and carried to the top of main building.

The room in the basement of the Brown Stone Building, fitted up for the use of women, called as witnesses before the Courts of General Sessions, is in charge of a matron and has been used since May 27, 1890, to December 29, 1891, by 5,772 women. This room has been furnished with toilet-rooms, lavatory, chairs, carpets, heated and lighted.

#### HALL OF RECORDS.

The room in the southwest extension has been fitted up for use as "The Chattel Mortgage Room." A new floor has been laid, closets built, new hot-air register put in, the walls and ceiling painted and calcimined, and new window shades hung.

#### NO. 31 CHAMBERS STREET.

In the light shaft, the third, fourth and fifth story halls, the draughting-room, Room No. 16, and the water-closets on all the floors, have been cleaned, plastering repaired, walls painted, ceilings calcimined, hardwood work varnished, and radiators bronzed.

New wardrobes have been furnished for use of Water Purveyor and Chief Clerk's office, and a lounge and desk rug for the Commissioner's office.

A new Franklin stove with fixtures was put up in Room No. 9.

#### THE MARKETS.

Washington Market—Repairs have been made to the roof over stands Nos. 75, 144, 148, 170, 257, 290, 295, 297, 329 and 357, and the roof of the shed around the market has been repaired and painted. Repairs have been made to five of the skylights and new ropes put on several of the skylight sashes. The centre door on Washington street and a door on West street, near Vesey

street, have been covered on the bottom with galvanized iron. Repairs have been made to the flooring in several places, and the glass on the south side of centre skylight and west side of West street skylight have been painted.

West Washington Market—The repairs to the building damaged by fire have been completed in accordance with the terms of the contract. Repairs have been made to the roof over stands Nos. 25 and 26 West street and No. 56 Thirteenth avenue. The leader at No. 50 Hewitt avenue has been repaired, and new leaders put up at Nos. 18 and 64 Bloomfield street, No. 49 Loew avenue, No. 49 Thompson avenue and No. 17 Gansevoort street. The awnings of nine of the buildings have been repaired and painted.

Fulton Market—The flooring under stands Nos. 86, 88, 90, 92, 94 and 96 has been taken up, new 6-inch by 6-inch sleepers put in where required and a new yellow pine floor laid. The sash in kitchen windows over stands has been repaired and reglazed. The floor at stands Nos. 70, 101 and 103 has been relaid, a pair of new doors hung on centre entrance on Beekman street, and the doors on Front and Beekman streets repaired and rehung. The roof over stands Nos. 86 to 90 and 211, 217, 227, 19 and 17 has been repaired, a new skylight put up, about 30 feet of new leader furnished and the tin work painted. The iron awning has been repaired and painted, and skylights reglazed and four galvanized iron chimney tops put on.

Centre Market—Repairs have been made to the roofs and gutters over the rooms occupied by B. G. Hughes. The flooring opposite stand No. 29, the doors at stands Nos. 67, 34, 36, 25, 20, and on the northeast corner of the building and the shed on Centre Market place have been repaired and the windows reglazed.

Catharine Market—The roofs have been repaired and painted and a new tin roof put on the extension of the lower building; the leaders have been repaired, new tubes and strainers put in where needed and the gutters on main building have been relined with Phelps' triple-coated tin and new braces put in where required.

Essex Market—The chimneys have been cleaned and five new galvanized-iron tops put on, the chimneys pointed up with Portland cement and the windows reglazed.

Union Market—Doors repaired, windows reglazed.

Tompkins Market—The roof over Sixth street entrance has been repaired and painted and a new leader put up; two new chimney-tops, with Emmerson heads, and three ventilators have been placed in position on the roof. The chimneys have been flashed with galvanized iron, and two new iron gates have been hung in the railing on Hall place.

Clinton Market—The repairs to this market, done under contract, have been completed according to the specifications, and connections have been made with the sewers in Spring and Washington streets.

#### THE ARMORIES.

Troop A—A large closet has been built for use of the Quartermaster, and repairs made to the "arms cases." A new flag-pole, forty feet above the roof, has been securely placed in position. The pole has gilt copper ball, lignum-vitæ trucks, brass sheaves, with cleats and halyards complete.

Second Battery Armory—The following has been repaired in several places and two gas-stoves furnished for heating the officers' rooms.

Eighth Regiment Armory—A new flag-pole was put up to replace the one destroyed by lightning. The boiler furnaces have been repaired and relined, and one set of grate-bars supplied.

Temporary repairs were made to the large window over main entrance, which was loosened from its position and forced inward by the violence of the wind. The great area of this window will render it necessary to put in extra fastenings and bracing to guard against a repetition of this accident.

Seventy-first Regiment Armory—Four new No. 21 Scorchers, with bottom boards, pipe and fixtures, were put up in main drill-room.

#### THE COURTS—POLICE AND CIVIL.

First District Civil Court—A Franklyn stove, with pipe and fixtures, were put up in the Judge's room, and some law books furnished.

Second District Civil Court—A No. 17 Scorchers stove was put up in Clerk's office.

Third District Court-house—A new roll-top desk and a jury-wheel were furnished for Clerk's office.

Repairs have been made to the tin roofs and gutters; new copper tubes were put in leader pipes. The slate roof of centre tower and the tin roof of bell-deck were repaired and the tin-work all painted.

The doors, window frames, sashes and railings on the exterior of the building were cleaned off and painted, and hard woodwork varnished.

The walls, ceilings and trimmings in the Janitor's rooms, and the stairway and handrail leading to Janitor's rooms, were repaired, painted and calcimined, and hardwood varnished.

Fifth District Civil Court—The walls, ceilings and trimmings in the court-room, vestibule, hallway up to Janitor's rooms and small room adjoining main hall, have been cleaned off, repaired, painted and calcimined.

Benches in court-room painted and radiators bronzed. The partition on Judge's platform has been taken down and platform extended. One small desk has been furnished.

Eighth District Civil Court—Linoleum has been laid in hallway, some rugs and mats furnished, and a fifteen-day time clock put up.

Ninth District Civil Court—A new No. 21 Scorchers, with fixtures, has been put up in court-room. Court of Special Sessions—Law books have been furnished.

Second District Police Court—New carpet has been laid in Judge's room, and some desk rugs and chairs furnished.

Third District Police Court—Repairs have been made to the slate roof and tin gutters. The chimneys pointed up. The furnaces repaired and put in order. The exterior of the building on the street fronts have been painted. The court-room, Judge's and Clerk's room, the examination room, the hallway and stairs, and Janitor's rooms have been cleaned, painted and calcimined, and the basement has been whitewashed.

Fourth District Police Court—A new fire-proof safe, with combination lock, 8 lock boxes and 26 pigeon-holes, has been furnished and some chairs supplied.

Board of Police Justices—Law books have been supplied.

County Jail—The chimneys have been cleaned; range repaired. The grates in the reception room and Warden's room have been relined and fenders repaired and polished.

No. 49 Beekman street—The walls and ceilings in the office of the Corporation Attorney on the first floor, the rear room on the second floor, and the hallway and stairs up to the third floor have been cleaned off, plastering repaired, wall painted and ceilings calcimined; grained work touched up and varnished. The front of the building has been painted and lined, and a new sign put up.

Finance Department—Two cases of shelving have been put up in Room No. 4.

A wardrobe furnished for use of Auditor's office.

A document cabinet put up in Comptroller's office, and some rugs furnished.

In the City Chamberlain's office a grate has been inclosed with wire guards and O. G. return pieces.

Corporation Counsel's Office—Two cases for maps and documents, a flat top desk, an oak desk, a wardrobe and umbrella-stand have been furnished for use of the office, and a map case with fourteen shelves and rolling doors has been put up in the Library.

Office of the Board of Street Openings—A Tucker file case, a wardrobe, 2 rotary chairs, some cane-seated office chairs and a book-case have been furnished.

Department of Taxes and Assessments—Three roll-top desks, some office chairs and 3 wardrobes have been furnished.

The Bridge at Forty-first street and Fourth avenue has been replanked with yellow pine, and new step plank put in where needed.

Office of the Commissioner of Street Improvements, Twenty-third and Twenty-fourth Wards—New stoves with bottom boards, pipes and fixtures, have been put up in the several rooms, and some waste-paper baskets furnished.

#### THE PUBLIC BUILDINGS AND OFFICES UNDER THE CARE OF THE BUREAU.

The following is a list of the public buildings, offices and armories in care of this Bureau, with a statement of their present condition (buildings marked thus \* are leased):

The City Hall—The halls and corridors, the court-rooms and offices need painting. The brown-stone flagging in the first floor corridor should be taken up and replaced with rubbed blue stone. The marble tiling in corridors need repairs. The area walls are in bad condition; they should be taken down and rebuilt, and the iron railings repaired and painted. The window frames and sashes on the east, west and south fronts need painting.

The New Court-house—This building is at present in very good condition, except that the plumbing needs a thorough overhauling. The present water-closets which are old and in constant need of repairs, should be removed and reconstructed in accordance with the requirements of the most improved sanitary plumbing.

I would also recommend that the hot-air chambers be reconstructed, and the old steam-pipe taken out and replaced with new and more effective radiators, and the chambers inclosed with brick walls, so as to exclude the cellar air from the hot-air ducts leading to the court rooms.

The cold air channels cleaned and repaired, and four large ventilating fans of sufficient capacity to furnish the building with a full supply of fresh air from outside the building; set in place.

These alterations and changes are necessary to complete the improvements already made in the heating of the building, which consists of the four new steam boilers, two steam engines and the connection of the heating and ventilating systems with electric thermostats by which the temperature in the several rooms is regulated. These being regulated by thermometers, the required temperature can be constantly maintained.



The new boilers and engines and a portion of the electric thermostats have been put in during the past year, and have proved highly satisfactory. And it is for this reason that I recommend that the system be completed.

The Brown Stone Building—The exterior of the windows and doors, the two frame extensions and the east and west sidewalls need painting; with this exception the building is in good condition. Hall of Records—This building needs a new tin roof and the first and second stories need painting and calcimining.

#### THE COURTS, POLICE AND CIVIL.

The First District Civil Court—Condition good.

The Second District Civil Court—Condition good.

The Third District Civil Court—Condition good.

\*The Fourth District Civil Court—Condition good.

\*The Fifth District Civil Court—Condition good.

\*The Sixth District Civil Court—Condition good.

The Seventh District Civil Court—Condition good.

\*The Eighth District Civil Court—Condition fair.

\*The Ninth District Civil Court—Condition fair.

\*The Tenth District Civil Court—Condition fair.

\*The Eleventh District Civil Court—Condition fair.

The Court of Special Sessions—Condition fair.

The First District Police Court—Condition fair.

The entrance and portico and the steps leading to the above two court rooms, which are located in the Tombs, are very much in need of repair. But there is a difference of opinion as to whether the work should be done by this Department or by the Department of Charities and Correction.

This question should be determined as soon as possible, so that the repairs which are badly needed may be proceeded with without further delay.

The Second District Police Court—Condition good.

The Third District Police Court—The present slate roof on this building should be replaced with a metal roof, as the pitch is so slight it is difficult to keep the roof weather-tight, otherwise the building is in good condition.

The Fourth District Police Court—Condition good.

\*The Fifth District Police Court—Condition good.

\*The Sixth District Police Court—Condition good.

The County Jail—Condition good.

\*Public offices in the Stewart building, consisting of the Finance Department, Commissioner of Jurors' Office, the Commissioners of Accounts, the Tax Receivers' Office—All in good condition.

\*The Department of Public Works, No. 31 Chambers street—Condition good.

\*Offices of Commissioners of Taxes and Assessments and Surveyor's Office, No. 27 Chambers street—In good condition.

\*Staats Zeitung Building, Offices of Taxes and Assessments, Corporation Counsel's Office, Board of Estimate and Assessment and Armory Board—Are all in good condition.

#### NO. 49 BEEKMAN STREET.

Offices of Corporation Attorney and Public Administrator—Condition good.

#### NO. 5 DUANE STREET.

Used by Public Administrator and the Fire Department—An old building, in fair condition.

#### THE ARMORIES.

\*Brigade Headquarters, Troop A and Signal Corps, No. 132 West Fifty-sixth street—Building in fair condition.

\*First Battery Armory—Condition good.

\*Second Battery Armory—Condition good.

Seventh Regiment Armory—Condition good.

Eighth Regiment Armory—Condition not good.

\*Ninth Regiment Armory—Condition fair.

Twelfth Regiment Armory—Condition good.

Twenty-second Regiment Armory—Very extensive repairs have been made to the roof and lantern of this building, to render it weather tight. The work is not yet fully completed, but will be done as rapidly as the weather will permit.

Sixty-ninth Regiment Armory—Condition good.

\*Seventy-first Regiment Armory—Condition fair. The old armory of this regiment was destroyed by fire. The present armory will be occupied until their new armory is completed.

#### THE CORPORATION YARDS.

Rivington Street Yard—Condition good.

Twenty-fourth Street Yard—Condition good.

Sixteenth Street Yard—Condition bad. In this yard is an old frame building covered with corrugated iron used for storage by the Bureau of Incumbrances. It is little better than an open shed and not worth repairing.

#### THE REPAIR SHOPS.

\*No. 134 West Thirtieth Street—Condition good.

\*Nos. 427 and 429 East Eighty-seventh street—Condition good.

\*No. 302 East One Hundred and Twenty-fifth street—Condition good.

#### THE MARKETS.

Washington Market—Needs painting and repairs to sheds over sidewalks.

West Washington Market—The repairs to the last building damaged by fire has been completed, and in the restoration precautions were taken against a recurrence of fire by the introduction of fire-proof partitions and the removal of firing from the walls. All the buildings are now in good condition, except that they are not fire-proof.

Fulton Market—Condition good.

Centre Market—Needs painting and calcimining. Plastering on upper floors is very much damaged.

Clinton Market—The contract for the repairs to this market has been completed. New fronts, with galvanized-iron cornices, have been put on the Washington and Spring street sides; the building painted and calcimined; roof repaired and about 4,000 feet of flooring laid. There is a requisition from the Comptroller on file in this Bureau for putting up a new front on Canal street side similar to the new ones on Spring and Washington streets; this would give the market a uniform appearance. Also, for the laying of about 4,000 additional feet of flooring; the latter is very much needed.

Essex Market—Needs painting and roof needs repairs.

Tompkins Market—Condition good.

Jefferson Market—Condition good.

Union Market—Condition good.

The Dog Pound—This building will have to be moved from its present location about 50 feet west, to make way for improvements contemplated by the Dock Commissioners. Specifications for the removal of the building have been prepared, and the work will be proceeded with as soon as arrangements can be completed.

In addition to the foregoing, the following work has occupied the attention of the Bureau during the year 1891, to wit:

The repairs to plumbing, steam and gas fitting of the buildings and offices, have demanded constant and careful attention.

Repairs to the carpenter work in the several buildings have been made by the carpenters in the employ of the Bureau. There is a Foreman and six carpenters constantly employed in attending to these repairs, and they are frequently obliged to work overtime in order to keep up with the demands made for their services, and consequently much of the work of the Bureau has to be sent to outside shops.

The repairs to office furniture; the winding and care of the city clocks, numbering about 125; the putting up and taking down, repairing and storing of window awnings; the care and maintenance of telephone and telegraph instruments, and electric apparatus, wires and batteries in the several offices; the supply of fuel; the furnishing of janitor's supplies; the supply of ice; the furnishing of hardware, cleaners, and other supplies; the putting up and taking down, cleaning and repairing of stoves in the various courts, offices and armories, and the repairs to the iron work and glazing in the several buildings.

The nature of the work embraced under these several heads being largely composed of small repair jobs it would be difficult to give a statement of it in detail.

#### CONTRACTS AND SPECIFICATIONS.

Contracts and specifications were made:

For shoring up walls of old Arsenal.

For 3,500 gross tons of coal.

For 500,000 pounds of ice in bulk, and 120 pieces for water-coolers, delivered daily.

For janitor's supplies.

For repairs to building damaged by fire in West Washington Market, December 31, 1890.

For repairs and alterations to building corner of One Hundred and Forty-first street and Third avenue, for office of Commissioner of Street Improvements, Twenty-third and Twenty-fourth Wards.

For building Harlem Court-house, corner Sylvan place and One Hundred and Twenty-first street.

For painting fifteen free floating baths.

Repairing roofs of the baths.

For ship-carpenter work on baths.

For supplies to armories.

For painting halls and corridors in New Court-house.

For repairs to Clinton Market.

For repairs to building damaged by fire in West Washington Market.

For repairs to buildings Nos. 8, 10, 12 and 14 Chambers street.

All these contracts and specifications were prepared for printing after a careful examination of the proposed work and plans and drawings made where needed for a better understanding of the work contemplated to be done, full and explicit information given its bidders when required, and the work thoroughly inspected and examined as it progressed.

During the year 1891 about 1,000 requisitions have been made by the bureau for labor, material and supplies required in the various courts, offices and armories.

This made it necessary to make careful examinations of the work, supplies and materials required, the preparation of a written description of the same and making an approximate estimate of the cost before transmitting them for your approval.

Nearly 1,250 bills, including pay-rolls of the Bureau, have been examined in detail, as to prices charged for work and material and the correctness of the calculations and extensions. Where mistakes or overcharges have been found, the parties have been sent for and the bill corrected.

For every bill approved two vouchers are prepared and the bill is then transmitted for payment.

#### THE FREE FLOATING BATHS.

These baths were thoroughly repaired and painted. The roofs repaired, plumbing and gas fittings put in order. Thirty new signal lamps and 13 new reflector lamps, 1,850 feet of 6-inch hawser and 7,500 feet of line. Two 1,000 pound anchors and 100 fathoms of 1-inch chain have been furnished.

The number of bathers during the season was as follows:

Males.....	2,350,362
Females.....	1,081,967
Total.....	3,432,329
Increase over last year.....	18,715

The fifteen baths have been safely moored in their usual winter quarters, in the Gowanus creek, at the foot of Twenty-third street, South Brooklyn.

During the past quarter some repairs have been made to the carpenter work. The stairs leading to several of the swimming tanks have been found to be decayed to such an extent as to be dangerous, have been removed and replaced with new ones.

All the pontoons have been carefully examined and tested with a view to determine the repairs needed. The hawsers and running lines, pumps, lamps and other property have been carefully stowed and cared for.

Specifications for the repairs to the baths and for their equipment are at this time being prepared.

Very respectfully,

W. G. BERGEN, Superintendent of Repairs and Supplies.

#### Document "M."

#### REPORT OF THE SUPERINTENDENT OF INCUMBRANCES.

DEPARTMENT OF PUBLIC WORKS—BUREAU OF INCUMBRANCES,  
NO. 31 CHAMBERS STREET,  
NEW YORK, January 5, 1892.

Hon. THOMAS F. GILROY, Commissioner of Public Works:

DEAR SIR—I submit herewith the following report of the operations of this Bureau for the quarter ending December 31, 1891 (months of October, November and December), together with a condensed statement of the entire business transacted during the year 1891:

1,184 complaints of obstructions received and attended to.	
1,196 seizures and removals of obstructions made.	
1,480 building permits issued.	
219 miscellaneous permits issued.	
5 permits issued to cut down shade trees.	
7 notices issued to repair defective vault covers.	
Expense of seizing and removing 1,196 articles, including 278 loads of dirt, stone and refuse, and throwing in dirt, stone, etc., on premises of various places; removing 199 dead and dangerous trees, stumps and posts, also 532 telegraph poles, and about 577 miles of electric wire.	\$13,046 40
Total expenses for the quarter.....	\$15,071 40
Received from owners for the redemption of seized articles.....	\$485 75
Received from public sale of unredeemed goods, November 9, 1891.....	995 63
Total.....	\$1,481 38

All of which was duly paid over to the City Chamberlain.

Salary account—Appropriation.....	\$7,800 00
Expended up to December 31, 1891.....	7,800 00
Appropriation for removing obstructions and incumbrances.....	\$35,000 00
By transfer from various appropriations.....	11,238 99
Total.....	\$46,238 99
Expended up to December 31, 1891.....	46,228 20
Balance.....	\$10 79

During the year 1891 the total number of complaints of obstructions received was.....	4,634
Removals to the Corporation Yards.....	4,542
Removals of loads of dirt, stone, refuse, etc.....	720
Removals of dead and dangerous trees, etc.....	720
Removals of telegraph and electric-light poles.....	1,888
Removals of miles of electric wire, about.....	2,512
Number of building permits issued.....	7,645
Number of miscellaneous permits issued.....	1,144
Number of permits issued to cut down trees.....	26
Number of notices issued to repair defective vault covers.....	29

#### APPROPRIATION FOR THE YEAR 1891.

For removing obstructions in streets and avenues, with additional transfer.....	\$46,238 99
For removing obstructions in streets and avenues—Salaries.....	7,800 00
Total.....	\$54,038 99
Total expenditures for the year, as follows:	
Removals of redeemable obstructions.....	\$4,729 00
Removals of dirt, stone, etc.....	2,971 55
Removals of dead and dangerous trees, etc.....	2,520 00
Removals of telegraph poles.....	7,552 00
Removals of miles of electric wire.....	21,727 00
Transportation expenses.....	564 15
Expense of horse and wagon for Superintendent.....	702 00
Salaries—Inspectors, Keeper of Corporation Yards, Watchmen, Skilled and Detailed Laborers.....	13,262 50
Balance.....	\$10 79



Actual cost of removing obstructions and incumbrances.....	\$4,929 00
Actual cost of removing poles and wires.....	29,279 00
Total.....	\$34,208 00
Received from owners of seized articles.....	\$2,043 25
Received from sales of unredeemed articles.....	\$2,980 78
Less auctioneer's fees, 10 per cent.....	298 06
	2,682 72
	4,725 97
Difference.....	\$29,482 03

Respectfully,

MICHAEL F. CUMMINGS, Superintendent of Incumbrances.

## Document "N"

## REPORT OF THE WATER REGISTER.

BUREAU OF WATER REGISTER, NO. 31 CHAMBERS STREET,  
NEW YORK, December 31, 1891.

Hon. THOS. F. GILROY, Commissioner of Public Works:

SIR—I herewith transmit statement of moneys received for water rents, penalties and taps, for the quarter ending December 31, 1891:

	Principal.	Penalties.	Taps.
October.....	\$265,025 47	\$2,803 40	\$1,346 50
November.....	157,835 21	1,900 70	957 50
December.....	142,661 70	1,078 00	1,017 00
	\$565,522 38	\$5,782 10	\$3,321 00
Total.....		\$574,625 48	

Deposited to the credit of "Water-meter Fund, No. 2"—

October.....	\$117 77
November.....	274 83
September.....	2,570 51
Total.....	\$2,963 11

"Special Fund—Repaving and Restoring Streets"—

October.....	\$1,172 50
November.....	1,174 00
December.....	1,245 00
Total.....	\$3,591 50

I have the honor to also submit a statement of moneys received for the year ending December 31, 1891, and placed to the credit of their respective accounts with the City Chamberlain.

## TOTAL RECEIPTS.

Regular water rates and penalties.....	\$1,705,366 07
Water by meter measurements.....	1,307,732 74
Permits for water for building purposes.....	42,884 85
Penalties for using hose.....	185 00
	\$3,056,168 66
Water rates returned in arrears.....	\$144,463 88
Water by meter measurements in arrears.....	160,405 50
	304,869 38
Pipe-tapping receipts.....	12,101 50
	\$3,373,139 54
Restoring pavements.....	\$11,664 00

## Receipts for Meter and Meter Setting during the Year 1891.

Water Meter Fund No. 2.....	\$9,369 46
Amount returned to the Bureau of Arrears.....	6,668 62
	\$16,038 08

Croton water supplied to shipping for the year as follows:

Receipts from meter on docks.....	\$85,923 60
600 permits for steamboats, amounting to.....	18,023 49
44 permits for engines on wharfs, amounting to.....	643 00
	\$104,590 09

1,460 permits were issued for building purposes during the year.

2,682 permits were issued for taps during the year.

The amount received during the year for restoring pavements, \$11,664, is reserved for repairing openings in streets made for the purpose of connecting water-pipes with buildings, etc., etc. The special meter fund account of \$9,369.46 is reserved and set apart to reimburse the City for advances made for meters and meter settings.

The following list of charitable institutions includes all which have been declared exempt under chapter 696, Laws of 1887, and also those exempted during the present year under chapter 492, Laws of 1890.

Charitable Institutions which have Applied for Exemption from Charges for Croton Water, under the Provisions of Chapter 696 of the Laws of 1887, and as Amended by Chapter 492, Laws of 1890, which, the Counsel to the Corporation has Advised, are Entitled to Exemption Under the Act.

YEAR.	INSTITUTIONS.	RATED.	LOCATION.	AMOUNT.
1888	Association for the Relief of Aged and Indigent Females.....	Reg. rents.	Tenth avenue and One Hundred and Fourth street.....	\$45 00
1889	Asylum of St. Vincent de Paul.....	Meter.....	No. 211 West Thirty-ninth street.....	309 70
1891	Association for Befriending Children and Young Girls.....	".....	No. 132 Second avenue.....	12 50
1888	Baptist Home for Aged and Infirm Persons.....	".....	Fourth avenue and East Sixty-eighth street.....	128 30
1888	Colored Orphan Asylum.....	".....	One Hundred and Forty-third street and Northern Boulevard.....	639 25
1888	Dispensary of German Hospital.....	".....	Nos. 135 and 137 Second avenue.....	55 60
1890	Day Nursery and Babies Shelter.....	Reg. rents..	No. 118 West Twenty-first street.....	20 00
1888	French Benevolent Society.....	Reg. rents..	No. 131 West Fourteenth street.....	27 00
1888	German Hospital and Dispensary.....	Meter.....	Park avenue and Seventy-seventh street.....	724 70
1888	Hebrew Sheltering and Guardian Society.....	".....	Northeast corner Eighty-seventh street and Avenue A.....	190 90
1888	Hebrew Sheltering and Guardian Society.....	".....	West side Boulevard, One Hundred and Fiftyeth and One Hundred and Fifty-first streets.....	801 80

YEAR.	INSTITUTIONS.	RATED.	LOCATION.	AMOUNT.
1888	Home for the Aged and Indigent Women.....	Meter.....	Southeast corner Tenth avenue and One Hundred and Fourth street.....	\$180 10
1888	Home for the Aged and Infirm Hebrews.....	".....	Nos. 119 and 127 West One Hundred and Fifth street.....	282 30
1888	Hebrew Benevolent and Orphan Asylum Society.....	".....	West side Tenth avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-eighth streets.....	2,441 30
1889	House of Good Shepherd, St. Ann's Home.....	Reg. rents.	Southeast corner Eighty-ninth street and Avenue A.....	38 80
1888	Hahnemann Hospital.....	Meter.....	East side Fourth avenue, Sixty-seventh and Sixty-eighth streets.....	447 60
1890	Home for Old Men and Aged Couples.....	Reg. rents..	Nos. 487 to 491 Hudson street.....	32 00
1889	Home for the Aged, Little Sisters of the Poor.....	Meter.....	Nos. 201 to 215 East Seventieth street.....	175 50
1889	Home for the Aged, Little Sisters of the Poor.....	".....	North side West One Hundred and Sixth street, Ninth and Tenth avenues.....	175 10
1888	House of the Good Shepherd.....	".....	Foot of East Ninetieth street.....	640 00
1888	".....	".....	Southeast corner Avenue A and Ninth street.....	327 80
1888	Lake and Watts Orphan Home.....	".....	West One Hundred and Tenth street and Ninth avenue.....	96 30
1887	Manhattan Dispensary and Hospital.....	Reg. rents.	One Hundred and Thirty-first street and Tenth avenue.....	32 00
1888	Manhattan Eye and Ear Hospital.....	Meter.....	No. 103 Park avenue.....	247 90
1888	Methodist Episcopal Church Home.....	".....	Nos. 1584 to 1602 Tenth avenue.....	219 00
1889	Montiflore Home for Chronic Invalids.....	".....	Boulevard and West One Hundred and Thirty-eighth street.....	497 60
1888	Mount Sinai Hospital.....	".....	East side Lexington avenue, Sixty-sixth and Sixty-seventh streets.....	1,091 60
1888	New York Foundling Asylum.....	".....	Third and Lexington avenues, Sixty-eighth and Sixty-ninth streets.....	1,220 80
1888	".....	".....	Spuyten Duyvil.....	128 40
1888	New York Asylum for Lying-in Women.....	Reg. rents..	No. 139 Second avenue.....	12 00
1888	New York Cancer Hospital.....	Meter.....	Southwest corner One Hundred and Sixth street and Eighth avenue.....	269 10
1888	New York Hospital and Bloomingdale Asylum.....	".....	No. 165 Chambers street, Nos. 7 to 21 West Fifteenth street.....	2,801 40
1888	New York Homoeopathic Hospital.....	Reg. Rents.	No. 8 West Sixteenth street; also Boulevard, One Hundred and Seventeenth and One Hundred and Eighteenth streets.....	1,402 20
1888	New York Ophthalmic Hospital.....	Meter.....	West side Avenue A, Sixty-third and Sixty-fourth streets.....	50 00
1888	New York Post Graduate.....	Reg. rents..	No. 201 East Twenty-third street.....	122 50
1890	New York Society for the Relief of Ruptured and Crippled.....	Reg. rents..	No. 226 East Twentieth street.....	52 00
1888	New York Infirmary for Women and Children.....	Meter.....	No. 135 East Forty-second street.....	454 50
1889	New York Mothers' Home for the Sisters of Misericorde.....	Reg. rents..	Nos. 4 and 5 Livingston place.....	39 00
1889	Nursery and Childs' Hospital.....	".....	No. 531 East Eighty-sixth street.....	21 00
1888	New York Juvenile Asylum.....	Meter.....	No. 571 Lexington avenue.....	577 70
1890	New York Eye and Ear Infirmary.....	".....	East side Eleventh avenue, between One Hundred and Seventy-sixth and One Hundred and Seventy-eighth streets.....	1,662 20
1888	Protestant Episcopal Orphan Home and Asylum.....	".....	No. 218 Second avenue.....	70 00
1888	Presbyterian Hospital.....	".....	East Forty-ninth street, Lexington and Fourth avenues.....	241 90
1890	Peabody Home for Aged and Indigent Women.....	Reg. rents..	Park avenue and East Seventieth street.....	756 70
1888	Roman Catholic Orphan Asylum.....	".....	Boston road and Clover street.....	
1888	Roosevelt Hospital.....	".....	East side Fifth avenue, Fifty-first and Fifty-second streets, south side East Fifty-second street, Fifth and Madison and Madison and Fourth avenues.....	1,709 00
1887	Sisters of the Order of St. Dominick.....	Meter.....	South side West Fifty-ninth street, Ninth and Tenth avenues.....	1,040 90
1888	Skin and Cancer Hospital.....	Reg. rents..	Nos. 137 to 143 Second street.....	40 00
1888	Sloan Maternity Hospital.....	Meter.....	No. 243 East Thirty-fourth street, Fordham Heights.....	120 00
1888	St. Elizabeth's Hospital.....	".....	Fifty-ninth street and Tenth avenue.....	144 90
1888	St. Francis Hospital.....	".....	No. 225 West Thirty-first street.....	32 60
1888	St. Joseph's Hospital.....	".....	No. 609 Fifth street.....	450 30
1888	St. Joseph's Hospital.....	Reg. rents..	No. 328 East One Hundred and Ninth street.....	15 00
1888	St. Luke's Hospital.....	Meter.....	No. 17 West Fifty-fourth street.....	760 10
1888	St. Vincent's Hospital.....	".....	Nos. 151 to 161 West Eleventh street, and Nos. 160 to 174 West Twelfth street; Also Nos. 17 and 19 Seventh avenue.....	308 20
1888	St. James Home.....	".....		110 00
1888	St. Phillips' Parish Home.....	Reg. rents..	No. 26 James and No. 21 Oliver street.....	34 00
1888	St. Joseph's Home for the Aged.....	".....	No. 127 West Thirtieth street.....	10 00
1888	St. Joseph's Orphan Asylum.....	".....	No. 211 West Fifteenth street.....	200 00
1888	St. Mary's Free Hospital for Children.....	".....	North side Eighty-ninth street, First avenue and Avenue A.....	9 00
1888	Society for the relief of Half Orphans and Destitute Children.....	Meter.....	Nos. 405 and 407 West Thirty-fourth street.....	138 10
1890	St. Mary's Lodging House.....	Reg. rents..	Nos. 59 to 67 Tenth street.....	227 50
1891	St. Joseph Industrial Home.....	".....	No. 143 West Fourteenth street.....	33 00
1891	Sheltering Arms.....	".....	No. 65 East Eighty-first street.....	240 00
1891	St. Joseph's Institute for the Improved Instruction of Deaf Mutes.....	Reg. rents..	South side One Hundred and Twenty-ninth street, between Amsterdam avenue and Broadway.....	34 40
1885	St. Stephen's Home—Not exempt since 1887.....	".....	West side Amsterdam avenue, between Lawrence street and Broadway.....	116 00
1888	Trinity Corporation.....	Meter.....	North side Lawrence street, between Amsterdam avenue and Broadway.....	21 85
1888	The Orphan Asylum of the City of New York.....	".....	Lorillard place, between One Hundred and Eighty-eighth and One Hundred and Eighty-ninth streets.....	24 00
1888	The Laura Franklin Free Hospital.....	Meter.....	Nos. 145 and 147 East Twenty-eighth street.....	300 40
1890	The Home for the Aged of the Church of the Holy Communion.....	".....	No. 50 Varick street.....	86 40
1890	The St. Mark's Hospital.....	".....	West Seventy-third street, Eleventh avenue and Riverside Drive.....	435 60
1890	The Five Points House of Industry.....	Reg. rents..	Nos. 15 and 17 East One Hundred and Eleventh street.....	115 60
1890	The Colored Home and Hospital.....	".....	No. 330 Sixth avenue.....	11 00
1890	The New York Society for the Prevention of Cruelty to Children.....	Meter.....	No. 66 St. Mark's place.....	15 00
1890	The Babies' Hospital.....	Reg. rents..	Nos. 147 to 155 Worth street.....	10 30
1891	The House of Mercy.....	".....	First avenue, Sixty-fourth and Sixty-fifth streets.....	1,309 50
1890	The Guardian of the Sisterhood of the Holy Communion.....	Reg. rents..	Nos. 100 and 102 East Twenty-third street.....	36 00
1888	Woman's Hospital.....	".....	No. 657 Lexington avenue.....	29 00
1891	West-side Day Nursery.....	Meter.....	Fourteenth avenue, between Two Hundred and Thirtieth and Two Hundred and Fifteenth streets.....	189 00
1891	Woman's Home.....	Reg. rents..	No. 328 Sixth avenue.....	27 00
1891		Meter.....	Fiftieth street and Park avenue.....	595 10
1891		Reg. rents..	No. 266 West Fortieth street.....	8 00
1891		Meter.....	No. 110 Second avenue.....	82 50
				\$28,830 25



## REVENUE.

THE FOLLOWING TABLE EXHIBITS THE YEARLY REVENUE DERIVED FROM CROTON WATER, FROM ITS INTRODUCTION INTO THE CITY IN THE YEAR 1842 TO JANUARY 1, 1892.		STATEMENT OF ARREARS OF WATER RENTS RETURNED TO THE COMPTROLLER, CLERK OF ARREARS, ACCORDING TO LAW, AND COLLECTED BY CLERK OF ARREARS.	TOTAL REVENUE.
From 1842 to January 1, 1880.....	\$33,620,258 23	\$1,532,910 75	\$35,153,168 98
" Jan. 1, 1880, to Jan. 1, 1881.....	1,560,598 57	69,633 70	1,630,232 27
" " 1, 1881, " 1, 1882.....	1,510,791 77	93,552 56	1,604,344 33
" " 1, 1882, " 1, 1883.....	1,647,183 25	100,743 81	1,747,927 06
" " 1, 1883, " 1, 1884.....	1,869,518 96	169,558 61	2,039,077 57
" " 1, 1884, " 1, 1885.....	1,985,329 32	164,689 55	2,150,018 87
" " 1, 1885, " 1, 1886.....	2,122,411 83	117,041 07	2,239,452 90
" " 1, 1886, " 1, 1887.....	2,343,792 61	165,425 18	2,509,217 79
" " 1, 1887, " 1, 1888.....	2,514,343 92	154,943 30	2,668,387 22
" " 1, 1888, " 1, 1889.....	2,437,962 66	149,100 25	2,587,062 91
" " 1, 1889, " 1, 1890.....	2,544,650 07	237,401 27	2,782,051 34
" " 1, 1890, " 1, 1891.....	2,675,135 86	304,869 38	2,980,005 24
" " 1, 1891, " 1, 1892.....	3,056,168 65	.....	3,056,168 66
Total .....	\$59,888,145 71	\$3,258,969 43	\$63,147,115 14

The amount of revenue from the water service collected and paid into the City Treasury during the past year shows an increase of \$381,032.80 over the collections for the year 1890.

Respectfully submitted,  
JOSEPH RILEY, Water Register.

## BOARD OF CITY RECORD.

MAYOR'S OFFICE, CITY HALL,  
NEW YORK, March 16, 1892. }

The Hons. Hugh J. Grant, Mayor; David J. Dean, Acting Counsel to the Corporation, and Maurice F. Holahan, Acting Commissioner of Public Works, the officers designated by section 66 of the New York City Consolidation Act, met this day.

The minutes of the meeting of March 2 were read and approved.

The following requisitions were presented by the Supervisor of the City Record, with the recommendation that they be allowed, and they were acted on as the side-notes below show :

No.	DATE.	APPLIED FOR.	ACTION OF BOARD.
<i>By Commissioner of Street Improvements.</i>			
Mar. 3, 1892		25 posters for grading Southern Boulevard.....	Allowed.
		25 posters for paving One Hundred and Thirty-eighth street.	"
		25 posters for sewer in Locust avenue .....	"
		25 posters for sewer in Franklin avenue .....	"
		25 posters for sewer in One Hundred and Sixty-eighth street.	"
" 8, "		75 copies contract for regulating and grading One Hundred and Fifty-eighth street .....	"
		75 copies estimate for regulating and grading One Hundred and Fifty-eighth street .....	"
		75 copies contract for re-regulating and regrading One Hundred and Fifty-third street .....	"
" 14, "		75 copies contract for regulating and grading One Hundred and Forty-fourth street .....	"
		75 copies estimate for regulating and grading One Hundred and Forty-fourth street.....	"
<i>By Department of Parks.</i>			
" 9, "		75 copies contract for repaving walks .....	"
		50 copies estimate for repaving walks .....	"
" 14, "		250 copies annual meteorological report .....	"
		250 copies monthly meteorological report.....	"
<i>By Department of Public Works.</i>			
" 4, "		25 copies contract for heating apparatus in County Court-house	"
		25 copies estimate for heating apparatus in County Court-house .....	"
" 14, "		15 copies contract for flagging Eighty-eighth and Eighty-ninth streets.....	"
<i>By Finance Department.</i>			
Feb. 26, "		1 record of employees and salaries.....	"
Mar. 15, "		2,400 warrants .....	"
<i>By Law Department.</i>			
" 10, "		60 copies annual report.....	"
<i>By Civil Service Boards.</i>			
" 8, "		500 copies arithmetic questions (1) .....	"
		500 copies arithmetic questions (2) .....	"
		500 copies city information questions (1) .....	"
		500 copies city information questions (2) .....	"

By a concurrent vote of the three members of the Board, the Supervisor was directed to fill the requisitions allowed by direct orders, that is, without contracts, let after advertisement, that course being deemed by them to be for the best interests of the City.

Bills were approved as follows: Martin B. Brown, \$6,522.67 (for printing and distributing CITY RECORD during January, 1892); "The Sun," \$36.80 (for advertising notice to Printers and Lithographers); "New York Recorder," \$19 (for advertising notice to Stationers and Paper Dealers); and \$18.40 (for advertising notice to Printers and Lithographers).

Pay-rolls for the weeks ending March 5 and 12 were approved, as follows: Robert McManus, Richard Donaldson and William H. Levett (Bookbinders) \$21 each for each week.

Contracts were signed with the L. W. Ahrens Stationery and Printing Company for stationery (\$25,099.95), and with John F. Hahn for printing (\$430.26).

By a concurrent vote of the three officers, the Supervisor was directed to make an agreement with Charles H. A. Dougherty for the Willis files, required by the several courts and offices, at 33 cents each.

Adjourned.

W. J. K. KENNY, Secretary.

## AQUEDUCT COMMISSION.

AQUEDUCT COMMISSIONERS' OFFICE,  
ROOM 209, STEWART BUILDING,  
NEW YORK, March 29, 1892. }

Abstract of Account of Expenditures and Liabilities of the Aqueduct Commissioners during the Month of February, 1892, as required by Section 39, Chapter 490, Laws 1883.

## EXPENDITURES.

Salaries of Engineers and employees.....	\$13,699 29
Office rents .....	3,179 50
Office stationery and petty expenses .....	177 22
Instruments, drawing materials and supplies .....	152 61
Coal transportation and incidental expenses.....	269 50
Wagon, horse, horse-feed, repairs to wagons, etc.....	328 66
Diamond rock-boring drills.....	955 63
Judgments.....	1,547 41
Taxes on lands.....	12 82
Expenditures.....	\$20,322 64
Monthly estimates of amounts due to contractors for work done under contracts for East Branch Reservoir Dam; Dams Nos. 1 and 2; earth and masonry dams, Reservoirs D and M; gate-house, etc., for new gate chambers, Croton Dam; Blow-off at Shaft 24; highway, retaining-walls, etc., Croton Dam; grading, etc., grounds at One Hundred and Thirty-fifth Street Gate-house and at several of the shafts.	20,293 88
Hoisting engines, etc., for shafts.....	105 52
Total expenditures.....	\$40,722 04

## LIABILITIES.

Salaries of Engineers and employees.....	\$10,628 79
Office rents.....	1,066 50
Office stationery and petty expenses.....	62 15
Advertising.....	133 20
Instruments, drawing materials and supplies .....	139 63
Transportation and incidental expenses.....	96 21
Horse-feed, repairs to wagons, etc.....	135 44
Diamond rock-boring drills.....	415 65
Auxiliary building.....	61 72
Taxes on lands.....	87 22
Liabilities.....	\$12,826 51
Monthly estimates of amounts due to contractors for work done under contracts for East Branch Reservoir Dam; Dams Nos. 1 and 2; earth and masonry dams, Reservoirs D and M; gate-house, etc., for new gate chambers, Croton Dam; Blow-off Shaft 24; highway, retaining-walls, etc., Croton Dam; grading, etc., grounds at One Hundred and Thirty-fifth Street Gate-house and at several of the shafts..	24,850 39
Extra work on eleven head-houses and iron work, etc., for dams .....	1,680 00
Total liabilities.....	\$39,356 90

Examined and found correct.

ERNEST A. WOLFF, Auditor.

I hereby certify that the foregoing is a correct and true abstract of account of the expenditures and liabilities of the Aqueduct Commissioners for the month of February, 1892, the said account being on file in the office of the Comptroller of the City of New York.

J. C. LULLEY, Secretary.

## DEPARTMENT OF STREET CLEANING.

DEPARTMENT OF STREET CLEANING—CITY OF NEW YORK,  
STEWART BUILDING,  
NEW YORK, March 24, 1892. }

In accordance with the provisions of section 51, chapter 410 of the Laws of 1882, the Commissioner of Street Cleaning makes the following abstract of the transactions of the Department for the week ending March 13, 1892 :

<i>Streets Swept.</i>		Square Yards.	
By Department forces .....		26,476,625 7	
<i>Material Collected.</i>			
By Department forces.....	Ashes and Garbage.	Street Sweepings.	Total Loads.
On permits—			
Bureau of Markets.....	185	.....	185
Departments of Public Works and Parks .....	.....	342	342
Manufacturers (boiler ashes, etc.) .....	4,065	.....	4,065
Totals.....	32,248	9,099	41,347
<i>Final Disposition of Material.</i>		Loads.	
At sea and behind bulkheads—			
42 dumpers at sea.....		17,096	
9 deck scows at Harlem.....		3,476	
10 deck scows at Point No Point.....		4,666	
9 deck scows at Elm Park.....		3,946	
2 deck scows at Haverstraw .....		1,009	
7 deck scows at Cassanova .....		2,882	
1 deck scow at Jersey City.....		393	
2 deck scows at Elizabethport.....		810	
			34,278
In lots for fertilizing, filling-in, etc.—			
At One Hundred and Fortieth street and Lenox avenue.....		1,494	
At various places .....		733	
			2,227
Grand total.....			36,505
(Balance of material collected, 4,842 loads, remain on scows.)			

## Appointments.

Michael Newman, Laborer.	Pasquale Cordasca, Laborer.
Owen Murphy, Laborer.	William Crowley, Laborer.
James F. Larkin, Laborer.	John Reynolds, Laborer.
John Casey, Laborer.	James McLoughlin, Laborer.
William Heffren, Department Cart Driver.	Louis Mastrangle, Laborer.
George Pyle, Department Cart Driver.	Philip Sheridan, Laborer.
Patrick Guy, Hired Cart.	John Tully, Laborer.
Thomas Connolly, Laborer.	John Best, Department Cart Driver.
John Hanlon, Laborer.	Stephen Bulger, Laborer.
Michael Bergin, Department Cart Driver.	James Bymes, Laborer.
James Walpole, Department Cart Driver.	John King, Laborer.
Patrick Jackson, Laborer.	James Mansfield, Laborer.
Patrick Hynes, Laborer.	John Hughes, Laborer.
Felix Duffy, Laborer.	William Spotten, Laborer.
Lawrence Byrnes, Laborer.	James Davis, Laborer.
John Lynch, Laborer.	George Schwenzle, Laborer.
Michael Farrell, Laborer.	George Bishoff, Laborer.
Walter Hogg, Laborer.	Eugene McCarthy, Laborer.
Patrick Guilfoyle, Laborer.	Patrick Sullivan, Laborer.
Michael Norton, Laborer.	Thomas Foley, Laborer.
Maurice Walsh, Laborer.	Maurice Fleming, Laborer.
Owen Stephens, Laborer.	Michael Caputo, Laborer.



*Comptroller's Office.*  
No. 15 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
THEODORE W. MYERS, Comptroller; RICHARD A. STORRS, Deputy Comptroller; D. LOWBER SMITH, Assistant Deputy Comptroller.



**Auditing Bureau.**

Nos. 19, 21, 23 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
**WILLIAM J. LYON**, First Auditor.  
**DAVID E. AUSTEN**, Second Auditor.

**Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents.**

Nos. 31, 33, 35, 37, 39 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
**OSBORNE MACDANIEL**, Collector of Assessments and Clerk of Arrears.  
 No money received after 2 P. M.

**Bureau for the Collection of City Revenue and of Markets.**

Nos. 1 and 3 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
 ———, Collector of the City Revenue and Superintendent of Markets.  
 No money received after 2 P. M.

**Bureau for the Collection of Taxes.**

No. 57 Chambers street and No. 35 Reade street Stewart Building, 9 A. M. to 4 P. M.  
**GEORGE W. MCLAN**, Receiver of Taxes; **ALFRED VREDENBURGH**, Deputy Receiver of Taxes.  
 No money received after 2 P. M.

**Bureau of the City Chamberlain.**

Nos. 25, 27 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
**THOMAS C. T. CRAIN**, City Chamberlain.

**Office of the City Paymaster.**

No. 33 Reade street, Stewart Building, 9 A. M. to 4 P. M.  
**JOHN H. TIMMERMAN**, City Paymaster

**LAW DEPARTMENT.**

**Office of the Counsel to the Corporation**  
 Staats Zeitung Building, third and fourth floors, 9 A. M. to 5 P. M. Saturdays, 9 A. M. to 12 M.  
**WILLIAM H. CLARK**, Counsel to the Corporation.  
**ANDREW T. CAMPBELL**, Chief Clerk.

**Office of the Public Administrator.**

No. 49 Beekman street, 9 A. M. to 4 P. M.  
**CHARLES E. LYDECKER**, Public Administrator

**Office of Attorney for Collection of Arrears of Persons Taxes.**

Stewart Building, Broadway and Chambers street, 9 A. M. to 4 P. M.  
**JOHN G. H. MEYERS**, Attorney.  
**MICHAEL J. DOUGHERTY**, Clerk.

**Office of the Corporation Attorney**

No. 49 Beekman street, 9 A. M. to 4 P. M.  
**LOUIS HANNEMAN**, Corporation Attorney.

**POLICE DEPARTMENT.****Central Office.**

No. 300 Mulberry street, 9 A. M. to 4 P. M.  
**JAMES J. MARTIN**, President; **WILLIAM H. KIPP**, Chief Clerk; **T. F. RODENBOUGH**, Chief of Bureau of Elections.

**DEPARTMENT OF CHARITIES AND CORRECTION.****Central Office.**

No. 66 Third avenue, corner Eleventh street, 9 A. M. to 4 P. M.

**HENRY H. PORTER**, President; **GEORGE F. BRITTON**, Secretary.

**Purchasing Agent, FREDERICK A. CUSHMAN**. Office hours, 9 A. M. to 4 P. M. Saturdays, 12 M.

**Plans and Specifications, Contracts, Proposals and Estimates for Work and Materials for Building, Repairs and Supplies, Bills and Accounts, 9 A. M. to 4 P. M. Saturdays, 12 M. CHARLES BENN**, General Bookkeeper.

**Out-Door Poor Department. Office hours, 8.30 A. M. to 4.30 P. M. WILLIAM BLAKE**, Superintendent. Entrance on Eleventh street.

**FIRE DEPARTMENT.**

Nos. 157 and 159 East Sixty-seventh street.  
**HENRY D. PURROY**, President; **CARL JUSSEN**, Secretary.

**Bureau of Chief of Department.**

**HUGH BONNER**, Chief of Department.

**Bureau of Inspector of Combustibles.**

**PETER SEERY**, Inspector of Combustibles.

**Bureau of Fire Marshal.**

**JAMES MITCHEL**, Fire Marshal.

**Bureau of Inspection of Buildings.**

**THOMAS J. BRADY**, Superintendent of Buildings

**Attorney to Department.**

**WM. L. FINDLEY**.

**Fire Alarm Telegraph.**

**J. ELLIOT SMITH**, Superintendent.  
 Central Office open at all hours.

**HARLEM RIVER BRIDGE COMMISSION**

Washington Building, No. 1 Broadway.  
 Office hours for all, except where otherwise noted from 9 A. M. to 4 P. M. Saturdays, 12 M.

**HEALTH DEPARTMENT**

No. 301 Mott street, 9 A. M. to 4 P. M.  
**CHARLES G. WILSON**, President; **EMMONS CLARK**, Secretary.

**DEPARTMENT OF PUBLIC PARKS.**

Emigrant Industrial Savings Bank Building, Nos. 49 and 51 Chambers street, 9 A. M. to 4 P. M. Saturdays, 12 M.  
**ALBERT GALLUP**, President; **CHARLES DE F. BURNS**, Secretary.

**DEPARTMENT OF DOCKS.**

Battery, Pier A, North river.  
**J. SERGEANT CRAM**, President; **AUGUSTUS T. DOCHARTY**, Secretary.

**Office hours, from 9 A. M. to 4 P. M.****DEPARTMENT OF TAXES AND ASSESSMENTS**

Staats Zeitung Building, Tryon Row, 9 A. M. to 4 P. M. Saturdays, 12 M.  
**EDWARD P. BARKER**, President; **FLOYD T. SMITH**, Secretary.

**DEPARTMENT OF STREET CLEANING.**

Stewart Building. Office hours, 9 A. M. to 4 P. M.  
**THOMAS S. BRENNAN**, Commissioner; **WILLIAM DALTON**, Deputy Commissioner; **J. Joseph Scully**, Chief Clerk.

**CIVIL SERVICE SUPERVISORY AND EXAMINING BOARDS.**

Cooper Union, 9 A. M. to 4 P. M.  
**JAMES THOMSON**, Chairman of the Supervisory Board  
**LEE PHILLIPS**, Secretary and Executive Officer.

**BOARD OF ESTIMATE AND APPORTIONMENT**

The Mayor, Chairman; **E. P. BARKER**, Secretary  
**CHARLES V. ADER**, Clerk  
 Office of Clerk, Staats Zeitung Building, Room 5

**BOARD OF EDUCATION.**

**SEALED PROPOSALS WILL BE RECEIVED BY** the Board of School Trustees for the Twelfth Ward, at the Hall of the Board of Education, No. 146 Grand street, until 4 o'clock P. M., on Friday, April 15, 1892, for supplying New Furniture for four rooms in Primary School No. 42, on East Eighty-eighth street, near Second avenue.

**JOHN WHALEN**, Chairman,  
**ANTONIO RASINES**, Secretary,  
 Board of School Trustees, Twelfth Ward.  
 Dated New York, April 2, 1892.

Plans and specifications may be seen, and blank proposals obtained, at the office of the Superintendent of School Buildings, No. 146 Grand street, third floor.  
 The Trustees reserve the right to reject any or all of the proposals submitted.

The party submitting a proposal, and the parties proposing to become sureties, must each write his name and place of residence on said proposal.

Two responsible and approved sureties, residents of this city, are required in all cases.

No proposal will be considered from persons whose character and antecedent dealings with the Board of Education render their responsibility doubtful.

The party submitting a proposal must include in his proposal the names of all sub-contractors, and no change will be permitted to be made in the sub-contractors named without the consent of the School Trustees and Superintendent of School Buildings.

**DEPARTMENT OF STREET CLEANING.****NOTICE.**

**PERSONS HAVING BULKHEADS TO FILL, IN** the vicinity of New York Bay, can procure material for that purpose—ashes, street sweepings, etc., such as is collected by the Department of Street Cleaning—free of charge, by applying to the Commissioner of Street Cleaning, in the Stewart Building.

**THOMAS S. BRENNAN**,  
 Commissioner of Street Cleaning.

**THE COLLEGE OF THE CITY OF NEW YORK.**

**SEALED PROPOSALS WILL BE RECEIVED BY** the Executive Committee of the College of the City of New York, at the Hall of the Board of Education, No. 146 Grand street, until 4 o'clock P. M. on Thursday, April 14, 1892, for supplying the buildings of the College, Lexington avenue, Twenty-second and Twenty-third streets, with two hundred and fifty (250) tons, more or less, of Plymouth Red Ash Broken Coal, and twenty-five (25) tons, more or less, of Plymouth Red Ash Stove Coal, twenty-two hundred and forty pounds to the ton, to be stored in the bins by the contractor and delivered in such quantities as may be called for.

Proposals to be addressed to the Executive Committee of the College of the City of New York, and to be accompanied by the signatures of two responsible sureties.

The Committee reserve the right to reject any or all proposals submitted.

**CHARLES L. HOLT**,  
 Chairman.

**ARTHUR McMULLIN**,  
 Secretary.  
 Dated New York, April 1, 1892.

**DEPARTMENT OF PUBLIC WORKS**

DEPARTMENT OF PUBLIC WORKS,  
 COMMISSIONER'S OFFICE, No. 31 CHAMBERS STREET,  
 NEW YORK, March 31, 1892.

**NOTICE OF SALE AT PUBLIC AUCTION OF THE OLD ARSENAL BUILDING, CORNER OF WHITE AND ELM STREETS.**

**ON TUESDAY, APRIL 12, 1892, AT 11.00 O'CLOCK, A. M.**, the Department of Public Works will sell at public auction, by Messrs. Van Tassel & Kearney, auctioneers, on the premises, the building known as "The Old Arsenal", on the northeast corner of White and Elm streets.

**TERMS OF SALE.**

The successful bidder becomes the owner of the building and all the materials appertaining thereto, to the underside of the ground floor, and shall begin the removal of the same forthwith, and shall complete the removal of the same, together with all rubbish on the grounds, to the grade of the sidewalk level within 30 days.

In the removal of the building and materials, the streets or sidewalks shall not be obstructed to a greater extent than shall be allowed by permits to place building material on the streets, which may be issued to the purchaser by this Department.

The curbstones and flagging of the sidewalks must be left in good condition, and any stones broken or displaced shall be replaced by the contractor on completion of the work.

The purchase money must be paid in bankable funds immediately after the sale.

The purchaser shall deposit with the Commissioner of Public Works, in cash or by certified check on one of the National Banks in the City of New York, the sum of five hundred dollars as security for the faithful performance of the above conditions of sale; and in case of failure to comply with said conditions, the said deposit shall be forfeited to the City of New York, and the purchaser shall forfeit ownership to all such parts of the building and materials remaining on the ground. In such case the ownership shall revert to the City, and the building and materials shall be resold or disposed of in such manner as the Commissioner of Public Works may deem proper.

In case the above conditions of sale shall be fully and properly complied with, the amount of deposit shall be returned to the purchaser.

The Commissioner of Public Works reserves the right to reject all bids received, if he deems it for the best interests of the City.

**THOS. F. GILROY**,  
 Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,  
 COMMISSIONER'S OFFICE,  
 ROOM 6, NO. 31 CHAMBERS STREET,  
 NEW YORK, March 28, 1892.

**TO CONTRACTORS.**

**BIDS OR ESTIMATES, INCLOSED IN A** sealed envelope, with the title of the work and the name of the bidder indorsed thereon, also the number of the work as in the advertisement, will be received at this office until 12 o'clock M., on Friday, April 8, 1892, at which place and hour they will be publicly opened by the head of the Department.

**No. 1. FOR FURNISHING MATERIALS AND PERFORMING WORK IN THE REPAIRS OF THE PORCH ON THE CENTRE STREET FRONT OF THE "TOMBS."**

**No. 2. FOR RESURFACING THE ROADWAY OF SIXTH (or Lenox) AVENUE, from One Hundred and Tenth to One Hundred and Forty-fifth street.**

**No. 3. FOR REGULATING AND GRADING THE BOULEVARD, between One Hundred and Fifty-sixth and Inwood streets (now Dyckman street), AND SETTING CURB-STONES AND FLAGGING SIDEWALKS AND BUILDING RETAINING-WALLS THEREIN.**

**No. 4. FOR RE-REGULATING AND REGRADING ONE HUNDRED AND FORTY-EIGHTH STREET, from Amsterdam avenue to St. Nicholas avenue, AND RESETTING CURB-STONES AND REFLAGGING SIDEWALKS THEREIN.**

**No. 5. FOR SEWER IN ONE HUNDRED AND EIGHTY-FIRST STREET, between Amsterdam and Eleventh avenues, WITH CURVES IN AUDUBON AND ELEVENTH AVENUES.**

**No. 6. FOR SEWER IN WEST ELEVENTH STREET, between North river and West street, WITH OUTLET THROUGH PIER AT WEST ELEVENTH STREET, NORTH RIVER; AND SEWER IN THIRTEENTH AVENUE, between West Eleventh and Bethune streets, AND CONNECTION WITH SEWER IN BANK STREET.**

**No. 7. FOR ALTERATION AND IMPROVEMENT TO SEWERS AT LITTLE WEST TWELFTH STREET AND IN BLOOMFIELD STREET, between Thirteenth avenue and West street; NEW SEWER IN THIRTEENTH AVENUE, between Little West Twelfth and Bloomfield streets, AND OUTLET THROUGH PIER AT FOOT OF LITTLE WEST TWELFTH STREET, NORTH RIVER.**

**No. 8. FOR ALTERATION AND IMPROVEMENT TO SEWER IN TWENTY-FOURTH STREET, between East river and First avenue; NEW SEWER IN AVENUE A, between Twenty-fourth and Twenty-fifth streets, AND ALTERATION AND IMPROVEMENT TO SEWER IN TWENTY-FIFTH STREET, between Avenue A and First avenue.**

**No. 9. FOR ALTERATION AND IMPROVEMENT TO SEWERS IN GANSEVOORT AND HORATIO STREETS, between Thirteenth avenue and West street, AND IN THIRTEENTH AVENUE, between Gansevoort and Bloomfield streets; NEW SEWER IN THIRTEENTH AVENUE, between Gansevoort and Horatio streets, WITH OUTLET THROUGH PIER AT GANSEVOORT STREET, NORTH RIVER.**

**No. 10. FOR ALTERATION AND IMPROVEMENT TO SEWERS IN JANE AND WEST TWELFTH STREETS, between Thirteenth avenue and Washington street, AND IN BETHUNE STREET, between Thirteenth avenue and West street; AND NEW SEWER IN THIRTEENTH AVENUE, between Bethune and Horatio streets, WITH OUTLET THROUGH PIER AT WEST TWELFTH STREET, NORTH RIVER.**

**No. 11. FOR REPAIRS TO SEWER IN ONE HUNDRED AND FORTY-FIFTH STREET, north side, between Eighth and Edgcombe avenues.**

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested, it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and is in all respects fair and without collusion or fraud. That no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of the deposit will be returned to him.

**THE COMMISSIONER OF PUBLIC WORKS RESERVES THE RIGHT TO REJECT ALL BIDS RECEIVED FOR ANY PARTICULAR WORK IF HE DEEMS IT FOR THE BEST INTERESTS OF THE CITY.**

Blank forms of bid or estimate, the proper envelopes in which to inclose the same, the specifications and agreements, and any further information desired, can be obtained at Rooms 1, 5, 9 and 15, No. 31 Chambers street.

**THOS. F. GILROY**,  
 Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,  
 COMMISSIONER'S OFFICE,  
 NO. 31 CHAMBERS STREET,  
 NEW YORK, August 14, 1889.

**TO OWNERS OF LANDS ORIGINALLY ACQUIRED BY WATER GRANTS.**

**ATTENTION IS CALLED TO THE RECENT** act of the Legislature (chapter 449, Laws of 1889), which provides that whenever any streets or avenues in the city, described in any grant of land under water, from the Mayor, Aldermen and Commonalty containing covenants requiring the grantees and their successors to

pave, repave, keep in repair or maintain such streets, shall be in need of repairs, pavement or repavement, the Common Council may, by ordinance, require the same to be paved, repaved or repaired, and the expense thereof to be assessed on the property benefited; and whenever the owner of a lot so assessed shall have paid the assessment levied for such paving, repaving or repairing, such payment shall release and discharge such owner from any and every covenant and obligation as to paving, repaving and repairing, contained in the water grant under which the premises are held, and no further assessment shall be imposed on such lot for paving, repaving or repairing such street or avenue, unless it shall be petitioned for by a majority of the owners of the property (who shall also be the owners of a majority of the property in frontage) on the line of the proposed improvement.

The act further provides that the owner of any such lot may notify the Commissioner of Public Works, in writing, specifying the ward number and street number of the lot that he desires, for himself, his heirs and assigns, to be released from the obligation of such covenants, and elects and agrees that said lot shall be thereupon liable to be assessed as above provided, and thereupon the owner of such lot, his heirs and assigns shall thenceforth be relieved from any obligation to pave, repair, uphold or maintain said street, and the lot in respect of which such notice was given shall be liable to assessment accordingly.

The Commissioner of Public Works desires to give the following explanation of the operation of this act: When notice, as above described, is given to the Commissioner of Public Works, the owner of the lot or lots therein described, and his heirs and assigns, are forever released from all obligation under the grant in respect to paving, repaving or repairing the street in front of or adjacent to said lot or lots, except one assessment for such paving, repaving or repairs, as the Common Council may, by ordinance, direct to be made thereafter.

No street or avenue within the limits of such grants can be paved, repaved or repaired until said work is authorized by ordinance of the Common Council, and when the owners of such lots desire their streets to be paved, repaved or repaired, they should state their desire and make their application to the Board of Aldermen and not to the Commissioner of Public Works, who has no authority in the matter until directed by ordinance of the Common Council to proceed with the pavement, repavement or repairs.

**THOS. F. GILROY**,  
 Commissioner of Public Works

**FINANCE DEPARTMENT.**

**PROPOSALS FOR \$36,890.00 CONSOLIDATED STOCK OF THE CITY OF NEW YORK, KNOWN AS SCHOOL-HOUSE BONDS.**

**EXEMPT FROM TAXATION.**

INTEREST THREE PER CENT. PER ANNUM.

**SEALED PROPOSALS WILL BE RECEIVED BY** the Comptroller of the City of New York, at his office, until Wednesday, the 12th day of April, 1892, 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 an issue of \$36,890 registered

**CONSOLIDATED STOCK**

of the City of New York, and known as "School-house Bonds," the principal payable in lawful money of the United States of America, at the Comptroller's office of said city, on the first day of November, in the year 1908, with interest at the rate of three per centum per annum, payable semi-annually on the first day of May and November in each year.

The said stock is issued in pursuance of the provisions of section 132 of the New York City Consolidation Act of 1882, and chapter 252 of the Laws of 1889, for the purchase of new school sites, for the erection of new school buildings, and other school purposes, and is

**EXEMPT FROM TAXATION**

by the City and County of New York, but not from State taxation, pursuant to the provisions of section 137 of the New York City Consolidation Act of 1882, and under an ordinance of the Common Council of said city, approved by the Mayor, October 2, 1880, and a resolution of the Commissioners of the Sinking Fund, adopted March 31, 1892, and as authorized by resolutions of the Board of Estimate and Apportionment and the Board of Education.

**AUTHORITY FOR TRUST INVESTMENTS.**

Attention is called to the provisions of an act passed by the Legislature March 14, 1889, authorizing executors, administrators, guardians and trustees, and others holding trust funds to invest such funds in the stocks or bonds of the City of New York

**CONDITIONS.**

Section 146 of the New York City Consolidation Act of 1882 provides that "the Comptroller, with the approval of the Commissioners of the Sinking Fund, shall determine what, if any, part of said proposals shall be accepted, and upon the payment into the City Treasury of the amounts due by the persons whose bids are accepted, respectively, certificates therefor shall be issued to them as authorized by law"; and provided also, "that no proposals for bonds or stocks shall be accepted for less than the par value of the same."

Those persons whose bids are accepted will be required to deposit with the City Chamberlain the amount of stock awarded to them at its par value, together with the premium thereon, within three days after notice of such acceptance.

The proposals should be inclosed in a sealed envelope, indorsed "School-house Bonds" of the Corporation of the City of New York, and each proposal should also be inclosed in a second envelope, addressed to the Comptroller of the City of New York.

**THEO. W. MYERS**,  
 Comptroller.  
 CITY OF NEW YORK—FINANCE DEPARTMENT,  
 COMPTROLLER'S OFFICE, April 1, 1892.

**NOTICE TO PROPERTY-OWNERS.**

**ASSESSMENT FOR OPENING BERGEN AVENUE, TWENTY-THIRD WARD, CONFIRMED BY THE SUPREME COURT, MARCH 9, 1892.**

**IN PURSUANCE OF SECTION 997 OF THE** "New York City Consolidation Act of 1882," the Comptroller of the City of New York hereby gives public notice to all persons, owners of property, affected by the assessment list in the matter of acquiring title to BERGEN AVENUE, front East One Hundred and Forty-seventh street and Willis avenue to Brook avenue, in the Twenty-third Ward, which was confirmed by the Supreme Court on March 9, 1892, and entered on the 11th day of March, 1892, 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," that 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 998 of said "New York City Consolidation Act of 1882."

Section 998 of the said act 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 from the date of such entry to the date of payment.

The above assessment is payable to the Collector of Assessments and Clerk of Arrears at the "Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents," Room 31, Stewart Building, between the hours of 9 A. M. and 2 P. M., and all payments made thereon on or before May 11, 1892, 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 cent. per annum from the date of entry in the Record of Titles of Assessments in said Bureau to the date of payment.

THEO. W. MYERS,  
Comptroller.

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 24, 1892.

#### NOTICE TO PROPERTY-OWNERS.

ASSESSMENT FOR OPENING EAST ONE HUNDRED AND SIXTY-SECOND STREET, TWENTY-FOURTH WARD, CONFIRMED BY THE SUPREME COURT, MARCH 11, 1892.

IN PURSUANCE OF SECTION 997 OF THE "New York City Consolidation Act of 1882," the Comptroller of the City of New York hereby gives public notice to all persons, owners of property, affected by the assessment list in the matter of acquiring title to EAST ONE HUNDRED AND SIXTY-SECOND STREET, from Courtlandt avenue to Elton avenue, and from Brook avenue to Third avenue, in the Twenty-fourth Ward, which was confirmed by the Supreme Court on March 11, 1892, and entered on the 15th day of March, 1892, 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," that 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 998 of said "New York City Consolidation Act of 1882."

Section 998 of the said act 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 from the date of such entry to the date of payment."

The above assessment is payable to the Collector of Assessments and Clerk of Arrears at the "Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents," Room 31, Stewart Building, between the hours of 9 A. M. and 2 P. M., and all payments made thereon on or before May 16, 1892, 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 cent. per annum from the date of entry in the Record of Titles of Assessments in said Bureau to the date of payment.

THEO. W. MYERS,  
Comptroller.

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 24, 1892.

#### INTEREST ON CITY BONDS AND STOCKS.

THE INTEREST DUE MAY 1, 1892, ON THE Registered Bonds and Stocks of the City and County of New York will be paid on that day by the Comptroller at the office of the City Chamberlain, Room 27, Stewart Building, corner of Broadway and Chambers street.

The Transfer Books will be closed from March 31 to May 1, 1892.

The interest due May 1, 1892, on the Coupon Bonds and Stocks of the City of New York will be paid on that day by the State Trust Company, No. 50 Wall street.

THEO. W. MYERS,  
Comptroller.

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 18, 1892.

#### DEPARTMENT OF DOCKS.

DEPARTMENT OF DOCKS,  
PIER "A," NORTH RIVER.

#### TO CONTRACTORS.

(No. 416.)

PROPOSALS FOR ESTIMATES FOR REPAIRING THE CRIB-BULKHEAD BETWEEN WEST TENTH AND CHARLES STREETS, NORTH RIVER, AND FOR PAVING A PORTION OF WEST STREET, IN THE REAR OF SAID CRIB-BULKHEAD.

ESTIMATES FOR REPAIRING THE CRIB-BULKHEAD BETWEEN WEST TENTH AND CHARLES STREETS, NORTH RIVER, and for paving a portion of West street, in the rear of said crib-bulkhead, will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 1 o'clock P. M. of

THURSDAY APRIL 14, 1892,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour above-named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract, in the manner prescribed and required by ordinance, in the sum of Four Thousand Dollars.

The Engineer's estimate of the nature, quantities and extent of the work is as follows:

1. New Cribwork complete, including all Timbers and Ironwork, Backing-logs, Earth and Stone Filling, Fenders, etc., measured from mean low-water mark to the under side of the backing-log, and from front of facing-timber to rear of cross-ties about 42,000 cubic feet.
2. White Pine, Yellow Pine, Cypress or Spruce Piles..... 113 (It is expected that these piles will have to be about 70 feet long, to meet the requirements of the specifications for driving.)
3. White Oak Fender-piles, about 50 feet long .... 1
4. Cast-iron Pile-shoes, about..... 3,729 pounds.
5. Round Logs, furnished to the contractor (not estimated in the cribwork) about..... 4,000 linear feet.
6. Cast-iron Cleats, about..... 1,350 pounds.
7. 1 1/2" Wrought-iron Screw-bolts, Nuts and Washers, about..... 60 "
8. Labor of excavating Old Cribwork and disposal of Material, about 1,663 cubic yards.
9. Labor and Material for Back-filling, about..... 300 "
10. Labor of Framing and Carpentry, including all moving of Timber, Jointing, Planing, Bolting, Spiking, etc., as set forth in the specifications.

11. Sand or Cow Bay Gravel..... 225 cubic yards.
12. Paving to be laid, about..... 901 square yards.

NOTE.—The paving-blocks therefor are to be furnished by the contractor.

13. Labor of all kinds, including removal of existing earth, etc., all grading, spreading, leveling, ramming of earth, paving sand or gravel and paving-blocks, moving of paving-blocks, etc., as set forth in the specifications, and shown on plan herein referred to.

N. B.—As the above-mentioned quantities, though stated with as much accuracy as is possible, in advance, are approximate only, bidders are required to submit their estimates upon the following express conditions, which shall apply to and become a part of every estimate received:

(1.) Bidders must satisfy themselves by personal examination of the location of the proposed work, and by such other means as they may prefer, as to the accuracy of the foregoing Engineer's estimate, and shall not at any time after the submission of an estimate, dispute or complain of the above statement of quantities, nor assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

(2.) Bidders will be required to complete the entire work to the satisfaction of the Department of Docks and in substantial accordance with the specifications of the contract and the plans therein referred to. No extra compensation beyond the amount payable for each class of the work before mentioned, which shall be actually performed at the price therefor, to be specified by the lowest bidder, shall be due or payable for the entire work.

The work to be done under the contract is to be commenced on or about the 2d day of May, 1892, and all the work contracted for is to be fully completed on or before the 31st day of July, 1892, and the damages to be paid by the contractor for each day that the contract may be unfulfilled after the time fixed for the fulfillment thereof has expired, are, by a clause in the contract, determined, fixed and liquidated at Fifty Dollars per day.

All the old material taken from the crib-bulkhead to be removed under this contract will be relinquished to the contractor, and bidders must estimate the value of such material when considering the price for which they will do the work under the contract.

Bidders will state in their estimates a price for the whole of the work to be done, in each class, in conformity with the approved form of agreement and the specifications therein set forth, by which prices the bids will be tested. These prices are to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay from any cause in the performing of the work thereunder. The award of the contract, if awarded, will be made to the bidder who is the lowest for doing the whole of the work comprised in both classes, and whose estimate is regular in all respects.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing each class of the work.

The person or persons to whom the contract may be awarded will be required to attend at this office with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet, and so on, until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, the estimate shall distinctly state the fact; also, that the estimate is made without any connection with any other person making an estimate for the same work, and that it is in all respects fair, and without collusion or fraud; and also that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.

Each estimate shall be accompanied by the consent in writing of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, on its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion, and that which said Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work to be done in each class by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as a surety in good faith, and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be subject to approval by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED, IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,  
EDWIN A. POST,

JAMES J. PHELAN,  
Commissioners of the Department of Docks.

Dated New York, March 31, 1892.

(Work of Construction under New Plan.)

DEPARTMENT OF DOCKS,  
PIER "A," NORTH RIVER.

#### TO CONTRACTORS.

(No. 415.)

PROPOSALS FOR ESTIMATES FOR REMOVING THE EXISTING PIER AND PORTIONS OF THE CRIB-BULKHEAD AT THE FOOT OF EAST THIRD STREET, EAST RIVER, AND FOR PREPARING FOR AND BUILDING A NEW WOODEN PIER, WITH APPURTENANCES, INCLUDING A WOODEN SEWER, AT THE FOOT OF SAID STREET, AND FOR REPAIRING THE CRIB-BULKHEAD THEREAT.

ESTIMATES FOR REMOVING THE EXISTING Pier and portions of the Crib-bulkhead at the foot of East Third street, East river, and for preparing for and building a New Wooden Pier, with appurtenances, including a Wooden Sewer, at the foot of said street, and for repairing the Crib-bulkhead thereat, will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 1 o'clock P. M. of

THURSDAY, APRIL 14, 1892,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract, in the manner prescribed and required by ordinance, in the sum of Fourteen Thousand Dollars.

The Engineer's estimate of the nature, quantities and extent of the work is as follows:

#### CLASS I.—CRIB-BULKHEAD.

1. New Cribwork, complete, including all Timbers, Earth and Stone filling, etc., measured from about mean low-water mark to the under side of the backing-log, and from the front of facing-timber to rear of the cross-ties, about..... 8,000 cubic feet.
2. White Pine, Yellow Pine, Cypress or Spruce Foundation Piles..... 31 (It is expected that these piles will have to be about 60 feet long, to meet the requirements of the specifications for driving.)
3. Round Floor Logs, not less than 10" in diameter at small end, and Round Cover Logs, not less than 14" in diameter at small end, to be furnished by the Department of Docks, about..... 800 linear feet.
4. Cast-iron Pile-shoes, about..... 1,000 pounds.
5. Labor and Materials for relaying Old Pavement, about..... 75 square yards.
6. Labor and Materials for laying New Pavement, about..... 25 "
7. Labor of excavating Old Cribwork and disposal of Old Material, about..... 333 cubic yards.
8. Labor and Material for Back-filling, about..... 10 "
9. Labor of Framing and Carpentry, including all moving of Timber, Jointing, Bolting, Spiking, Painting and furnishing the materials for Painting, and labor of every description, as called for in the specifications.

#### (a) CLASS II.—NEW PIER.

- |                                       | Feet, B. M.,<br>measured in<br>the work. |
|---------------------------------------|--|
| 1. Yellow Pine Timber, 12" x 15"..... | 3,565                                    |
| " " " 12" x 14".....                  | 16,858                                   |
| " " " 12" x 12".....                  | 143,865                                  |
| " " " 12" x 10".....                  | 23                                       |
| " " " 10" x 12".....                  | 4,068                                    |
| " " " 10" x 10".....                  | 844                                      |
| " " " 9" x 12".....                   | 552                                      |
| " " " 8" x 16".....                   | 540                                      |
| " " " 8" x 15".....                   | 1,160                                    |
| " " " 8" x 12".....                   | 1,243                                    |
| " " " 8" x 10".....                   | 84                                       |
| " " " 7" x 14".....                   | 6,725                                    |
| " " " 7" x 12".....                   | 490                                      |
| " " " 6" x 12".....                   | 2,842                                    |
| " " " 5" x 12".....                   | 7,416                                    |
| " " " 5" x 10".....                   | 11,012                                   |
| " " " 5" x 10".....                   | 20,450                                   |
| " " " 5" x 9".....                    | 222                                      |
| " " " 5" x 7".....                    | 1,184                                    |
| " " " 4" x 10".....                   | 72,000                                   |
| " " " 2" x 4".....                    | 4,972                                    |
| Total.....                            | 301,015                                  |

- |                                 | Feet, B. M.,<br>measured in<br>the work. |
|---------------------------------|--|
| 2. Spruce Timber, 4" x 10"..... | 83,323                                   |
| " " " 4" x 5".....              | 200                                      |
| Total.....                      | 83,523                                   |

- |                                    | Feet, B. M.,<br>measured in<br>the work. |
|------------------------------------|--|
| 3. White Oak Timber, 8" x 12"..... | 6,048                                    |

NOTE.—The above quantities of timber, in items 1, 2 and 3, are inclusive of extra lengths required for scarfs, laps, etc., but are exclusive of waste.

4. White Pine, Yellow Pine or Cypress Piles for Pier..... 538 (It is expected that these piles will have to be about 66 feet in length, to meet the requirements of the specifications for driving.)
5. White Oak Fender Piles, about 60 feet long .... 14
6. 3/8" x 26", 3/8" x 22", 3/8" x 18", 3/8" x 14", 3/8" x 12", 3/8" x 10", 3/8" x 8", 3/8" x 6", 3/8" x 4", 3/8" x 3", 3/8" x 2", 3/8" x 1", 3/8" x 1/2", 3/8" x 1/4", 3/8" x 1/8", 3/8" x 1/16", 3/8" x 1/32", 3/8" x 1/64", 3/8" x 1/128", 3/8" x 1/256", 3/8" x 1/512", 3/8" x 1/1024", 3/8" x 1/2048", 3/8" x 1/4096", 3/8" x 1/8192", 3/8" x 1/16384", 3/8" x 1/32768", 3/8" x 1/65536", 3/8" x 1/131072", 3/8" x 1/262144", 3/8" x 1/524288", 3/8" x 1/1048576", 3/8" x 1/2097152", 3/8" x 1/4194304", 3/8" x 1/8388608", 3/8" x 1/16777216", 3/8" x 1/33554432", 3/8" x 1/67108864", 3/8" x 1/134217728", 3/8" x 1/268435456", 3/8" x 1/536870912", 3/8" x 1/1073741824", 3/8" x 1/2147483648", 3/8" x 1/4294967296", 3/8" x 1/8589934592", 3/8" x 1/17179869184", 3/8" x 1/34359738368", 3/8" x 1/68719476736", 3/8" x 1/137438953472", 3/8" x 1/274877906944", 3/8" x 1/549755813888", 3/8" x 1/1099511627776", 3/8" x 1/2199023255552", 3/8" x 1/4398046511104", 3/8" x 1/8796093022208", 3/8" x 1/17592186044416", 3/8" x 1/35184372088832", 3/8" x 1/70368744177664", 3/8" x 1/140737488355328", 3/8" x 1/281474976710656", 3/8" x 1/562949953421312", 3/8" x 1/1125899906842624", 3/8" x 1/2251799813685248", 3/8" x 1/4503599627370496", 3/8" x 1/9007199254740992", 3/8" x 1/18014398509481984", 3/8" x 1/36028797018963968", 3/8" x 1/72057594037927936", 3/8" x 1/144115188075855872", 3/8" x 1/288230376151711744", 3/8" x 1/576460752303423488", 3/8" x 1/1152921504606846976", 3/8" x 1/2305843009213693952", 3/8" x 1/4611686018427387904", 3/8" x 1/9223372036854775808", 3/8" x 1/18446744073709551616", 3/8" x 1/36893488147419103232", 3/8" x 1/73786976294838206464", 3/8" x 1/147573952589676412928", 3/8" x 1/295147905179352825856", 3/8" x 1/590295810358705651712", 3/8" x 1/1180591620717411303424", 3/8" x 1/2361183241434822606848", 3/8" x 1/4722366482869645213696", 3/8" x 1/9444732965739290427392", 3/8" x 1/18889465931478580854784", 3/8" x 1/37778931862957161709568", 3/8" x 1/75557863725914323419136", 3/8" x 1/151115727451828646838272", 3/8" x 1/302231454903657293676544", 3/8" x 1/604462909807314587353088", 3/8" x 1/1208925819614629174706176", 3/8" x 1/2417851639229258349412352", 3/8" x 1/4835703278458516698824704", 3/8" x 1/9671406556917033397649408", 3/8" x 1/19342813113834066795298816", 3/8" x 1/38685626227668133590597632", 3/8" x 1/77371252455336267181195264", 3/8" x 1/154742504910672534362390528", 3/8" x 1/309485009821345068724781056", 3/8" x 1/618970019642690137449562112", 3/8" x 1/1237940039285380274899124224", 3/8" x 1/2475880078570760549798248448", 3/8" x 1/4951760157141521099596496896", 3/8" x 1/9903520314283042199192993792", 3/8" x 1/19807040628566084398385987584", 3/8" x 1/39614081257132168796771975168", 3/8" x 1/79228162514264337593543950336", 3/8" x 1/158456325028528675187087900672", 3/8" x 1/316912650057057350374175801344", 3/8" x 1/633825300114114700748351602688", 3/8" x 1/1267650600228229401496703205376", 3/8" x 1/2535301200456458802993406410752", 3/8" x 1/5070602400912917605986812821504", 3/8" x 1/10141204801825835211973625643008", 3/8" x 1/20282409603651670423947251286016", 3/8" x 1/40564819207303340847894502572032", 3/8" x 1/81129638414606681695789005144064", 3/8" x 1/162259276829213363391578010288128", 3/8" x 1/324518553658426726783156020576256", 3/8" x 1/649037107316853453566312041152512", 3/8" x 1/1298074214633706907132624082305024", 3/8" x 1/2596148429267413814265248164610048", 3/8" x 1/5192296858534827628530496329220096", 3/8" x 1/10384593717069655257060992658440192", 3/8" x 1/20769187434139310514121985316880384", 3/8" x 1/41538374868278621028243970633760768", 3/8" x 1/83076749736557242056487941267521536", 3/8" x 1/166153499473114484112975882535043072", 3/8" x 1/332306998946228968225951765070086144", 3/8" x 1/664613997892457936451903530140172288", 3/8" x 1/1329227995784915872903807060280344576", 3/8" x 1/2658455991569831745807614120560689152", 3/8" x 1/5316911983139663491615228241121378304", 3/8" x 1/10633823966279326983230456482242756608", 3/8" x 1/21267647932558653966460912964485513216", 3/8" x 1/42535295865117307932921825928971026432", 3/8" x 1/85070591730234615865843651857942052864", 3/8" x 1/170141183460469231731687303715884105728", 3/8" x 1/340282366920938463463374607431768211456", 3/8" x 1/680564733841876926926749214863536422912", 3/8" x 1/1361129467683753853853498429727072845824", 3/8" x 1/2722258935367507707706996859454145691648", 3/8" x 1/5444517870735015415413993718908291383296", 3/8" x 1/10889035741470030830827987437816582766592", 3/8" x 1/21778071482940061661655974875633165533184", 3/8" x 1/43556142965880123323311949751266331066368", 3/8" x 1/87112285931760246



lect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

**THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.**

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,  
EDWIN A. POST,  
JAMES J. PHELAN,  
Commissioners of the Department of Docks.

Dated New York, March 31, 1892.

#### NOTICE.

DEPARTMENT OF DOCKS,  
PIER "A," BATTERY PLACE, NORTH RIVER,  
NEW YORK, March 17, 1892.

**VAN TASSELL & KEARNEY, AUCTIONEERS,**  
will sell at public auction, at Pier "A," Battery place, in the City of New York, on

**TUESDAY, APRIL 5, 1892,**

at 12 o'clock noon, the right to collect and retain all wharfage which may accrue for the use and occupation by vessels of more than five tons burden, of the following-named piers and bulkheads, together with the privilege of erecting and maintaining a shed on such piers or bulkheads, where mentioned below, and occupying any shed existing on any of such piers at the commencement of the term; the said shed and each of them to revert to and become the property of the Mayor, Aldermen and Commonalty of the City of New York at the expiration or sooner termination of the lease, to wit:

#### On the North River.

For the term of ten years from May 1, 1892, with privilege of renewal for a further term of ten years.

Lot 1. Pier, new 58, with privilege of erecting and maintaining a shed upon said pier.

For the term of six years and six months from May 1, 1892.

Lot 2. Pier at West Eleventh street. The outer about 160 feet on the southerly side; the end and the whole of the northerly side of said pier, outside and westerly of Thirtieth avenue. (It is expected that the extension of this pier will be completed and ready for use on or about May 15, 1892.)

For the term of five years from May 1, 1892.

Lot 3. Bulkhead, extending from the northerly side of West Eighth street, southerly a distance of 125 feet, with privilege of erecting and maintaining a shed 50 feet in width upon the said bulkhead.

Lot 4. Pier at Little West Twelfth street (Pier, old 59).  
Lot 5. Pier at foot of West Thirty-fifth street, except northerly side, used for dump of Department of Street Cleaning.

Lot 6. Pier foot of West Fortieth street, with privilege of erecting and maintaining a shed upon the said pier.

Lot 7. Pier foot of West Fifty-second street.

Lot 8. Pier foot of West One Hundred and Twenty-ninth street, except southerly side, used for dump of Department of Street Cleaning.

Lot 9. Northerly side and end of the pierfoot of West One Hundred and Thirty-first street.

Lot 10. Pier foot of West One Hundred and Thirty-third street.

Lot 11. Pier foot of West One Hundred and Thirty-fourth street, except reservation for public bath during summer season.

For the term of four years and eight months from 1st September, 1892.

Lot 12. Pier foot of West Eighteenth street.

#### On the East River.

For the term of five years from 1st May, 1892.

Lot 13. Easterly half of Pier, old 18. This pier has a shed upon it.

Lot 14. Easterly half of Pier, old 33, bulkhead and platforms between Pier, old 33, and Pier, old 34, and westerly half of Pier, old 34. These piers and bulkhead platforms have sheds upon them.

Lot 15. Northerly half of Pier, old 56, bulkhead between Pier, old 56, and Pier, old 57, ninety feet, and southerly half of Pier, old 57.

Lot 16. Northerly half of Pier, old 58, and bulkhead between Pier, old 58, and Pier, old 59, one hundred and thirteen feet.

Lot 17. Bulkhead at foot of East Fourteenth street.

Lot 18. Pier at foot of East Thirty-first street.

Lot 19. Pier at foot of East Thirty-second street.

Lot 20. Bulkhead at foot of East Forty-ninth street.

Lot 21. Bulkhead at foot of East Fifty-third street.

Lot 22. Bulkhead at foot of East Fifty-fourth street.

Lot 23. Unimproved water front, between East Fifty-fourth and East Fifty-fifth streets.

Lot 24. Bulkhead between East Sixty-third and East Sixty-fourth streets.

Lot 25. Bulkhead platform between East Seventy-eighth and East Seventy-ninth streets.

Lot 26. Bulkhead platform at foot of East Seventy-ninth street, southerly of pier.

#### On the Harlem River.

For the term of five years from May 1, 1892.

Lot 27. Pier at foot of East One Hundred and Nineteenth street.

#### On the East River.

For the term of five years from May 1, 1892.

Lot 28. Pier 60 and bulkhead on the northerly side of Rivington street, and bulkhead on Tompkins street, between Rivington street and Pier 61, East river.

#### TERMS AND CONDITIONS OF SALE.

The premises must be taken in the condition in which they may be at the commencement of the term of the lease, and no claim or demand that the premises or property are not in suitable and tenable condition at the commencement of the term will be allowed by this Department.

All repairs, maintaining or rebuilding required or necessary to be done to or upon the premises, or any part thereof, during the continuance of the term of the lease, shall be done by and at the cost and expense of the lessee or purchaser.

No claim or demand will be considered or allowed by the Department for any loss or deprivation of wharfage or otherwise, resulting from or occasioned by any delay on account or by reason of the premises or any part thereof being occupied for or on account of any repairs, rebuilding or dredging.

The upset price of the parcels or premises exposed or offered for sale will be announced by the auctioneer at the time of sale.

The Department will do all dredging whenever it shall deem it necessary or advisable so to do.

The term for which leases are sold will commence at the date mentioned in the advertisement, and the rents accruing therefor will be payable from that date in each case.

Each purchaser of a lease will be required, at the time of the sale, in addition to the auctioneer's fees, to the Department of Docks, twenty-five per cent. (25%) of the amount of annual rent bid, as security for the execution of the lease, which twenty-five per cent. (25%) will be applied to the payment of the rent first accruing under the lease when executed, or will be forfeited to the Department if the purchaser neglects or refuses to execute the lease, with good and sufficient surety or sureties, to be approved by the Department, within ten

days after being notified that the lease is prepared and ready for execution at the office of the Department of Docks, Pier "A," North river, Battery place.

The Department expressly reserves the right to resell the lease or premises bid off, by those failing, refusing or neglecting to comply with these terms and conditions, the party so failing, refusing or neglecting, to be liable to the Corporation of the City of New York for any deficiency resulting from or occasioned by such resale.

Lessees will be required to pay their rent quarterly in advance, in compliance with the terms and conditions of the lease prepared and adopted by the Department.

In all cases where it is mentioned in the advertisement of sale, the purchaser shall be entitled to the privilege of occupying any shed upon the pier or bulkhead at the commencement of the term or that may thereafter be permitted or licensed by the Department, and to the rights attached to such permission or license, but subject to the conditions thereof, such purchaser being engaged in the business of steam transportation and using and employing the same for the purpose of regularly receiving and discharging cargo thereat.

Not less than two sureties, each to be a householder or freeholder in the State of New York, to be approved by the Board of Docks, will be required under each lease to enter into a bond or obligation, jointly and severally with the lessee, in the sum of double the annual rent, for the faithful performance of all the covenants and conditions of the lease, the names and addresses of the sureties to be submitted at the time of sale.

Each purchaser will be required to agree that he will, upon ten days' notice so to do, execute a lease with sufficient surety as aforesaid, the printed form of which may be seen and examined upon application to the Secretary, at the office of the Department, Pier "A," Battery place.

No person will be received as a lessee or surety who is delinquent on any former lease from this Department or the Corporation.

No bid will be accepted from any person who is in arrears to this Department or the Corporation, upon debt or contract, or who is a defaulter as surety or otherwise, upon any obligation to this Department or to the Corporation of the City of New York.

The auctioneer's fees (\$25) on each lot or parcel must be paid by the purchasers thereof respectively at the time of sale.

Dated New York, March 17, 1892.

J. SERGEANT CRAM,  
EDWIN A. POST,  
JAMES J. PHELAN,  
Commissioners of the Department of Docks.

#### DEPARTMENT OF TAXES AND ASSESSMENTS.

DEPARTMENT OF TAXES AND ASSESSMENTS,  
STAATS ZEITUNG BUILDING,  
NEW YORK, January 11, 1892.

**IN COMPLIANCE WITH SECTION 817 OF THE**  
New York City Consolidation Act of 1882, it is hereby advertised that the books of "The Annual Record of the Assessed Valuations of Real and Personal Estate" of the City and County of New York, for the year 1892, are open and will remain open for examination and correction until the thirtieth day of April 1892.

All persons believing themselves aggrieved must make application to the Commissioners of Taxes and Assessments, at this office, during the period said books are open, in order to obtain the relief provided by law.

Applications for correction of assessed valuations on personal estate must be made by the person assessed to the said Commissioners, between the hours of 10 A. M. and 2 P. M., except on Saturdays, when between 10 A. M. and 12 M., at this office, during the same period.

EDWARD P. BARKER,  
THOMAS L. FEINER,  
EDWARD L. PARRIS,  
Commissioners of Taxes and Assessments.

#### POLICE DEPARTMENT.

POLICE DEPARTMENT—CITY OF NEW YORK,  
OFFICE OF THE PROPERTY CLERK (Room No. 9),  
No. 300 MULBERRY STREET,  
NEW YORK, 1891.

**OWNERS WANTED BY THE PROPERTY**  
Clerk of the Police Department of the City of New York, No. 300 Mulberry street, Room No. 9, for the following property, now in his custody, without claimants: Boats, rope, iron, lead, male and female clothing, boots, shoes, wine, blankets, diamonds, canned goods, liquors, etc., also small amount money taken from prisoners and found by patrolmen of this Department.  
**JOHN F. HARRIOT**  
Property Clerk

#### DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, April 1, 1892.

#### TO CONTRACTORS.

**MATERIALS AND WORK REQUIRED FOR FIRE-ESCAPE AT HARLEM HOSPITAL.**

**SEALED BIDS OR ESTIMATES FOR THE**  
aforesaid work and materials, in accordance with the specifications and plans, will be received at the office of the Department of Public Charities and Correction, No. 66 Third avenue, in the City of New York, until Thursday, April 14, 1892, until 10 o'clock A. M. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Fire-escape, Harlem Hospital," and with his or their name or names and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

**THE BOARD OF PUBLIC CHARITIES AND CORRECTION** reserves the right to reject all bids or estimates if deemed to be for the public interest, as provided in SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract, by his or their bond, with two sufficient sureties, each in the penal amount of **THREE HUNDRED (\$300) DOLLARS.**

A bidder for a contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom a contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the ESTIMATED amount of the contract, or such specific sum as may be mentioned in the proposal.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it

shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a department, chief of a bureau, deputy thereof or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the supplies by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his liabilities as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York.

No bid or estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

Bidders will state the price for each article, by which the bids will be tested.

Bidders will write out the amount of their estimate in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract, or from time to time, as the Commissioners may determine.

The forms of the contract, including specifications, and showing the manner of payment, can be obtained at the office of the Department; and bidders are cautioned to examine each and all of their provisions carefully, as the Board of Public Charities and Correction will insist upon their absolute enforcement in every particular.

HENRY H. PORTER, President,  
CHARLES E. SIMMONS, M. D., Commissioner,  
EDWARD C. SHEEHY, Commissioner,  
Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, March 24, 1892.

#### TO CONTRACTORS.

**MATERIALS AND WORK REQUIRED FOR REMOVAL OF MORGUE, BELLEVUE HOSPITAL.**

**SEALED BIDS OR ESTIMATES FOR THE**  
aforesaid work and materials, in accordance with the specifications and plans, will be received at the office of the Department of Public Charities and Correction, No. 66 Third avenue, in the City of New York, until Tuesday, April 5, 1892, until 10 o'clock A. M. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Removal of Morgue, Bellevue Hospital," and with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

**THE BOARD OF PUBLIC CHARITIES AND CORRECTION** reserves the right to reject all bids or estimates if deemed to be for the public interest, as provided in SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, each in the penal amount of **ONE THOUSAND (\$1,000) DOLLARS.**

A bidder for a contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom a contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the ESTIMATED amount of the contract, or such specific sum as may be mentioned in the proposal.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a Department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies to which it relates, or in any portion of the profits thereof. The bid or estimate

must be verified by the oath, in writing, of the party or parties making the estimate that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the supplies by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his liabilities as bail, surety, or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York.

No bid or estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

Bidders will state the price for each article, by which the bids will be tested.

Bidders will write out the amount of their estimate in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract, or from time to time, as the Commissioners may determine.

The forms of the contracts, including specifications, and showing the manner of payment, can be obtained at the office of the Department, and bidders are cautioned to examine each and all of their provisions carefully, as the Board of Public Charities and Correction will insist upon their absolute enforcement in every particular.

HENRY H. PORTER, President,  
CHARLES E. SIMMONS, M. D., Commissioner,  
EDWARD C. SHEEHY, Commissioner,  
Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, March 28, 1892.

**IN ACCORDANCE WITH AN ORDINANCE OF**  
the Common Council, "In relation to the burial of strangers or unknown persons who may die in any of the public institutions of the City of New York," the Commissioners of Public Charities and Correction report as follows:

At Workhouse, Blackwell's Island—Simon Washusky, aged 41 years; committed March 4, 1892. Had on when admitted brown overcoat, black coat, gray pants, black vest, white cotton shirt, black derby hat.

Julia Fitzgerald, aged 38 years; committed February 25, 1892. Had on when admitted black skirt, black sacque, black hat.

Nothing known of their friends or relatives.

By order,  
G. F. BRITTON, Secretary.

#### CORPORATION NOTICE.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE**  
owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 3814, No. 1. Regulating, grading, curbing and flagging One Hundred and Nineteenth street, from Morningside to Amsterdam avenue.

List 3815, No. 2. Regulating, grading, curbing and flagging One Hundred and Thirty-third street, from Amsterdam to Convent avenue.

List 3817, No. 3. Regulating, grading, curbing and flagging One Hundred and Twenty-first street, from Amsterdam to Morningside avenue.

List 3830, No. 4. Flagging and reflagging, curbing and recurring east side of Tenth avenue, from Twenty-ninth to Thirtieth street, and south side of Thirtieth street, from Ninth to Tenth avenue.

The limits embraced by such assessments include all the several houses and lots of grounds, vacant lots, pieces or parcels of land situated on—

No. 1. Both sides of One Hundred and Nineteenth street, from Morningside to Amsterdam avenue.

No. 2. Both sides of One Hundred and Thirty-third street, from Convent to Amsterdam avenue.

No. 3. Both sides of One Hundred and Twenty-first street, from Morningside to Amsterdam avenue.

No. 4. East side of Tenth avenue, from Twenty-ninth to Thirtieth street, and south side of Thirtieth street, from Ninth to Tenth avenue.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments for confirmation on the 3d day of May, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHARLES E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, April 2, 1892.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE**  
owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:



List 3777, No. 1. Regulating, grading, curbing and flagging One Hundred and Forty-third street, from Seventh avenue to Harlem river.

List 3780, No. 2. Regulating, grading, curbing and flagging One Hundred and Twentieth street, from Morningside avenue to Broadway Boulevard.

List 3786, No. 3. Sewer in One Hundred and Sixty-ninth street, between Amsterdam and Eleventh avenues.

List 3783, No. 4. Alteration and improvement to sewers in Sullivan street, between Canal and Broome streets; in Broome street, between Sullivan and Thompson streets, and in Thompson street, between Broome and Spring streets.

List 3789, No. 5. Sewer in Convent avenue, between manhole south of One Hundred and Thirty-fifth street and One Hundred and Thirty-fifth street; in One Hundred and Thirty-fifth street, between Convent and Amsterdam avenues, and in Amsterdam avenue, east side, between One Hundred and Thirty-fifth and One Hundred and Thirty-eighth streets.

List 3813, No. 6. Regulating, grading, curbing and flagging One Hundred and Ninetieth street, from Amsterdam to Audubon avenue.

List 3817, No. 7. Curbing and flagging in front of Nos. 4 and 6 Christopher street.

List 3822, No. 8. Flagging and reflagging, curbing and receding in front of No. 410 Pearl street.

List 3833, No. 9. Flagging and reflagging both sides of Nineteenth street, from Avenue A to First avenue.

List 3834, No. 10. Flagging and reflagging, curbing and receding both sides of Delancey street, from Mangin street to East street.

The limits embraced by such assessments include all the several houses and lots of grounds, vacant lots, pieces or parcels of land situated on—

No. 1. Both sides of One Hundred and Forty-third street, from Fifth to Seventh avenue.

No. 2. Both sides of One Hundred and Twentieth street, from Morningside avenue to Broadway Boulevard.

No. 3. Both sides of One Hundred and Sixty-ninth street, from Amsterdam to Eleventh avenue, and both sides of Audubon avenue and east side of Eleventh avenue, from One Hundred and Sixty-ninth to One Hundred and Seventieth street.

No. 4. Blocks bounded by Houston and Bleeker streets, Wooster and Sullivan streets; blocks bounded by Wooster and Macdougall streets, Spring and Houston streets; blocks bounded by South Fifth avenue and Clark street, Broome and Spring streets; blocks bounded by Canal and Broome streets, Thompson and Varick streets; block bounded by Broome and Dominick streets, Clark and Varick streets; also west side of Clark street, from Dominick to Spring street, and south side of Spring street, from Wooster to South Fifth avenue.

No. 5. Blocks bounded by the centre line of One Hundred and Thirty-fourth street on the south and One Hundred and Fortieth street, Convent avenue and Amsterdam avenue, including east side of Convent avenue, between the centre line of One Hundred and Thirty-fourth street and the centre line of One Hundred and Thirty-ninth street.

No. 6. Both sides of One Hundred and Ninetieth street, from Amsterdam to Audubon avenue.

No. 7. Nos. 4 and 6 Christopher street, known as Ward No. 2782.

No. 8. No. 410 Pearl street, known as Ward No. 1243.

No. 9. Both sides of Nineteenth street, from Avenue A to First avenue.

No. 10. Both sides of Delancey street, from East to Mangin street.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments, for confirmation, on the 22 day of May, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHARLES E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, March 31, 1892.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE** owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 3778, No. 1. Regulating, grading, curbing and flagging One Hundred and Ninth street, from Manhattan to Columbus avenue.

List 3779, No. 2. Regulating, grading, curbing and flagging One Hundred and Fortieth street, from Amsterdam to Convent avenue.

List 3785, No. 3. Sewer in One Hundred and Third street, between Harlem river and First avenue.

List 3806, No. 4. Alteration and improvement to sewer in Ninth street, between Avenues C and D.

List 3807, No. 5. Flagging and reflagging, curbing and receding east side of Fifth avenue, from Eighty-sixth to Ninety-first street.

List 3810, No. 6. Crosswalks across Amsterdam avenue, at the northerly and southerly sides of One Hundred and Sixty-first street.

List 3811, No. 7. Crosswalk across Ninth avenue, from the southwest to the northeast corner of Manhattan street.

List 3812, No. 8. Crosswalk across Avenue St. Nicholas, at the northerly side of One Hundred and Twenty-second street.

List 3819, No. 9. Fencing vacant lots on the north side of Ninety-eighth street, between Columbus and Amsterdam avenues.

List 3820, No. 10. Fencing vacant lots on the southwest corner of Eighty-first street and Amsterdam avenue, extending about 100 feet on the avenue and 120 feet on the street.

The limits embraced by such assessments include all the several houses and lots of grounds, vacant lots, pieces or parcels of land situated on—

No. 1. Both sides of One Hundred and Ninth street, from Columbus to Manhattan avenue.

No. 2. Both sides of One Hundred and Fortieth street, from Amsterdam to Convent avenue.

No. 3. Both sides of One Hundred and Third street, from First avenue to Harlem river.

No. 4. Both sides of Ninth street, from Avenue C to Avenue D.

No. 5. East side of Fifth avenue, from Eighty-sixth to Ninety-first street, and from Ninetieth to Ninety-first street.

No. 6. To the extent of half the block from the northerly and southerly intersections of Amsterdam avenue and One Hundred and Sixty-first street.

No. 7. To the extent of half the block from the intersection of Ninth avenue and Manhattan street, on Block 936, Ward Nos. 4, 5, 6, 61, 62, 63 and 64, and Block 1051, Ward Nos. 30, 31, 32, 33, 34 and 37.

No. 8. To the extent of half the block, from the northerly intersection of St. Nicholas avenue and One Hundred and Twenty-second street.

No. 9. North side of Ninety-eighth street, between Columbus and Amsterdam avenues, on Block 1025, Ward Nos. 18 to 26, inclusive.

No. 10. Southwest corner of Eighty-first street and Amsterdam avenue on Block 215, Ward Nos. 33, 34, 35 and 36.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments, for confirmation, on the 25th day of April, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHAS. E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, March 30, 1892.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE** owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 3760, No. 1. Paving with trap blocks, curbing and receding One Hundred and Fifty-second street from Third to Courtlandt avenue.

List 3765, No. 2. Paving One Hundred and Forty-second street, from Third to Rider avenue, with trap blocks.

List 3766, No. 3. Regulating, grading, curbing and flagging One Hundred and Thirty-eighth street, from St. Ann's avenue to the Southern Boulevard.

List 3770, No. 4. Sewers and appurtenances in One Hundred and Forty-eighth street, between Railroad avenue, East, and Courtlandt avenue, and in Morris avenue, between One Hundred and Forty-fourth and One Hundred and Forty-sixth streets, and between One Hundred and Forty-eighth and One Hundred and Forty-ninth streets.

List 3821, No. 5. Fencing vacant lots on south side of One Hundred and Seventh street, from Park to Madison avenue.

List 3822, No. 6. Fencing vacant lots on north side of Ninetieth street, from Park to Madison avenue.

List 3823, No. 7. Fencing vacant lots on block bounded by Eighty-ninth and Ninetieth streets, Madison and Fifth avenues.

The limits embraced by such assessments include all the several houses and lots of grounds, vacant lots, pieces or parcels of land situated on—

No. 1. Both sides of One Hundred and Fifty-second street, from Third to Courtlandt avenue, and to the extent of half the block at the intersecting avenues.

No. 2. Both sides of One Hundred and Forty-second street, from Third to Rider avenue, and to the extent of half the block at the intersecting avenues.

No. 3. Both sides of One Hundred and Thirty-eighth street, from St. Ann's avenue to the Southern Boulevard, and to the extent of half the block at the intersecting avenues.

No. 4. Both sides of One Hundred and Forty-eighth street, from Railroad avenue, East, to Courtlandt avenue; both sides of Morris avenue, from One Hundred and Forty-fourth to One Hundred and Forty-sixth street, and south side of One Hundred and Forty-ninth street, from Railroad avenue, East, to Morris avenue.

No. 5. South side of One Hundred and Seventh street, from Park to Madison avenue.

No. 6. North side of Ninetieth street, between Park and Madison avenues, on Block 475, Ward Nos. 25 and 26.

No. 7. North side of Eighty-ninth street, between Madison and Fifth avenues, on Block 474, Ward Nos. 1, 5, 6, 7, 8 and 9.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments, for confirmation, on the 30th day of April, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHARLES E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, March 29, 1892.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE** owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 3747, No. 1. Flagging and reflagging north side of One Hundred and Twenty-fifth street, extending a distance about 125 feet west of Seventh avenue, and west side of Seventh avenue, from One Hundred and Twenty-fifth to One Hundred and Twenty-seventh street, and both sides of One Hundred and Twenty-sixth street, extending a distance about 125 feet west of Seventh avenue.

List 3771, No. 2. Flagging and reflagging, curbing and receding south side of One Hundred and Twentieth street, from Madison to Lenox avenue.

List 3784, No. 3. Paving Sixty-third street, from Amsterdam to Eleventh avenue, with granite blocks.

List 3787, No. 4. Sewer in One Hundred and Twenty-second street, between Manhattan avenue and Avenue St. Nicholas.

List 3792, No. 5. Catch-basins on the northwest and southwest corners of One Hundred and Thirteenth street and Amsterdam avenue.

List 3808, No. 6. Flagging and reflagging, curbing and receding north side of Eighty-sixth street, from Madison to Fifth avenue.

List 3809, No. 7. Flagging and reflagging west side of Tompkins street, from Broome to Delancey street.

The limits embraced by such assessments include all the several houses and lots of ground, vacant lots, pieces or parcels of land situated on—

No. 1. North side of One Hundred and Twenty-fifth street, extending about 125 feet west of Seventh avenue; west side of Seventh avenue, from One Hundred and Twenty-fifth to One Hundred and Twenty-sixth street, and both sides of One Hundred and Twenty-sixth street, extending about 125 feet west of Seventh avenue.

No. 2. South side of One Hundred and Twentieth street, extending from Madison to Lenox avenue, on Block 504, Ward Nos. 59, 60, 68 and 69, and Block 604, Ward Nos. 40 and 41, and 48 to 68 inclusive.

No. 3. Both sides of Sixty-third street, from Amsterdam to Eleventh avenue, and to the extent of half the block at the intersecting avenues.

No. 4. Both sides of One Hundred and Twenty-second street, from Manhattan avenue to Avenue St. Nicholas.

No. 5. Both sides of One Hundred and Thirteenth street, from Amsterdam avenue to Boulevard, and west side of Amsterdam avenue, from One Hundred and Twelfth street to 100 feet 11 inches north of One Hundred and Thirteenth street.

No. 6. North side of Eighty-sixth street, from Madison to Fifth avenue.

No. 7. West side of Tompkins street, from Broome to Delancey street.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments, for confirmation, on the 25th day of April, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHAS. E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, March 24, 1892.

**PUBLIC NOTICE IS HEREBY GIVEN TO THE** owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 3726, No. 1. Paving Madison avenue, from One Hundred and Fifth to One Hundred and Eighth street, with granite blocks and laying crosswalks.

List 3776, No. 2. Regulating, grading, curbing and flagging One Hundred and Twenty-seventh street, from Boulevard to Riverside Drive.

List 3794, No. 3. Sewer in Seventy-sixth street, between the Boulevard and Amsterdam avenue.

List 3796, No. 4. Laying crosswalks across Avenue A, at the southerly side of Seventy-fourth street, north side of Seventy-sixth street and south side of Eighty-fifth street.

List 3798, No. 5. Laying crosswalks across Seventh avenue at the northerly and southerly sides of One Hundred and Thirty-fourth street.

List 3801, No. 6. Paving Washington street, from Bank to Gansevoort street, with granite blocks and laying crosswalks (so far as the same is within the limits of grants of land under water).

List 3803, No. 7. Sewer in One Hundred and Second street, between Boulevard and Amsterdam avenue.

List 3804, No. 8. Sewer in Sixty-fourth street, between property of New York Central and Hudson River Railroad Company and Eleventh avenue.

List 3826, No. 9. Paving Fifty-fifth street, from Avenue A to the East river, with trap blocks.

List 3761, No. 10. Paving One Hundred and Forty-sixth street, from Third to St. Ann's avenue, with trap blocks.

The limits embraced by such assessments include all the several houses and lots of grounds, vacant lots, pieces or parcels of land situated on—

No. 1. Both sides of Madison avenue, from One Hundred and Fifth to One Hundred and Eighth street, and to the extent of half the block at the intersecting streets.

No. 2. Both sides of One Hundred and Twenty-seventh street, from the Boulevard to Riverside Drive, and to the extent of half the block at the intersecting avenues.

No. 3. Both sides of Seventy-sixth street, from the Boulevard to Amsterdam avenue.

No. 4. To the extent of half the block, from Avenue A, at the intersections of the south side of Seventy-fourth street, north side of Seventy-sixth street and south side of Eighty-fifth street.

No. 5. To the extent of half the block from Seventh avenue, at the northerly and southerly intersections of One Hundred and Thirty-fourth street.

No. 6. Both sides of Washington street, from Bank to Gansevoort street, and to the extent of half the block at the intersecting streets.

No. 7. Both sides of One Hundred and Second street, from the Boulevard to Amsterdam avenue.

No. 8. Both sides of Sixty-fourth street, from Eleventh avenue to the property of the New York Central and Hudson River Railroad Company, and west side of Eleventh avenue, extending about 103 feet 5 inches north of Sixty-fourth street.

No. 9. Both sides of Fifty-fifth street, from Avenue A to the East river, and to the extent of half the block at the intersecting avenues.

No. 10. Both sides of One Hundred and Forty-sixth street, from Third to St. Ann's avenue and to the extent of half the block at the intersecting avenues.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments, for confirmation, on the 25th day of April, 1892.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHAS. E. WENDT,  
EDWARD CAHILL,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 27 CHAMBERS STREET,  
NEW YORK, March 23, 1892.

## SUPREME COURT.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to BOSCOBEL AVENUE (although not yet named by proper authority), extending from the easterly approach to the bridge over the Harlem river at West One Hundred and Eighty-first street to Jerome avenue, in the Twenty-third and Twenty-fourth Wards of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 200 Broadway (fifth floor), in the said city, on or before the ninth day of May, 1892, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said ninth day of May, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 2 o'clock p. m.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the 10th day of May, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land situated, lying and being in the City of New York, which, taken together, are bounded and described as follows, viz.:

Northerly by a line drawn at right angles with the westerly line of Aqueduct avenue and extending westerly from a point thereon, distant 880 feet northerly from the northerly line of Boscobel avenue to the centre line of the block between Undercliff avenue and Sedgwick avenue and the prolongation of the said line easterly to its intersection with the prolongation northerly of the easterly line of Aqueduct avenue, and also by a line parallel with and distant 1,000 feet northerly from the northerly line of Boscobel avenue, and beginning at the point of intersection of said line with the prolongation northerly of the easterly line of Aqueduct avenue and extending to Elliott street; easterly by a line beginning at a point in the northerly line of Elliott street, distant 100 feet easterly from the easterly line of Jerome avenue; running thence southerly and parallel with the easterly line of Jerome avenue to the intersection of said line with a line parallel with, and distant 100 feet easterly from, the easterly line of Mott avenue; thence southerly and parallel with Mott avenue to the intersection of said line with the prolongation northerly of a line parallel with, and distant 100 feet easterly from, the easterly line of Gerard avenue; thence southerly and along said last mentioned line to the northerly line of Endrow place; southerly by a curved line beginning at a point in the northerly line of Endrow place, distant 100 feet easterly from the easterly line of Gerard avenue; thence westerly curving to the right on the arc of a circle whose radius is 1,000 feet and whose centre is the point

of intersection of the westerly line of Boscobel avenue with the westerly line of Jerome avenue to the point of tangency between said arc and a line parallel with, and distant 1,000 feet westerly from, the westerly line of Boscobel avenue and a line parallel with, and distant 1,000 feet southerly from, the southerly line of land acquired for the eastern approach to the bridge across the Harlem river at East One Hundred and Eighty-first street and extending from Aqueduct avenue to the centre line of the block between Undercliff and Sedgwick avenues; and westerly by a broken line parallel with and distant 1,000 feet westerly from, the westerly line of Boscobel avenue and extending from said point of tangency to Aqueduct avenue, the easterly line of Aqueduct avenue, the prolongation northerly of the said easterly line of Aqueduct avenue and the centre line of the blocks between Undercliff and Sedgwick avenues; excepting from said area all the streets, avenues and roads or portions thereof heretofore legally opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares and places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter 604 of the Laws of 1874, and the laws amendatory thereof, or of chapter 410 of the Laws of 1882, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on the 23d day of May, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, March 29, 1892.

HENRY G. CASSIDY, Chairman,  
WILLIAM E. STILLINGS,  
LAMONT McLOUGHLIN,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, for the use of the public, to the lands required for the opening of EAST ONE HUNDRED AND SEVENTIETH STREET (although not yet named by proper authority), from Prospect avenue to Bristow street, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**PURSUANT TO THE STATUTES IN SUCH** cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at Chambers thereof, in the County Court-house, in the City of New York, on Friday, the 8th day of April, 1892, at the opening of Court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue known as East One Hundred and Seventieth street, from Prospect avenue to Bristow street, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Board of Street Opening and Improvement, being the following-described lots, pieces or parcels of land, viz.:

Beginning at a point in the western line of Bristow street, distant 210.74 feet southerly from the intersection of the western line of Bristow street with the southern line of Boston road.

1st. Thence southerly along the western line of Bristow street for 60 feet.

2d. Thence westerly, deflecting 95° to the right for 298.47 feet.

3d. Thence northerly, deflecting 106° 54' 42" to the right for 62.71 feet.

4th. Thence easterly for 280.23 feet to the point of beginning.

East One Hundred and Seventieth street, from Prospect avenue to Bristow street, is designated a street of the first class and is 60 feet wide.

And as shown on certain maps filed by the Board of Street Opening and Improvement of the City of New York in the office of the Department of Public Works, in the office of the Counsel to the Corporation, in the office of the Secretary of State of the State of New York, in the office of the Register of the City and County of New York, and in the Department of Public Parks.

Dated New York, March 9, 1892.

WM. H. CLARK,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to HOME STREET (although not yet named by proper authority), extending from the Boston road to Intervale avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**PURSUANT TO THE STATUTES IN SUCH** cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at Chambers thereof, in the County Court-house, in the City of New York, on Friday, the 22d day of April, 1892, at the opening of Court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue known as Home street, extending from the Boston road to Intervale avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks, being the following-described lots, pieces or parcels of land, viz.:



2. Thence easterly, deflecting  $90^{\circ} 00' 29''$  from the eastern line of Forest avenue, for 269.94 feet to the western line of Tinton avenue.

3. Thence southerly along the western line of Tinton avenue for 60 feet.

4. Thence westerly for 269.94 feet to the point of beginning.

## PARCEL "C."

Beginning at a point in the eastern line of Tinton avenue, distant 571.29 feet northerly from the intersection of the northern line of George street with the eastern line of Tinton avenue.

1. Thence northerly along the eastern line of Tinton avenue for 60 feet.

2. Thence easterly, deflecting  $90^{\circ} 00' 42''$  from the eastern line of Tinton avenue, for 273.76 feet.

3. Thence northeasterly, deflecting  $37^{\circ} 24' 49''$  to the left, for 62.71 feet.

4. Thence northeasterly, deflecting  $11^{\circ} 42' 17''$  to the right, for 356.58 feet.

5. Thence northeasterly, deflecting  $0^{\circ} 25' 26''$  to the left, for 111.40 feet.

6. Thence northeasterly, deflecting  $1^{\circ} 20' 05''$  to the left, for 611.68 feet to the southern line of East One Hundred and Sixty-ninth street.

7. Thence easterly along the southern line of East One Hundred and Sixty-ninth street for 82.95 feet.

8. Thence southeasterly, deflecting  $133^{\circ} 40' 20''$  to the right, for 700.17 feet.

9. Thence southwesterly, deflecting  $1^{\circ} 48' 46''$  to the right, for 110.95 feet.

10. Thence southwesterly, deflecting  $0^{\circ} 03' 15''$  to the left, for 355.94 feet.

11. Thence southwesterly, deflecting  $6^{\circ} 34' 29''$  to the left, for 59.51 feet.

12. Thence westerly for 273.83 feet to the point of beginning.

## PARCEL "D."

Beginning at a point in the northern line of East One Hundred and Sixty-ninth street, distant 863.90 feet westerly from the most easterly point of East One Hundred and Sixty-ninth street.

1. Thence westerly along the northern line of East One Hundred and Sixty-ninth street for 16.12 feet.

2. Thence northeasterly, deflecting  $133^{\circ} 40' 20''$  to the right, for 23.20 feet.

3. Thence southerly for 16.78 feet to the point of beginning.

Home street, from Boston road to Intervale avenue is a street of the first class and is 60 feet wide.

And as shown on certain maps filed by the Commissioners of the Department of Public Parks in the office of the Register of the City and County of New York, in the office of the Secretary of State of the City of New York, and in the Department of Public Parks.

Dated NEW YORK, March 24, 1892.

WM. H. CLARK,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to MACOMB'S STREET (although not yet named by proper authority), extending from Broadway to Bailey avenue, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**PURSUANT TO THE STATUTES IN SUCH** cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at Chambers street, in the County Court-house, in the City of New York, on Friday, the 22d day of April, 1892, at the opening of the Court on that day, or as soon thereafter as counsel can be heard thereon for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonality of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue known as Macomb's street, extending from Broadway to Bailey avenue, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department of Public Parks, being the following-described lots, pieces or parcels of land, viz:

Beginning at a point in the eastern line of Broadway, distant 696.30 feet northerly from the intersection of the northern line of Riverdale avenue with the easterly line of Broadway.

1st. Thence northerly along the eastern line of Broadway for 60.04 feet.

2d. Thence easterly, deflecting  $87^{\circ} 51' 24''$  to the right, for 686.97 feet.

3d. Thence southerly, deflecting  $97^{\circ} 10' 38''$  to the right, for 60.47 feet.

4th. Thence westerly for 681.66 feet to the point of beginning.

Macomb's street is a street of the first class, and is 60 feet wide.

And as shown on certain maps filed by the Commissioners of the Department of Public Parks, in the Department of Public Parks, in the office of the Register of the City and County of New York, and in the office of the Secretary of State of the City of New York.

Dated NEW YORK, March 24, 1892.

WILLIAM H. CLARK,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to GROVE STREET (although not yet named by proper authority), extending from Third avenue to Brook avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 3), in said city, on or before the 18th day of April, 1892, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 18th day of April, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 2 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the 19th day of April, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz: Northerly by the centre line of the block between Grove street and East One Hundred and Sixty-fifth street; easterly by the westerly line of Brook avenue; south-

erly by the centre line of the block between Grove street and Westchester avenue and the centre line of the block between Grove street and Rose street, and westerly by the easterly line of Third avenue; excepting from said area all the streets, avenues and roads, or portions thereof, heretofore legally opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares and places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter 604 of the Laws of 1874, and the laws amendatory thereof, or of chapter 410 of the Laws of 1882, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers street, in the County Court-house, in the City of New York, on the thirtieth day of April, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, March 7, 1892.

NELSON SMITH, Chairman,  
CHARLES BEARDSLEY,  
WILLIAM J. LACEY,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to UNDERCLIFF AVENUE (although not yet named by proper authority), extending from the Twenty-third Ward line to Sedgwick avenue in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 3), in said city, on or before the fourth day of April, 1892, and that we, the said Commissioners, will hear parties so objecting within ten week days next after the said fourth day of April, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 1 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the fifth day of April, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz: Northerly by the southerly side of Sedgwick avenue, and by a line drawn at a right angle to the southerly side of Sedgwick avenue; from the intersection of said southerly line of Sedgwick avenue with the easterly line of Undercliff avenue to the centre of the block between Sedgwick avenue and Andrews avenue; easterly by the centre line of the blocks between Andrews avenue, Aqueduct avenue and Undercliff avenue; southerly by the boundary line between the Twenty-third and Twenty-fourth Wards; westerly by Sedgwick avenue and the centre line of the blocks between Sedgwick avenue and Undercliff avenue; excepting from said area all the streets, avenues and roads, or portions thereof, heretofore legally opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares and places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter 604 of the Laws of 1874, and the laws amendatory thereof, or of chapter 410 of the Laws of 1882, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers street, in the County Court-house, in the City of New York, on the twentieth day of April, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, February 18, 1892.

JAMES F. C. BLACKHURST,  
Chairman,  
WILMOT F. COX,  
WILLIAM H. BARKER,  
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired), to the lands required for the opening, widening and extension of COLLEGE PLACE AND GREENWICH STREET, extending from Chambers street to Dey street, in the Third Ward of the City of New York.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 3), in said city, on or before the twenty-eighth day of March, 1892, and that we, the said Commissioners, will hear parties so objecting within ten week days next after the said twenty-eighth day of March, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 12 o'clock M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the twenty-ninth day of March, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz: Northerly by a line drawn parallel to Canal street, and distant 100 feet northerly from the northerly side thereof, from the easterly line of West street to a point 100 feet east of the easterly line of Broadway; easterly by a line drawn parallel to Broadway and Whitehall street and distant 100 feet easterly from the easterly side thereof, from a point 100 feet north of Canal street to about the centre of Stone street; southerly by Stone street to Whitehall street, and by a line parallel to Bowling Green, and distant 100 feet southerly therefrom, from Whitehall street to State street; thence by a line parallel to the northerly side of Battery Park, and distant 100 feet southerly therefrom, from State street

to the southerly prolongation of the easterly line of West street; westerly, by the easterly line of West street, from the Battery Park to a point 100 feet north of Canal street; excepting from said area all the land included within the lines of streets, avenues and roads, or portions thereof, heretofore legally opened, as such area is shown upon our benefit maps deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers street, in the County Court-house, in the City of New York, on the twelfth day of April, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, February 16, 1892.

EUGENE L. BUSHE, Chairman,  
JAMES G. JANEWAY,  
THOMAS F. HAYES,  
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to FEATHERBED LANE (although not yet named by proper authority), extending from Aqueduct avenue to Jerome avenue, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 4), in said city, on or before the 26th day of March, 1892, and that we, the said Commissioners, will hear parties so objecting within ten week days next after the said 26th day of March, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 2 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the 27th day of March, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz: Beginning at a point in the easterly line of Aqueduct avenue, distant 530 feet northerly from the westerly tangent point of the curve joining the northerly line of Featherbed lane with the easterly line of Aqueduct avenue; thence easterly at a right angle to Aqueduct avenue 100 feet; thence by a line running south 76 degrees east for 260 feet; thence by a line parallel to the northerly line of Featherbed lane and distant about 285 feet northerly therefrom to the centre of McComb's road; thence southerly along the centre of McComb's road to the centre of the northwesterly line of the block bounded by McComb's road, a certain unnamed street, a certain unnamed street, and Featherbed lane; thence southeasterly along a curved line through the centre of the same block to another curved line parallel to Featherbed lane and distant about 120 feet northwesterly therefrom; thence easterly and northerly along last mentioned curved line continued as a centre line of the block lying north of Featherbed lane and west of Jerome avenue to the centre of the same block between Featherbed lane and a certain unnamed street its northern boundary; thence easterly to the westerly line of Jerome avenue at a point 900 feet north of the northerly line of Featherbed lane; thence southerly along the westerly line of Jerome avenue to the centre of the block between Featherbed lane and Wolf place; thence westerly along the centre line of last mentioned block to the centre of Inwood avenue; thence southerly along the centre line of Inwood avenue to the centre of the block between Featherbed lane and McComb's road and Inwood avenue; thence by a line running north 76½ degrees west to the easterly line of McComb's road; thence by a line running south 78½ degrees west for 500 feet; thence by a line running north 66½ degrees west to the centre of Marcher avenue; thence southerly along the centre of Marcher avenue to the centre of the block between Featherbed lane and Poscoel avenue, Marcher avenue and a certain unnamed street; thence westerly by the centre line of the last mentioned block to the centre of a certain unnamed street or avenue; thence northerly along the centre of said unnamed street or avenue to the centre of the block between Featherbed lane and Boscoel avenue; thence northerly along the centre line of last mentioned block to the easterly line of Aqueduct avenue; thence northeasterly along the easterly line of Aqueduct avenue to the place or point of beginning, the northerly and southerly boundary lines of said area of assessment being as nearly as practicable half way between Featherbed lane and the nearest streets or avenues north and south of Featherbed lane; excepting from said area all the streets, avenues, and roads, or portions thereof, heretofore legally opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares and places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter 604 of the Laws of 1874, and the laws amendatory thereof, or of chapter 410 of the Laws of 1882, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers street, in the County Court-house, in the City of New York, on the fifteenth day of April, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, February 9, 1892.

LAMONT McLAUGHLIN, Chairman,  
LOUIS CAMPORA,  
WILLIAM H. MARSTON,  
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired), to FREEMAN STREET (although not yet named by proper authority), extending from Union avenue to Southern Boulevard, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 3), in said city, on or before the 15th day of March, 1892, and that we, the said Commissioners, will hear parties so objecting within ten week days next after the said 15th day of March, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 3 o'clock P. M.

Second—That the abstract of our said estimate, together with the maps or diagrams showing the location of the wharf or bulkhead, the rights, terms, easements and privileges pertaining to which are to be taken in this proceeding, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, and also deposited with the Commissioner of Public Works of the Department of Docks, Pier "A," North river, in said city, there to remain until the 16th day of March, 1892.

Third—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at Chambers street, in the County Court-house, in the said City of New York, on the 12th day of April, 1892, at the opening of Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK CITY, February 10, 1892.

CHARLES COUDERT, Chairman,  
LEWIS H. ARNOLD, Jr.,  
JOHN CONNELLY,  
Commissioners.

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 51 Chambers street (Room 4), in said city, on or before the twenty-sixth day of March, 1892, and that we, the said Commissioners, will hear parties so objecting within ten week days next after the said twenty-sixth day of March, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 2 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the twenty-seventh day of March, 1892.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz: Beginning at a point in the easterly line of Union avenue midway between Ritter place and Freeman street; thence easterly along the centre line of the block between Ritter place and Freeman street, Union avenue and Prospect avenue, to the centre of Prospect avenue; thence northerly along the centre line of Prospect avenue to the centre line of the blocks between Jennings street and Freeman street; thence easterly along last-mentioned centre line to the centre line of Bristow street; thence northerly along the centre line of Bristow street to a line parallel to Jennings street and distant 177 feet southerly therefrom; thence easterly along last-mentioned line to the centre line of Stebbins avenue; thence southerly along the centre line of Stebbins avenue to a line drawn at a right angle to the easterly line of Stebbins avenue, at a point 282 feet north of the intersection of said easterly line of Stebbins avenue with the northerly line of Freeman street; thence easterly by said perpendicular line to the easterly line of Stebbins avenue; thence easterly along a line drawn through the westerly line of Intervale avenue at a point 373 feet northerly from the northerly line of Freeman street to the centre line of Intervale avenue; thence southerly along said centre line to a line parallel to Freeman street, and distant about 280 feet northerly therefrom; thence easterly along said parallel line to the westerly line of Wilkins place; thence southerly along the westerly line of Wilkins place and Southern Boulevard to the centre line of the block between Freeman street and Home street, Southern Boulevard and Simpson street; thence westerly along the centre line of the blocks between Freeman street and Home street to the centre line of Fox street; thence southerly along the centre line of Fox street to the centre line of the block between Home street, Intervale avenue and Fox street; thence westerly along last-mentioned centre line to the centre line of Intervale avenue; thence northerly along the centre line of Intervale avenue to the centre line of the block between One Hundred and Sixty-ninth street and Freeman street, Intervale avenue and Stebbins avenue; thence westerly along last-mentioned centre line to the centre line of Stebbins avenue; thence northerly along the centre line of Stebbins avenue to the centre line of the blocks between Freeman street and One Hundred and Sixty-ninth street, Stebbins avenue and Union avenue; thence southerly and westerly by last-mentioned centre line to the easterly line of Union avenue; thence northerly along said easterly line of Union avenue to the point of beginning; excepting from said area all the streets, avenues and roads, or portions thereof, heretofore legally opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares and places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter 604 of the Laws of 1874, and the laws amendatory thereof, or of chapter 410 of the Laws of 1882, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers street, in the County Court-house, in the City of New York, on the fifteenth day of April, 1892, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, February 9, 1892.

JOHN B. PINE, Chairman,  
WILLIAM H. TOWNLEY,  
HENRY G. CASSIDY,  
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Department of Docks, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring all rights, terms, easements and privileges pertaining to those seventy-five feet of wharf or bulkhead on the westerly side of WEST STREET, next north of Harrison street, not now owned by the said corporation.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above-entitled proceeding, do hereby give notice to all persons interested in this proceeding and to the owner or owners, occupant or occupants, lessees and persons interested in the wharf or bulkhead, or in the rights, terms, easements and privileges pertaining thereto, affected by this proceeding, and to all others whom it may concern:

First—That we have completed our estimate and that all persons interested in this proceeding, or in the wharf or bulkhead, or the rights, terms, easements and privileges pertaining thereto, affected by this proceeding, and having objections thereto, to file with us their said objections in writing, duly verified, at our office, No. 68 William street (third floor), in the City of New York, on or before the 15th day of March, 1892; and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 15th day of March, 1892, and for that purpose will be in attendance at our said office on each of said ten days at 3 o'clock P. M.

Second—That the abstract of our said estimate, together with the maps or diagrams showing the location of the wharf or bulkhead, the rights, terms, easements and privileges pertaining to which are to be taken in this proceeding, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, and also deposited with the Commissioner of Public Works of the Department of Docks, Pier "A," North river, in said city, there to remain until the 16th day of March, 1892.

Third—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at Chambers street, in the County Court-house, in the said City of New York, on the 12th day of April, 1892, at the opening of Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK CITY, February 10, 1892.

CHARLES COUDERT, Chairman,  
LEWIS H. ARNOLD, Jr.,  
JOHN CONNELLY,  
Commissioners.

ROBERT L. WENSLEY, Clerk.

## THE CITY RECORD.

THE CITY RECORD IS PUBLISHED DAILY, Sundays and legal holidays other than the general election day excepted, at No. 2 City Hall, New York City. Price, single copy, 3 cents; annual subscription \$9.30.

W. J. K. KENNY,  
Supervisor