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ANNUAL REPORT
OF THE
STREET DEPARTMENT



OF THE
CITY OF BOSTON
1902

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COMPLIMENTS OF ...

JAMES DONOVAN,

Superintendent of Streets.

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ANNUAL REPORT

OF THE

STREET DEPARTMENT

FOR THE

YEAR 1902



BOSTON
MUNICIPAL PRINTING OFFICE

1903

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1902

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HON. PATRICK A. COLLINS,

Mayor of the City of Boston :

SIR, — In compliance with the Revised Ordinances, the annual report of the operations and expenses of the Street Department for the year 1902 is herewith respectfully submitted.

ORGANIZATION.

The work of the department during the past year has been carried on under the same organization that was effected when the consolidated department was created in 1891, and as amended in 1895, the several divisions of the department being as follows :

Central Office.	Paving Division.
Boston and Cambridge	Sanitary Division.
Bridges.	Sewer Division.
Bridge Division.	Street-Cleaning Division.
Ferry Division.	Street-Watering Division.

Each of the above divisions, with the exception of the Central Office and the Boston and Cambridge Bridges, is in charge of a Deputy Superintendent.

The Boston and Cambridge bridges are managed by two commissioners, the Superintendent of Streets being the commissioner for the City of Boston, the other commissioner being appointed by the Mayor of the City of Cambridge.

APPROPRIATIONS.

The money assigned for Street Department work for the past year was made available under the following appropriations:

First. — Maintenance: From income of the city raised by taxes. Previous to the commencement of the financial year, February 1, the department estimates of the amounts necessary for the proper maintenance of the various divisions are submitted to His Honor the Mayor, who makes such recommendation as he may deem proper to the City Council. The maintenance appropriations, as passed by the City Council, were as follows:

Central Office	\$20,000 00
Bridge Division	160,000 00
Cambridge and Boston Bridges	18,000 00
Ferry Division	220,000 00
Paving Division	850,000 00
Sanitary Division	615,000 00
Sewer Division	300,000 00
Street-Cleaning Division	340,000 00
Street-Watering Division	160,000 00
	<hr/>
Total	\$2,683,000 00

Second. — Work done under appropriations for permanent improvements: There was made available by the City Council, from income of the city raised by taxes, for general new or reconstruction work, as follows:

Street Improvements	\$500,000 00
-------------------------------	--------------

Third. — Work done under appropriations for permanent improvements: There was made available by the City Council, from loans within the debt limit, for new work as follows:

Bridge Division	\$72,000 00
Paving Division	542,800 00
Street-Cleaning Division	8,000 00
	<hr/>
Total	\$622,800 00

Fourth. — In 1891 an Act was passed by the Legislature, and amended in 1897, entitled "An Act Relating to the Location, Laying-out and Construction of Highways in the City of Boston." (Chapter 323, Acts of 1891, and amend-

ments.) Loans under this Act previous to 1901 were outside the debt limit, but by chapter 199 of the Acts of 1901 the city was empowered to borrow the money inside the debt limit. From this fund new streets, assessable on the abutting property, are built. The amount expended the past year was :

Sewers	\$55,706 63
Streets	97,489 98
	<hr/>
Total	\$153,196 61

Fifth. — In 1895 an Act was passed by the Legislature, and amended in 1898, entitled “An Act to provide for the Laying-out and Construction of Certain Highways in the City of Boston” (commonly known as the Boulevard Act). (Chapter 334 of 1895; chapter 236 of 1898.) Loans under this Act are outside the debt limit. The amount expended this year was as follows :

Streets	\$23,767 82
-------------------	-------------

Sixth. — In 1895 an Act was passed by the Legislature entitled “An Act relative to the establishment of a New Ferry Landing in the City of Boston.” (Chapter 435.) Under this Act the loan is outside the debt limit. The amount expended this year was \$10,639.71.

Seventh. — In 1897 an Act was passed by the Legislature, entitled “An Act Relative to the Sewerage Works of the City of Boston.” (Chapter 426.) Under this Act the loan is outside the debt limit. From this fund “Sewerage Works” are built.

The amount expended the past year was . \$1,145,141 25

Eighth. — In 1900 an Act was passed by the Legislature and accepted by the City Council entitled “An Act Relative to Laying-Out and Constructing Highways in the City of Boston.” (Chapter 478.) Under this Act the loan is inside the debt limit. From this appropriation all street and sewerage works construction in highways laid out previous to July 17, 1900, may be built.

The amount expended the past year was as follows :

Sewer	\$139,408 83
Street	242,338 08
	<hr/>
Totals	\$381,746 91

Ninth. — In 1901 an Act was passed by the Legislature entitled "An Act Relative to Highways in the City of Boston." (Chapter 199.) Under this Act the loan is inside the debt limit. From this appropriation street and sewerage works construction in "323" streets may be built. The amount thus expended the past year was:

Construction of Highways Already Laid Out —

Sewers	\$7,232 10
Streets	30,801 03
	<hr/>
Totals	\$38,033 13

The expenditures under the several appropriations of the year 1901 were as follows:

Maintenance	\$2,860,705 22
Street Improvements (Appropriation)	425,000 00
Boston and Cambridge Bridges, Special	27,033 39
Bridge, Specials	11,917 10
Ferry Improvements	58,650 99
Paving, Specials	472,800 74
Sanitary, Specials	50,000 00
Laying-Out and Construction of Highways,	153,196 61
Laying-Out and Construction of Highways	
(Chapter 478 of 1900)	381,736 91
Construction of Highways Already Laid	
Out	38,033 13
Blue Hill and Other Avenues (Boulevard	
Act)	23,767 82
New Ferry Landing	10,639 71
Sewerage Works	1,145,141 25
	<hr/>
Totals	\$5,658,622 87

From the moneys provided, as shown in the preceding schedule, the maintenance force of the department has been permanently and constantly employed during the year, and large amounts of work have been performed by contract, as required by the provisions of many of the Acts providing loans for expenditure by this department.

Specific features of the work are referred to under the headings which follow, and the work of the divisions is fully shown in the appendices attached to this report.

DUMPS.

The problem calling for immediate attention by this department to-day is that of suitable dumps, and, as the four largest divisions, Paving, Sanitary, Sewer, and Street-Cleaning, are very materially affected, both as to the prosecution of work and the increase in expenditures caused by the scarcity of dumps, too much cannot be said on this point. Work on down-town streets is badly handicapped on account of the long hauls necessary to dispose of surplus excavations, both in the Paving and Sewer Divisions, as in some cases the surplus must be carted to East Boston, South Boston, and even Cambridge, thereby entailing a great expense.

In the Sanitary Division, the collections north of Massachusetts avenue are hauled partly to the dumping scow at Fort Hill Wharf, and those of Charlestown and part of the North and West Ends to Cambridge, where a charge for dumping is made aggregating something like \$2,000 per year.

The Street-Cleaning Division finds it very difficult to dispose of street sweepings, as there are practically no available dumping places.

A remedy for this condition of affairs would be the placing of a dumping scow at the foot of Charles River avenue, and another at the South End yard, Albany street.

If a suitable site for a Street Department yard for the two last named divisions could be procured and a plant established, the cost of collection and disposal of ashes, street dirt and offal in the Dorchester district could be materially reduced and much better service rendered the district. A dumping wharf and scow should be located in East Boston and Dorchester, in order to deliver the offal of these districts to the New England Sanitary Product Company, under contract with the city, for the final disposition of the offal of these districts.

SNOW.

I desire to call your attention to the necessity of providing a separate appropriation for the removal of snow.

This work cannot be classed as a part of the maintenance work of this department; it is rather a special task, and the cost of performing it is dependent entirely on the weather.

The cost the past year was something like \$175,000, and was paid for from the maintenance appropriations of the Paving and Street-Cleaning Divisions.

An appropriation could wisely be made for this work, and the unexpended balance transferred to any other purpose at the end of the year.

BITUMINOUS MACADAM.

About 9,600 square yards of this surfacing have been laid both on level streets and streets with steeper grades, and has, so far, given excellent satisfaction. It is less slippery than asphalt, is easily cleaned and kept clean, and has been petitioned for by many owners and occupants of houses in the residential streets.

Team owners and drivers prefer it to asphalt, and on grades varying from 1 to 12 per cent., where it has been laid, no fault has been found.

STREET OPENINGS.

The department has taken a decided stand against granting permits to open for any purpose newly paved or re-surfaced streets, and, except in cases of the most urgent necessity, no permits have been granted, and then only on condition that the work be replaced by a competent contractor under bond with this department, the expense of the work being borne by the party making the opening. This course, properly pursued, I believe, will lead to a better condition of our street surfaces, and will add much to the looks and much-sought-for cleanly condition of our thoroughfares.

STREET LITTER.

The carelessness of the general public adds much to the labor of keeping our streets in presentable condition, and if the ordinances governing the throwing of paper, etc., into our streets and public alleys could be enforced to the extent of prosecuting habitual offenders, the people at large would be awakened to a sense of their duty.

The passing of handbills, pamphlets, etc., by itinerant venders has been practically stopped, and if the throwing into the streets of newspapers and fruit parings and sweepings of store dirt and house dirt, could be remedied, the good effect would be immediately appreciated by all.

BOSTON AND CAMBRIDGE BRIDGES.

To my fellow commissioner, Mr. W. J. Marvin of Cambridge, has fallen the greater part of the work of supervising the conduct of these bridges, and too much credit cannot be given him for his economical administration and attention to the duties imposed by statute.

BRIDGE DIVISION.

Expenditures.

Maintenance.	Specials.
\$164,082.13.	\$11,917.10.

The Shawmut-avenue bridge, over the Boston & Albany and New York, New Haven & Hartford Railroads, should be entirely rebuilt at as early a date as possible, in the opinion of the City Engineer. Further repairs are useless, and, as this is one of the main thoroughfares leading south from the heart of the down-town district, the necessity of the work becomes apparent. As mentioned in the report of the previous years, the Congress-street and Mt. Washington avenue bridges should be widened, on account of the great increase in shipping in the South bay. A petition is being circulated among the wharf owners requesting the national government to take steps to compel the city to rebuild Congress street and to rebuild or abolish Mt. Washington-avenue bridge.

Much work in the way of repairs, replacing rolling stock, etc., is necessary to bring this division to the standard of efficiency demanded by the travelling public, and increase in the maintenance appropriations has been asked for, which, if granted, will allow the department to proceed with this work.

FERRY DIVISION.

Expenditures.

Maintenance.	Specials.
\$227,688.29.	\$69,290.70.

Upon assuming control of the department this division was thoroughly inspected by me, with a view to improving the conditions of the service, of which many complaints had been made.

Experts carefully examined the plant and reported at length, and work was commenced along the lines laid down by them.

The boats, buildings, piers, etc., were overhauled, repaired, and painted, and the service so much improved as to cause general commendation from the travelling public.

Much remains to be done, and, with the installing of the various shops at the ferries, repairs can be made by the division force promptly and with little inconvenience to travel.

PAVING DIVISION.

Expenditures.

Maintenance.	Specials.
\$902,136.05.	\$33,451.11.

The paving of down-town streets has been carried on as far as the appropriation would admit, and pitch joints substituted for cement grout on account of the many complaints as to the slipperiness of the latter form of joint. Seven ledges have been in operation during the year, and many macadam streets have been built and resurfaced.

Work has progressed on Columbia road and Bennington street, and Blue Hill avenue has been built to Mattapan.

The South End Wharf Paving No. 2 will be rebuilt the coming year, and Rutherford avenue, Devens and Bow streets will be finished. Many of the suburban streets have been resurfaced, and the force of the division has coöperated with that of the Street-Cleaning Division in the scraping of gutters, etc.

SANITARY DIVISION.

Expenditures.

Maintenance.	Specials.
\$675,319.64.	\$50,000.

The cost of collecting and removing house dirt, ashes, and offal is greatly increased by the lack of suitable dumping places. Attention has been previously called to this condition, and steps must be taken to remedy the trouble at once.

The system of collecting and removing offal and ashes by contract should be abolished, and, to this end, yards should be established by this division in Dorchester, West Roxbury, and Brighton.

The service under the contract system is unsatisfactory, and the residents of these districts are demanding a change.

STREET-CLEANING DIVISION.

Expenditures.

Maintenance	\$392,802.09
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The push-cart patrol system should be extended as much as possible and provision made for the replacing of the rolling stock and horses of this division.

As is well known, when this division was organized in 1891 the carts, harnesses, horses, tools, etc., were furnished from the Sanitary Division, and sufficient money has never been provided to replace any of this worn-out stock.

In the preceding pages the attention of the public has been called to the littering of the streets by the throwing of papers, fruit parings, etc., and the remedy suggested, the coöperation of our citizens, would result in more sightly looking street surfaces.

STREET-WATERING DIVISION.

Expenditures.

\$160,147.25

The most noticeable feature in the work of this division has been the increase in the number of miles of streets watered and the decrease in the appropriations for doing the work, and in order to properly water all public streets money should be provided in proportion to the number of miles of new streets constructed annually.

SUMMARY OF WORK DONE.

BRIDGE DIVISION.

Overhauled and thoroughly repaired the following bridges, viz:

Congress-street, Cottage-street, Dover-street, Federal-street, Mt. Washington-avenue, North Beacon-street, Warren-street, Boylston-street over Boston & Albany Railroad, Columbus-avenue, Shawmut-avenue, West Fourth-street, and West Newton-street.

FERRY DIVISION.

Seven ferry-boats have been running on full time during the entire year, and over 500,000 more passengers were carried than in the preceding year.

The entire plant of the division has been examined by three experts, and a large amount of new and necessary work done.

PAVING DIVISION.

Granite block paving laid as follows :

On concrete base with pitch joints	31,939	square yards
“ gravel “ “ grout “	2,031	“ “
“ “ “ “ gravel “	3,472	“ “
Granite block paving relaid	140,387	“ “
Bituminous macadam laid	9,609	“ “
Edgestone set or reset	123,876	linear feet

Sidewalks built as follows :

Artificial stone	126,071	square feet
Brick	53,084	“ yards
Asphalt pavement	9,627	“ “
Macadam surface	698,894	“ “

Work has progressed on forty-two new streets and seven public alleys laid out and ordered constructed under chapter 323 of the Acts of 1891 and amendments, and twenty-nine streets and six public alleys have been completed.

SANITARY DIVISION.

Collected and removed 313,844 loads of house dirt and ashes, 8,297 loads of waste and rubbish, and 66,287 loads of house offal.

SEWER DIVISION.

Built 24.77 miles of sewers and 593 catch-basins, flushed 283.28 miles of sewers, removed 1,046 cubic yards of deposit from sewers and 9,840 cubic yards from the Pumping Station; cleaned 6,797 catch-basins, removing 25,997 cubic yards of deposit.

STREET-CLEANING DIVISION.

Cleaned 15,505 miles of paved streets and gutters, removed 254,217 loads of street sweepings, etc., and emptied 13,830 public waste barrels.

STREET-WATERING DIVISION.

Watered 465 miles of public streets.

Financial Statement of the Street Department Appropriation.

February 1, 1902, to January 31, 1903.

Maintenance.

APPROPRIATIONS.	Appropriations and Transfers during 1902.	Revenue.	Total Credits.	Expenditures for the twelve months ending Jan. 31, 1903.
Street Department:				
Central office.....	¹ \$20,386 04		\$20,386 04	\$20,386 04
Bridge Division.....	² 163,882 76	\$199 37	164,082 13	164,082 13
Boston and Cambridge Bridges,	³ 16,400 04		16,400 04	16,400 04
Ferry Division.....	⁴ 227,688 29		227,688 29	227,688 29
Paving Division.....	⁵ 894,524 59	7,611 46	902,136 05	902,136 05
Sanitary Division.....	⁶ 675,319 64		675,319 64	675,319 64
Sewer Division.....	⁷ 300,000 00	1,743 69	301,743 69	301,743 69
Street Cleaning Division.....	⁸ 392,802 09		392,802 09	392,802 09
Street Watering Division.....	⁹ 160,147 25		160,147 25	160,147 25
Totals.....	\$2,851,150 70	\$9,554 52	\$2,860,705 22	\$2,860,705 22
¹ Appropriation			\$20,000 00	
Transferred from Cambridge and Boston Bridges			387 54	
			\$20,387 54	
Transferred to Bridge Division			1 50	
				\$20,386 04
² Appropriation			\$160,000 00	
Revenue			199 37	
Transferred from Surplus Revenue			2,061 92	
" " Cambridge and Boston Bridges			1,212 42	
" " New Charlestown Bridge Public Land- ing			606 92	
" " Central office			1 50	
				\$164,082 13
³ Appropriation				\$18,000 00
Transferred to Bridge Division			\$1,212 42	
" " Central office			387 54	
				1,599 96
				\$16,400 04
⁴ Appropriation			\$220,000 00	
Transferred from Surplus Revenue			7,688 29	
				\$227,688 29
⁵ Appropriation			\$850,000 00	
Revenue			7,611 46	
Transferred from Street Improvements			75,000 00	
" " Surplus Revenue			20,324 59	
				\$952,936 05
Transferred to Street-Cleaning Division			\$27,800 00	
" " Sanitary Division			23,000 00	
				50,800 00
				\$902,136 05
⁶ Appropriation			\$615,000 00	
Transferred from Surplus Revenue			37,319 64	
" " Paving Division			23,000 00	
				\$675,319 64
⁷ Appropriation			\$300,000 00	
Revenue			1,743 69	
				\$301,743 69
⁸ Appropriation			\$340,000 00	
Transferred from Paving Division			27,800 00	
" " Surplus Revenue			25,002 09	
				\$392,802 09
⁹ Appropriation			\$160,000 00	
Transferred from Surplus Revenue			147 25	
				\$160,147 25

Comparative Table showing Cost of Maintenance of the Street Department since 1893.

DIVISION.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.	1901-1902.	1902-1903.
Central Office.....	\$20,805 96	\$20,884 29	\$18,315 79	\$18,781 85	\$17,789 85	\$19,186 24	\$18,799 41	\$19,994 66	\$24,999 83	\$20,886 04
Bridge.....	138,159 24	130,137 21	119,716 00	119,963 55	126,529 32	129,268 03	120,408 72	138,580 56	170,866 18	164,082 13
Boston and Cam- bridge Bridges....	11,493 16	11,986 85	12,537 33	13,835 54	14,403 92	13,569 89	15,698 18	17,353 27	18,394 97	16,400 04
Ferry.....	.....	.....	209,911 30	218,353 10	219,988 24	213,055 79	211,822 87	236,999 91	248,754 06	227,088 29
Paving.....	593,738 19	637,226 91	599,090 34	559,984 39	573,963 14	553,291 72	705,432 68	753,562 34	837,831 07	780,236 39
Removal of snow,	151,943 33	78,381 71	84,809 08	68,741 07	116,224 20	172,963 48	154,625 18	20,138 38	98,518 45	121,899 66
Sanitary.....	481,300 63	467,459 02	432,778 52	477,241 54	492,670 56	508,152 88	567,107 81	609,664 67	623,000 50	675,319 64
Sewer.....	373,517 38	304,133 40	280,596 07	276,615 25	295,522 25	337,376 27	347,133 64	362,060 24	345,669 05	301,743 69
Street Cleaning.....	308,707 30	301,477 44	305,998 50	310,266 39	309,993 38	316,052 73	322,451 15	333,747 23	356,445 72	392,802 09
Street Watering....	99,430 16	87,169 08	76,424 70	71,211 81	278,736 72	138,728 57	174,625 97	174,742 45	164,259 36	160,147 25
Totals.....	\$2,174,095 35	\$2,038,855 91	\$2,140,177 63	\$2,134,944 49	\$2,245,816 68	\$2,401,630 60	\$2,638,905 61	\$2,081,843 71	\$2,883,739 19	\$2,860,705 22

¹ For comparison, deduct Ferry Division, not shown before 1895-6.

² Not including water bills of \$76,930.40, not previously paid by Street Watering Division.

Bridge Division Specials.

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balance on hand Jan. 31, 1903.
Broadway bridge, rebuilding.....	\$197 61	\$197 61	
Congress-street bridge, repairs.....	4,888 63	2,807 49	\$2,081 14
Construction of piers, Bridge Division.	10,000 00	1,457 99	8,542 01
Cottage-street bridge, improvement of.	6,500 00	4,915 43	1,584 57
Electric installation and construction, Bridge Division.....	3,000 00	1,138 58	1,861 42
Foot-bridge over N.Y., N.H. & H. R.R. at Gainsborough street.....	5,000 00	.....	5,000 00
Foot-bridge over N.Y., N.H. & H. R.R. at Northampton street.....	5,000 00	.....	5,000 00
Foot-bridge over N.Y., N.H. & H. R.R. at Sarsfield street.....	5,000 00	.....	5,000 00
New Charlestown bridge, public landing. ¹			
New trucks, Bridge Division.....	2,500 00	1,400 00	1,100 00
Reconstruction of bridges over railroad tracks at Norfolk, Harvard, Medway, and West Selden streets.....	40,000 00	.....	40,000 00
Totals.....	\$82,086 24	\$11,917 10	\$70,169 14

¹ All transferred.

Boston and Cambridge Bridges (Special.)

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Harvard bridge.....	\$27,033 39	\$27,033 39	
Totals.....	\$27,033 39	\$27,033 39	

Ferry Division Specials.

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Ferry improvements.....	\$100,000 00	\$58,650 99	\$41,349 01
New ferry landing (Chap. 435, Acts of 1895).....	10,639 71	10,639 71	
Totals.....	\$110,639 71	\$69,290 70	\$41,349 01

Paving Division Specials.

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Freeport-street retaining wall.....	\$5,000 00	.....	\$5,000 00
Malden bridge.....	4,692 78	\$4,692 78	
Street Improvements.....	935,739 84	\$64,349 63	71,390 21
Temple street, Ward 23: Bridge and tunnel under railroad tracks.....	32,000 00	.....	32,000 00
Carleton street.....	28,758 33	28,758 33	
Totals.....	\$1,006,190 95	\$897,800 74	\$108,390 21

Sanitary and Street-Cleaning Divisions Specials.

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Garbage Plant, Spectacle Island.....	\$100,000 00	\$50,000 00	\$50,000 00
Land and Buildings, Sanitary and Street-Cleaning Divisions, Dorchester.....	50,421 04	.....	50,421 04
Office for Street-Cleaning Division, Charlestown.....	3,000 00	.....	3,000 00
Yard for Street-Cleaning Division, West End.....	5,000 00	.....	5,000 00
Totals.....	\$158,421 04	\$50,000 00	\$108,421 04

Sewer Division Special.

OBJECT OF EXPENDITURES.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Sewerage Works.....	\$1,152,461 56	\$1,145,141 25	\$7,320 31
Totals.....	\$1,152,461 56	\$1,145,141 25	\$7,320 31

Laying-Out and Construction of Highways.*Expenditures.*

Sewer construction	\$97,489 98
Street construction	55,706 63
Total	\$153,196 61

Laying-Out and Construction of Highways (Chap. 478, Acts of 1900).*Expenditures.*

Sewer construction	\$242,338 08
Street construction	139,408 83
Total	\$381,736 91

Construction of Highways Already Laid Out.*Expenditures.*

Sewer construction	\$7,232 10
Street construction	30,801 03
Total	\$38,033 13

Blue Hill and Other Avenues — Street Construction.*Expenditures.*

Blue Hill avenue	\$23,757 82
Commonwealth avenue	10 00
Total	\$23,767 82

Recapitulation of Expenditures for the Twelve Months ending January 31, 1903.

OBJECT OF APPROPRIATIONS.	Current Expenses.	Special Appropriations.	Totals.
Street Department:			
Central Office	\$20,386 04		\$20,386 04
Boston and Cambridge Bridges.....	16,400 04	\$27,033 39	43,433 43
Bridge Division	164,082 13	11,917 10	175,999 23
Ferry Division.....	227,688 29	69,290 70	296,978 99
Paving Division.....	902,136 05	33,451 11	935,587 16
Sanitary Division.....	675,319 64	50,000 00	725,319 64
Sewer Division	301,743 69	1,145,141 25	1,446,884 94
Street Cleaning Division	392,802 09		392,802 09
Street Watering Division.....	160,147 25		160,147 25
Street Improvements.		864,349 63	864,349 63
Laying Out and Construction of Highways.....		153,196 61	153,196 61
Laying Out and Construction of Highways (Chap. 478 of 1900).....		381,736 91	381,736 91
Construction of Highways Already Laid Out.....		38,033 13	38,033 13
Blue Hill and Other Avenues.....		23,767 82	23,767 82
Totals	\$2,860,705 22	\$2,797,917 65	\$5,658,622 87

**List of Contracts from February 1, 1902, to January 31, 1903,
made by the Street Department.**

Paving Blocks.

CONTRACT.	Awarded to	Dated.	Price per M delivered on	
			Wharves.	Streets.
Large paving blocks, 500,000.....	Rockport Granite Company.....	May 24, 1902....	\$60 00	
Gutter paving blocks, 400,000.....	Wm. Shea & Son...	May 24, 1902 ...		} (a) \$52 00 (b) 58 00
Large paving blocks, 300,000.....	S. & R. J. Lombard,	July 30, 1902....			59 00

(a) Streets south of Grove Hall. (b) Streets north of Grove Hall.

Bank Gravel and Sand.

DISTRICT.	Awarded to	Dated.	Price double load of 40 cubic feet.	
			Gravel	Sand.
South Boston	James McGovern.....	Feb. 20, 1902....	\$1 47	\$1 32
East Boston.....	J. F. Brennan & Co....	Feb. 20, 1902....	1 40	1 40
Charlestown	J. F. Brennan & Co....	Feb. 20, 1902....	1 55	1 55
Brighton	William Scollans.....	Feb. 20, 1902....	1 60	1 50
West Roxbury.....	John A. Whittemore & Sons.....	Feb. 20, 1902....	1 18	1 18
Dorchester.....	James McGovern	Feb. 20, 1902....	1 40	1 30
Roxbury	Charles J. Jacobs.....	Feb. 20, 1902....	1 42	1 28
City Proper: District 8.....	James McGovern	Feb. 20, 1902....	1 52	1 31
City Proper: District 9.....	Old Colony Sand and Stone Co.....	Feb. 20, 1902....	1 50	1 49
City Proper: District 10.....	Estate of P. O'Riorden,	Feb. 20, 1902....	1 60	1 10

NOTE.— Single loads to cost one-half of the foregoing prices.

Crosswalk Flagging.

CONTRACT.	Awarded to	Dated.	Price per Square Foot.	
			On Wharves.	On Streets.
Granite.	S. & R. J. Lombard....	May 14, 1902....	\$0 32½	\$0 34¾
North River.....	J. J. Cuddihy.....	May 14, 1902....	33½	36½

Spruce Lumber.

DISTRICT.	Awarded to	Dated	Price per M. ft. B. M. rough.
South Boston.....	G. Fuller & Son.....	Feb. 17, 1902....	\$21 50
East Boston.....	G. Fuller & Son.....	Feb. 17, 1902....	20 50
Charlestown.....	G. Fuller & Son.....	Feb. 17, 1902....	20 00
Brighton.....	G. Fuller & Son.....	Feb. 17, 1902....	20 00
West Roxbury.....	G. Fuller & Son.....	Feb. 17, 1902....	20 00
Dorchester.....	G. Fuller & Son.....	Feb. 17, 1902....	21 50
Roxbury.....	G. Fuller & Son.....	Feb. 17, 1902....	20 25
City Proper.....	G. Fuller & Son.....	Feb. 17, 1902....	20 00

Beach Gravel.

DISTRICT.	Awarded to	Dated	Price per ton, delivered on wharves.
City wharves.....	M. J. Mahoney.....	Feb. 17, 1902....	\$0 85

Edgestones.

CONTRACT.	Awarded to	Dated	Price per lineal foot.
Furnishing edgestones,	Simpson Bros. Corp.....	June 24, 1902....	\$0 65
Furnishing edgestones,	S. & R. J. Lombard.....	August 1, 1902..	0 64

Iron Castings.

CONTRACT.	Awarded to	Dated	Price per 100 lbs., de- livered at yards.
Iron castings.....	The Sessions Foundry Com- pany.....	Feb. 11, 1902....	\$1 43

Coal.

CONTRACT.	Awarded to	Dated	Price per ton, 2,240 lbs.
1,000 tons, Pumping Station, Dorchester.....	Garfield and Proctor Coal Co.....	Feb. 11, 1902	\$3 35
1,000 tons, Ferry Wharves.....	Garfield and Proctor Coal Co.....	March 20, 1902..	3 67
1,000 tons, Pumping Station, Dorchester.....	John Morrison.....	March 20, 1902..	3 87
8,000 tons, Pumping Station, Dorchester.....	W. K. Niver Coal Co.....	April 22, 1902....	3 89
10,000 tons, Ferry Wharves.....	W. K. Niver Coal Co.....	April 22, 1902....	3 89
400 tons, Pumping Station, Dorchester.....	John Morrison.....	Dec. 27, 1902....	11 30

Leasing Ledge Lots.

CONTRACT.	Lessors.	Dated	Price per ton for stone removed.
¹ Lease of ledge on Columbia road, near Brunswick st.....	W. J. Wilcox <i>et als.</i> ,	March 22 and June 12, 1901..	\$0 10
² Lease of ledge on Centre st., between Allandale and Walter sts.....	Thomas Minton....	May 10, 1902.....	0 18
² Lease of ledge on Kenney st., near Day st.....	James W. Kenney,	June 7, 1902.....	0 17
² Lease of ledge on Rosseter st.,	William J. Emerson,	July 14, 1902....	0 18

¹ Expires March 22, 1906.² Expires February 1, 1904.

Lease of Land.

CONTRACT.	Lessors.	Dated	Terms.
Lease of a portion of Glendon Wharf and stable on said wharf.....	Bloodgett & Whidden.....	May 14, 1900.....	\$3,000 per year and all taxes for 10 years.
Lease of a portion of Packard's Wharf.....	Widow and heirs of Henry C. Snow.....	June 20, 1900.....	4,000 per year for 10 years.
Lease of land and stable on Columbia road and Old Harbor st. (Sewer Division).....	Charles T. Gallagher, Trustee....	February 26, 1901.....	600 per year for 5 years.
Lease of land at Squantum park.....	Charles W. Clapp, Lessee.....	April 24, 1901.....	25 per year paid to city.
Lease of land, Spectacle Island, for location of Garbage Disposal Plant.....	N. Ward Company.....	November 7, 1901.....	10,000 per year for 10 years, to be paid by the New England Sanitary Product Company.
Lease of land and stable on West First st. (Sanitary Division).....	Albert G. and Emma B. Frost, Trustees.....	November 20, 1901.....	900 per year and water rates for 5 years.
Lease of land and stable on H and East Second sts. (Street-Cleaning Division).....	M. J. Mahoney <i>et al.</i>	December 28, 1901.....	900 per year for 5 years.
Lease of land and flats at Jeffries Point, East Boston, for maintaining a public landing.....	George C. Fitzpatrick.....	May 1, 1902.....	300 per year.
Lease of storehouses under Charlestown bridge.....	M. P. Coleman & Co., Lessee....	March 12, 1902.....	725 per year paid to city.

Quarrying and Cutting Stone, Etc.

CONTRACT.	Awarded to	Dated	Price.
Quarrying stone from ledge on Columbia road, near Brunswick st.....	H. P. Nawb.....	May 15, 1902.....	\$0.80 per ton.
Quarrying stone from ledge on Codman st.....	Patrick McGovern.....	June 13, 1902.....	0.70 per ton.
Quarrying stone from ledge on Kenney st., near Day st....	Patrick F. Donovan.....	June 13, 1902.....	0.70 per ton.
Quarrying stone from ledge on Centre st., between Allandale and Walter sts.....	Thomas F. Minton.....	July 26, 1902.....	0.70 per ton.
Quarrying stone from ledge on Chestnut Hill ave., Brighton,	Michael Kiernan.....	August 20, 1902.....	0.70 per ton.
Quarrying stone from ledge on Rosseter st., Dorchester.....	James McGovern.....	August 25, 1902.....	0.70 per ton.

Collecting and Removing Ashes.

CONTRACT.	Awarded to	Dated	Price.
Collecting and removing ashes, etc., in the South Dorchester District.....	Timothy Sullivan & Co.....	March 11, 1902.....	\$4,300 per year for two years.
Collecting and removing ashes, etc., in the North Dorchester District.....	Denis D. Flynn.....	March 24, 1902.....	6,500 per year for two years.

Collecting and Removing House Offal.

CONTRACT.	Awarded to	Dated	Price
Collecting and removing house offal, etc., in the East Boston District	Thomas Mulligan.....	February 21, 1902.....	\$8,400 per year.
Collecting and removing house offal, etc., in the Dorchester District.....	Peter J. Allen & Co.....	May 8, 1902.....	4,790 per year for two years.

Paving and Regulating.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Lewis st., for a distance of about 100 feet southerly from the South Ferry, East Boston.....	Ward & Conlin.....	April 10, 1902.....	\$550 00
West Ninth st., between E and Dorchester sts., South Boston.....	Hub Construction and Supply Co.	April 21, 1902.....	1,411 80
Dorchester ave., between Broadway and Fort Point channel, South Boston.....	Hub Construction and Supply Co.	May 5, 1902.....	1,646 00
Malden st., between Harrison ave. and Albany st., city proper.....	Hub Construction and Supply Co.	May 21, 1902.....	1,214 75
Lenox st., between Washington and Tremont sts., city proper.....	John E. Burns & Co.....	May 21, 1902.....	1,300 00
Liverpool st., between Sumner st. and Central sq., East Boston.....	Ward & Conlin.....	May 21, 1902.....	1,951 25

Paving and Regulating. — Continued.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
West Broadway, between A st., and the railroad, South Boston.....	Hub Construction and Supply Co.	June 19, 1902.....	\$715 00
Park st., between Henley and Common sts., Charlestown.....	P. Brennan & Co.....	June 21, 1902.....	1,177 00
Common st., between Park and Adams sts., Charlestown.....	P. Brennan & Co.....	June 21, 1902.....	909 00
Adams st., between Common and Chelsea sts., Charlestown, West Sixth st., between Dorchester ave. and B st., South Boston.....	P. Brennan & Co.....	June 21, 1902.....	1,171 75
Pleasant st., between Tremont and Eliot sts., city proper.....	Hub Construction and Supply Co.	June 23, 1902.....	762 00
Porter st., between Pleasant and Corning sts., city proper, Sawyer st., between Lenox st. and Shawmut ave., city proper.....	B. M. Cram.....	July 1, 1902.....	1,876 20
East Fourth st., between K and L sts., South Boston.....	John E. Burns & Co.....	July 2, 1902.....	805 00
Pleasant st., between Washington st. and Shawmut ave., city proper.....	John E. Burns & Co.....	July 7, 1902.....	883 50
Kendall st., between Tremont st. and Shawmut ave., city proper.....	Hub Construction and Supply Co.	July 17, 1902.....	1,019 50
Dorchester ave., at the intersection of B and West Seventh sts., South Boston.....	Benj. M. Cram.....	July 21, 1902.....	733 00
Alford st., between the Mystic river and the Everett line, Charlestown.....	Peter Gilligan.....	July 24, 1902.....	630 00
Traverse st., between Portland and Canal sts., city proper.....	Redmond McDonough.....	July 23, 1902.....	780 00
	Jeremiah J. Sullivan.....	July 28, 1902.....	5,946 30
	D. J. Kiley.....	July 28, 1902.....	1,572 80

Traverse st., between Portland and Merrimac sts., city proper.....	D. J. Kilcy.....	July 28, 1902.....	325 50
Lincoln st., between Summer and Essex sts., city proper.....	Patrick McGovern.....	July 29, 1902.....	1,908 90
Essex st., between Washington st. and Harrison ave., city proper.....	John E. Burras & Co.....	July 29, 1902.....	1,507 20
Roland st., between Boston & Maine Railroad and the Somerville line, Charlestown.....	Daniel E. Lynch.....	August 2, 1902	2,044 40
Devonshire st., between Summer st. and Windrop square, city proper.....	James E. Bunting	August 5, 1902.....	1,600 00
Hawley st., between Milk and Franklin sts., city proper.....	Benj. M. Cram.....	August 6, 1902.....	1,645 00
Bedford st., between Washington and Chauncy sts., city proper.....	H. Gore & Co.....	August 8, 1902.....	1,777 00
Cornhill, between Washington and Court sts., city proper..	P. H. Bradley.....	August 11, 1902.....	1,818 00
Elm st., between Washington st. and Dock sq., city proper,	P. H. Bradley.....	August 13, 1902.....	789 10
Elm st., between Hanover and Washington sts., city proper,	P. H. Bradley.....	August 13, 1902.....	777 90
Cedar st., between Thornton and Highland sts., Roxbury ..	John McCourt.....	August 13, 1902.....	774 00
Broadway, between G and H sts., South Boston	Hub Construction and Supply Co.....	August 13, 1902.....	1,316 50
George st., between Gerard and Shirley sts., Roxbury.....	William McEleney & Co.....	August 13, 1902.....	849 80
Adams st., between Common and Chestnut sts., Charlestown,	P. Brennan & Co.....	August 14, 1902.....	451 70
Dorchester ave., north side of Broadway to A st., South Boston	William Higgins.....	August 19, 1902.....	1,910 30
Washington st., between Devens and Austin sts., Charles-town.....	P. Brennan & Co.....	August 19, 1902.....	1,316 70
Longwood ave., between Huntington and Brookline aves., Roxbury	Peter Gilligan	August 19, 1902.....	1,328 10
Hanover st., between Washington and Union sts., city proper.....	P. H. Bradley.....	August 19, 1902.....	1,619 80

Paving and Regulating. — Continued.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Public alley, No. 444, from Hereford st., westerly, city proper.....	James E. Bunting	August 19, 1902.....	\$1,300 00
Tremont st., between Roxbury crossing and Phillips st., Roxbury	Peter Gilligan	August 21, 1902.....	1,830 00
Decatur st., between Border and Ilavre sts., East Boston ..	Ward & Conlin	August 23, 1902.....	1,929 60
Brooks st., between Fancull and Holton sts., Brighton.....	M. J. Coyle.....	August 23, 1902.....	1,068 70
Harrison ave., between Dover and Davis sts., city proper...	Wm. H. Ellis.....	August 23, 1902.....	1,126 00
Bedford st., from Summer st. across Kingston st., city proper.....	Patrick McGovern.....	August 23, 1902.....	1,857 60
Dorchester ave., between Ellet and Adams sts., Dorchester,	William J. Rafferty.....	August 23, 1902.....	1,449 50
Dorchester ave., between Belfort st. and Savin Hill ave., Dorchester	Joseph B. O'Rourke.....	August 23, 1902.....	1,288 00
South st., between Summer and Essex sts., city proper.....	P. H. Bradley & Co.....	August 29, 1902.....	2,616 20
Merrimac st., between Haymarket sq. and Causeway st., city proper.....	William J. Rafferty	August 29, 1902.....	9,337 30
Newland st., between West Newton and West Brookline sts., city proper.....	Mark H. Lynch.....	September 5, 1902.....	500 00
Essex st., between Atlantic ave. and South st., city proper..	John E. Burns & Co.....	September 8, 1902.....	1,595 00
Essex st., between South and Lincoln sts., city proper.....	Benj. M. Cram.....	September 8, 1902.....	1,393 50
Friend st., between Causeway and Merrimac sts., city proper.....	D. J. Kiley.....	September 8, 1902.....	6,487 00
Arcadia st., between Adams and Draper sts., Dorchester....	John E. Gill.....	September 9, 1902.....	600 00

Ditson st., between Charles and Westville sts., Dorchester.	John E. Gill	September 9, 1902.....	475 00
Baker st., between Spring and Johnson sts., West Roxbury,	Thomas A. Dolan.....	September 16, 1902.....	700 00
Massachusetts ave., from Harvard bridge across Beacon st. [track area], city proper.....	James J. Coughlan	September 17, 1902.....	1,660 25
Dorchester ave., from north side of Roach st. to north side of Freeport st., Dorchester.....	John E. Gill.....	September 17, 1902.....	1,452 00
Dover st., between Tremont and Washington sts., city proper.....	Benj. M. Cram.....	September 17, 1902.....	6,696 90
Court st., from Sudbury st. across Bowdoin sq., city proper	William J. Rafferty.....	September 17, 1902.....	5,194 35
Piedmont st., between Pleasant and Church sts., city proper,	John T. Shea, Jr.....	September 18, 1902.....	926 15
Harrison ave., from Asylum-across Way st., city proper....	Hub Construction & Supply Co.,	September 18, 1902.....	701 90
East Third st., between O and P sts., South Boston.....	Redmond McDonough	September 19, 1902.....	376 00
Portsmouth st., between Lincoln and Waverly sts., Brighton.....	Michael J. Coyle.....	September 22, 1902.....	620 00
Washington st., between Dudley and Bartlett sts., Roxbury,	Edward J. Hayden	September 24, 1902.....	1,637 00
Harrison ave., east side of Lenox st. across Thorncliffe st., Roxbury	Thomas McMan.....	September 25, 1902.....	1,608 40
Dudley st., between Dunmore and Magazine sts., east side of tracks, Roxbury	H. Gore & Co.....	September 27, 1902.....	148 00
Harrison ave. (east side), between Concord st. and Massa- chusetts ave. (city proper).....	R. L. Barrett.....	September 30, 1902.....	500 00
Washington st., between Spring lane and Old South line, city proper.....	Metropolitan Contracting Co....	October 2, 1902.....	900 00
Tremont st., between St. Alphonsus st., and Huntington ave., Roxbury	John McCourt.....	October 3, 1902	1,223 90
Waverly st., between Market st. and Western ave. (gutter paving), Brighton.....	Michael J. Coyle.....	October 7, 1902	1,310 00

Paving and Regulating. — Continued.

CONTRACT.	Awarded to	Dated.	Cost of contract, as per estimated quantities, not including materials purchased by the City.
E st., between Summer and Fargo sts., South Boston.....	Hub Construction & Supply Co.,	October 7, 1902.....	\$1,079 10
Hancock st., between Derne and Cambridge sts., city proper.....	D. J. Kiley.....	October 10, 1902.....	575 00
West Fourth st., between Dorchester ave. and A st., South Boston.....	William Higgins.....	October 13, 1902.....	497 55
West Fourth st., between A and B sts., South Boston.....	William Higgins.....	October 13, 1902.....	931 00
Bath st., between Post Office sq. and Post Office sq., city proper.....	John E. Furns & Co.....	October 14, 1902.....	1,000 00
Cross st., between Fulton and North sts., city proper.....	P. H. Bradley & Co.....	October 15, 1902.....	450 00
Approach to West Boston bridge, city proper.....	D. J. Kiley.....	October 15, 1902.....	420 00
Greenville pl., between Columbus ave. and Church st., city proper.....	Barnes, Ruffin Co.....	October 15, 1902.....	550 00
Moulton st., between Corey and Medford sts., Charlestown, paving), Brighton.....	P. Brennan Co.....	October 16, 1902.....	600 00
Bowdoin st., between Ashburton pl. and Cambridge st., city proper.....	Michael J. Coyle.....	October 16, 1902.....	400 00
Melcher st., between Summer and A sts., South Boston.....	D. J. Kiley.....	October 16, 1902.....	795 00
Dorchester ave., between Crescent ave. and Columbia road, Dorchester.....	Hub Construction & Supply Co.....	October 17, 1902.....	1,665 00
Tremont st., between St. Alphonsus and Phillips sts., Roxbury.....	J. B. O'Rourke.....	October 20, 1902.....	1,900 00
	H. Gore & Co.....	October 20, 1902.....	1,930 00

STREET DEPARTMENT.

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Tennyson st., between Columbus ave. and Pleasant st., city proper	John T. Shea, Jr.	October 22, 1902	950 00
Harrison ave., between East Lenox and Northampton sts., city proper	H. Gore & Co.	October 22, 1902	1,350 00
Maverick st., east side of London st. to Border st., East Boston	Ward & Conlin	October 23, 1902	1,500 00
Maverick st., from Meridian st. across Havre st., East Boston	Ward & Conlin	October 23, 1902	1,550 00
Dresser st., between F and Dorchester sts., South Boston ..	Redmond McDonough ..	October 23, 1902	1,000 00
Brantree st., between Franklin and Everett sts. (gutter paving), Brighton	Michael J. Coyle	October 27, 1902	1,100 00
Minot st., between Glide and Adams sts. (gutter paving), Dorchester	Thomas Burke	October 29, 1902	1,100 00
East Brookline st., between Harrison ave. and Albany st., city proper	Robert L. Barrett	October 29, 1902	950 00
Clapp st., between Massachusetts ave. and Boston st., Dorchester	J. B. O'Rourke	October 30, 1902	675 00
Franklin ave., between Cornhill and Court st., city proper,	Benj. M. Cram	October 31, 1902	480 00
Harrison ave., between Union Park and Malden sts., city proper	John E. Burns & Co.	November 6, 1902	725 00
Kenwood st., between Washington and Allston st., Dorchester	John E. Gill	November 7, 1902	510 00
Harrison ave., between Iaconia and Savoy sts., city proper	W. H. Ellis	November 8, 1902	1,100 00
Endicott st., between Hanover and Stillman sts., city proper,	P. H. Bradley	November 12, 1902	1,400 00
Water st., between Chambers and Wapping sts., Charles-town	P. Brennan & Co.	November 17, 1902	1,975 00
Randolph st., from Harrison ave., to No. 40, city proper ..	W. H. Ellis	November 17, 1902	1,000 00
Minot st., from Lowell st., across Nashua st., city proper ..	D. J. Kiley	November 17, 1902	850 00

Paving and Regulating. — Concluded.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Public alley No. 502, from a common passageway to Public alley No. 503, city proper.....	Benjamin M. Cram	November 18, 1902.....	\$1,550 00
Tolman st., from Nepouset ave. (Gutter paving), Dorchester.....	Thomas McMan.....	November 19, 1902.....	475 00
Province st., between School and Bromfield sts., city proper.....	John E. Burns & Co.....	November 19, 1902.....	850 00
Broad st., between State and Central sts., city proper.....	H. Gore & Co.....	November 20, 1902.....	1,930 05
Story st., between G and H sts., South Boston.....	Jeremiah J. Sullivan.....	November 22, 1902.....	1,560 00
Ferdinand st., between Columbus ave., and Fayette sts., city proper.....	Barnes, Rulhn Co.....	November 25, 1902.....	1,650 00

Excavating and Regulating.

CONTRACT.	Awarded to	Dated	Price.
Public alley No. 901, from Hemenway st., near Boylston st.....	H. Gore & Co.....	September 17, 1902.....	\$1,750 00

1 Artificial Stone Sidewalks.

CONTRACTOR.	Dated	Price per Square Foot.	CONTRACTOR.	Dated	Price per Square Foot.
Warren Bros. Company.....	April 28, 1902.	\$0.06	W. A. Murtfeldt Company.....	April 28, 1902.	\$0.06
Thomas J. Hind.....	April 28, 1902. . . . .	.06	C. A. Noyes & Co.....	May 16, 1902. . . . .	.06
Simpson Bros. Corporation.....	April 28, 1902. . . . .	.06	E. R. Taylor & Co.....	May 27, 1902. . . . .	.06
Carr & Andrews Corporation.....	April 28, 1902. . . . .	.06	Barnes, Rutlin Company.....	June 4, 1902. . . . .	.06

¹These walks are guaranteed by a surety company bond for ten (10) years from date of completion, and were laid on various public streets where the contractor had agreements with the abutters.

Furnishing and Laying Artificial Stone Sidewalks, Steps, Etc.

CONTRACT.	Awarded to	Dated	Price.
Mead st., steps between Russell and Bunker Hill sts., Charlestown.....	W. A. Murtfeldt Company.....	June 7, 1902.....	\$4,375 00
Vinson st., between Park st. and Geneva ave., Dorchester.....	W. A. Murtfeldt Company.....	August 29, 1902.....	15c. per sq. ft.

Paving with Trinidad Asphalt.

CONTRACT.	Awarded to	Dated	Price per Square Yard.
Berkeley st., between Boylston st. and St. James ave.....	Barber Asphalt Paving Co....	June 28, 1902.....	(A) \$3.25; (B) \$2.50; (D) \$3.50.
Union Park st., between Washington st. and Harrison ave.....	Barber Asphalt Paving Co..	July 17, 1902.....	(A) \$3.25; (B) \$2.50.
Water st., between Congress and Kilby sts.....	Barber Asphalt Paving Co....	.....	(B) \$2.50; (C) \$4.50. (E) \$12.00 per cubic yard.
Parmenter st., between Hanover and Salem sts.....	Barber Asphalt Paving Co....	August 23, 1902....	(B) \$2.50; (C) \$4.50. (E) \$12.00 per cubic yard.
Chambers st., from Green st. across Poplar st.....	Barber Asphalt Paving Co..	September 24, 1902..	(A) \$3.25; (B) \$2.50.
Malden st., between Washington st. and Harrison ave.....	Barber Asphalt Paving Co..	November 5, 1902..	(A) \$3.25; (B) \$2.50.
Parnell st., between Lenox and Sawyer sts.....	Barber Asphalt Paving Co..	November 6, 1901..	(A) \$3.25; (B) \$2.50.
Dillon st., between Lenox and Sawyer sts.....	Barber Asphalt Paving Co..	November 6, 1902..	(A) \$3.25; (B) \$2.50.
Harrison ave., between Union Park and Malden sts.....	Barber Asphalt Paving Co..	November 17, 1902..	(A) \$3.25; (B) \$2.50.

EXPLANATION OF LETTERS.

(A) Furnishing and laying a 6-in. American cement concrete base, an 1½-in. wearing surface, and an 1½-in. binder, and guaranteeing the same for a period of ten (10) years after completion. (B) Furnishing and laying a 2-in. wearing surface and an 1½-in. binder on existing concrete base, and guaranteeing the same for a period of ten (10) years after completion. (C) Furnishing and laying a 6-in. American cement concrete base. (D) Furnishing and laying a 6-in. American cement concrete base, and furnishing and laying granite blocks with pitch joints, and guaranteeing the same for a period of ten (10) years after completion. (E) Extra binder furnished and laid.

Paving with Sicilian Rock Asphalt.

CONTRACT.	Awarded to	Dated	Price per Square Yard.
Newland st., between West Brookline and West Newton sts.	Boston Asphalt Co.	October 6, 1902 ...	(A) \$3.25; (B) \$2.50.
Dudley st. (easterly side), between Dunmore and Magazine sts.	Boston Asphalt Co.	October 6, 1902 ...	(A) \$3.25; (B) \$2.50.
Public alley No. 301, between Hemenway and Hemenway sts.	Boston Asphalt Co.	October 15, 1902..	(A) \$3.25; (B) \$2.50; (C) \$1.95.
Harrison ave., between Northampton and East Lenox sts.	Boston Asphalt Co.	October 22, 1902...	(A) \$3.25; (B) \$2.50.

EXPLANATION OF LETTERS.

(A) Furnishing and laying a 6-in. American cement concrete base and a 2-in wearing surface, and guaranteeing same for ten (10) years after completion.
 (B) Furnishing and laying a 2-in. wearing surface on existing concrete base, and guaranteeing the same for period of ten (10) years after completion.
 (C) Furnishing and laying a 6-in American cement concrete base with granite block paving, and crosswalk flagging with pitch joints.

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendments.

CONTRACT.	Awarded to	Dated	Cost of contract as per estimated quantities, not including materials furnished by the City.
Pipe sewers and drains in Foundry st., South Boston.....	Patrick McGovern.....	April 5, 1902.....	\$1,337 50
Pipe sewers and drains in Bullard st., Dorchester.....	George J. Regan.....	May 7, 1902.....	820 00
Pipe sewers and drains in Mitchell st., South Boston.....	Hub Construction and Supply Co.....	May 8, 1902.....	1,622 50
Pipe sewer in Seaver st., Roxbury.....	T. H. Connolly.....	May 16, 1902.....	1,366 00
Pipe sewer and drains in Centre st., Dorchester.....	Frank A. Foster.....	May 19, 1902.....	1,678 00
Pipe sewers and drains in Duck-lane pl., Brighton.....	H. T. Young & Co.....	May 19, 1902.....	640 50

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendments. — Continued.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Pipe sewers and drains in Murdock st., from existing sewer to Mapleton st., Brighton.....	H. T. Young & Co.....	May 19, 1902.....	\$553 50
Pipe sewer in private land west of Dorchester ave., near Bellows pt., Dorchester.....	John McMorrow.....	May 20, 1902.....	1,510 00
Pipe sewers and drains in Canterbury st., West Roxbury..	William L. Dolan.....	May 20, 1902.....	1,343 00
Pipe sewers and drains in Vermont st., between Libby and Mt. Vernon sts., West Roxbury.....	Thomas F. Minton.....	May 20, 1902.....	1,763 75
Pipe sewers and drains in Mt. Vernon st., from Vermont st., about 450 feet southeasterly, West Roxbury.....	Thomas F. Minton.....	May 20, 1902.....	1,517 00
Pipe sewer and drains in Oak ave., from existing sewer to summit, Dorchester.....	George J. Regan.....	May 26, 1902.....	1,284 00
Pipe sewers and drains in Wensley st., Roxbury.....	Charles W. Kinney.....	May 27, 1902.....	776 00
Pipe sewers in Wait and Iroquois st., Roxbury.....	William J. Barry.....	June 9, 1902.....	1,119 40
Pipe sewers in Farnham st., Roxbury.....	J. C. Coleman & Son.....	June 13, 1902.....	1,153 16
Pipe sewers and drains in Parker Hill ave., Roxbury.....	Mark H. Lynch.....	June 16, 1902.....	597 50
Pipe sewers in Proctor st., Roxbury.....	John F. Cullen.....	June 18, 1902.....	756 25
Pipe sewers in East Ninth and Dunham sts., South Boston..	John B. Graham.....	June 18, 1902.....	1,222 50
Pipe sewers in Corey road, Brighton.....	H. T. Young & Co.....	June 19, 1902.....	469 75
Pipe sewers and drains in Monson st., Dorchester.....	George J. Regan.....	June 20, 1902.....	1,447 00
Culvert in Walker st., West Roxbury.....	Thomas F. Welch.....	June 21, 1902.....	1,193 35

Pipe sewer in Fox st., Dorchester.....	Thomas H. Connolly.....	June 21, 1902.....	635 20
Pipe sewers in Bowen st., South Boston.....	Hub Construction and Supply Co.....	June 25, 1902.....	381 25
Catch-basins and manholes in Kendall, Sawyer, Wambeck, Harold, Centre, and George sts. and Woodward ave., Roxbury.....	B. J. Connolly.....	June 26, 1902.....	1,433 10
Pipe sewer and drains in Russel st., Charlestown.....	P. Brennan & Co.....	June 26, 1902.....	528 00
Pipe sewer and drain in Waverly pl., Brighton.....	H. T. Young & Co.....	July 1, 1902.....	577 50
Pipe sewer in Spring st., Dorchester.....	John McMorrow.....	July 3, 1902.....	762 50
Pipe drains in private way and Rogers ave., Brighton.....	H. T. Young & Co.....	July 17, 1902.....	1,786 50
Pipe sewer and drain in Nantasket ave., private land and La Rose pl., Brighton.....	Annie T. McBride.....	July 17, 1902.....	1,234 00
Pipe sewer in Wales pl., Dorchester.....	George J. Regan.....	July 19, 1902.....	569 10
Pipe sewer and drain in Kittredge and Norfolk sts., West Roxbury.....	J. Costello & Co.....	July 22, 1902.....	1,123 00
Pipe sewer and drains in Ritchie st., Roxbury.....	Thomas H. Connolly.....	July 23, 1902.....	875 50
Pipe sewers and drains in Winthrop st., Roxbury.....	J. C. Coleman & Son.....	July 24, 1902.....	1,340 00
Pipe drains in Newland st., city proper.....	Mark H. Lynch.....	July 24, 1902.....	263 00
Pipe sewer in Gustine st. and private land, Dorchester.....	Frank A. Foster.....	July 26, 1902.....	600 00
Pipe sewer in Jones ave., between White terrace and Bal-lou ave., Dorchester.....	Charles W. Kinney.....	July 29, 1902.....	662 00
Pipe sewer and drains in Milton ave., between Lauriat ave. and Norfolk st., Dorchester.....	George J. Regan.....	July 29, 1902.....	850 00
Pipe drains in Blanche st., between Green Hill and Preston sts., and outlet in Preston st., Dorchester.....	John McMorrow.....	July 30, 1902.....	925 00
Pipe drains in E st., South Boston.....	Hub Construction & Supply Co.....	August 1, 1902.....	500 00
Pipe sewer and drains in Walk Hill st., West Roxbury.....	William L. Dolan.....	August 2, 1902.....	918 50

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendments. — *Continued.*

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Pipe catch-basin drains in Louder's lane at Centre st., West Roxbury.....	Thomas F. Minton.....	August 4, 1902.....	\$269 10
Pipe sewers and drains in Hamilton st., Dorchester.....	George J. Regan.....	August 6, 1902.....	651 33
Pipe sewers and drains in Fayston st., Dorchester.....	Thomas H. Connolly.....	August 8, 1902.....	714 25
Pipe sewer and drain in South street, from existing sewer near Dudley avenue to Bradford terrace, West Roxbury.....	Thomas J. Shea.....	August 9, 1902.....	1,792 25
Pipe catch-basin drains in Austin st., Charlestown.....	P. Brennan & Co.....	August 9, 1902.....	358 00
Pipe sewer in Hayden street, Roxbury.....	Mark H. Lynch.....	August 12, 1902.....	410 80
Pipe sewer and drain in Westover street, West Roxbury.....	John F. Cullen.....	August 12, 1902.....	1,278 00
Pipe drains in Washington st., between Talbot ave. and Euclid st., Dorchester.....	William J. Barry.....	August 13, 1902.....	950 00
Pipe drains in Oakwood st. and outlet in Norfolk st., Dorchester.....	George J. Regan.....	August 13, 1902.....	1,635 00
Pipe catch-basin drains in Rutherford ave., Devens, and Bow st., Charlestown.....	P. Brennan & Co.....	August 18, 1902.....	1,828 00
Pipe sewer in Atherton pl. and outlet in Atherton st., Roxbury.....	Thomas J. Finneran.....	August 18, 1902.....	657 85
Pipe sewer and drain in Warren st., Brighton.....	H. T. Young & Co.....	August 22, 1902.....	1,962 75
Pipe sewer, Fisher ave. outlet in Parker st., between Heath st. and Fisher ave., Roxbury.....	Peter W. Hill.....	August 23, 1902.....	727 00
Sewer in Elm st., between Washington and Hanover sts., city proper.....	Metropolitan Contracting Co.....	August 23, 1902.....	1,500 00

Sewer in Temple st., West Roxbury	J. C. Coleman & Son.....	August 25, 1902.....	2,300 00
Pipe sewer and drain in Bellevue ave., between Cornell st. and Cedar ave., West Roxbury.....	William L. Dolan.....	September 2, 1902.....	1,216 25
Brick culvert in private land, between Ashland and Rowe sts., West Roxbury.....	Thomas F. Broderick.....	September 2, 1902.....	711 50
Pipe sewer in Wrentham and Northam parks, Barnes st., and private land between Welles ave. and Wrentham park, Dorchester.....	John McMorrow.....	September 3, 1902.....	1,370 50
Pipe sewer in Stratton st., Dorchester.....	George J. Regan.....	September 4, 1902.....	748 00
Pipe sewer in Morton st. from River st. northerly, Dorchester.....	George J. Regan.....	September 8, 1902.....	1,075 25
Pipe sewer in Mascoma st., Dorchester.....	Thomas H. Connolly.....	September 9, 1902.....	1,856 30
Pipe sewer and drains in Ainsley st., Dorchester.....	Frank A. Foster.....	September 12, 1902.....	870 00
Sewerage works in Hanover st., between Cross and Washington sts., city proper.....	Metropolitan Contracting Co.....	September 12, 1902.....	8,488 20
Pipe sewer in Fessenden st., between Blue Hill ave. and Norfolk st., Dorchester.....	George J. Regan.....	September 22, 1902.....	1,500 00
Pipe sewer and drains in Rosemont st., between Adams and Gushue sts., and outlet in Rosemont road, Dorchester.....	George J. Regan.....	September 24, 1902.....	1,337 69
Pipe sewers and drains in Tower st., between Hyde Park ave. and Forest Hills Cemetery, West Roxbury.....	George M. Bryne.....	September 24, 1902.....	3,016 50
Pipe sewer in Wrentham park, Dorchester.....	John McMorrow.....	September 25, 1902.....	350 00
Pipe sewer and drain in Malcolm st. between Belgrade and Colberg aves., West Roxbury.....	Daniel E. Lynch.....	September 26, 1902.....	1,415 90
Pipe sewers and drains in Gunnington st., Roxbury.....	James J. Coughlan.....	September 26, 1902.....	8,865 83
Pipe sewers and drains in Blandford st., Roxbury.....	Daniel E. Lynch.....	September 26, 1902.....	2,586 69
Pipe sewers in Mattapan st., from Thleston ave., southerly, Dorchester.....	George J. Regan.....	September 27, 1902.....	343 00

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendments. — *Continued.*

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Pipe sewer in Minot pl., Dorchester.....	John McMorro	October 11, 1902.....	\$1,500 00
Pipe sewer in private land, between Highland ave. and Sheridan st., Dorchester.....	Benj. F. Claffey.....	October 11, 1902.....	1,700 00
Pipe sewers and drains in Florida-st. extension, between Ashmont and Templeton sts., Dorchester.....	Edward J. Hayden.....	October 11, 1902.....	1,750 96
Pipe catch-basin drains in Norfolk st., between Capen and Nelson sts., Dorchester.....	J. Costello & Co.....	October 13, 1902.....	650 00
Pipe drains in Lindsey st., Dorchester.....	Frank A. Foster.....	October 13, 1902.....	706 00
Pipe sewer and drain in Augustus ave., between Poplar and Whitford sts., West Roxbury.....	William L. Dolan.....	October 13, 1902.....	1,968 75
Pipe sewer and drain in Kittredge st., West Roxbury.....	Thomas J. Finneran.....	October 13, 1902.....	544 00
Pipe sewer in Kineo st., Dorchester.....	John McMorro	October 13, 1902.....	856 50
Pipe sewer and drain in Bellevue ave., from Cedar ave., southerly, West Roxbury.....	John F. Cullen.....	October 14, 1902.....	1,161 50
Pipe sewers and drains in Bird st., Dorchester.....	Thomas H. Connolly & Co.....	October 14, 1902.....	889 50
Pipe sewer and drain in Ophir st., West Roxbury.....	Mark H. Lynch.....	October 14, 1902.....	\$1,615 00
Pipe sewer and drain in Aldrich st., from Belgrade ave. to existing sewer, West Roxbury.....	John A. Rooney.....	October 14, 1902.....	3,409 00
Pipe catch-basin drains in Walk Hill st., Dorchester.....	F. L. Williams.....	October 17, 1902.....	325 00
Pipe sewer and drain in East First st., South Boston.....	Hub Construction & Supply Co.,	October 17, 1902.....	655 50
Pipe sewer and drain in Knoll st., West Roxbury.....	Annie T. McBride.....	October 18, 1902.....	1,524 50

Pipe sewer and drain in Whitford st., between Augustus ave. and Kittredge st., West Roxbury.....	Thomas J. Shea.....	October 18, 1902.....	757 00
Pipe sewers and drains in Bynner st., Roxbury.....	William J. Barry.....	October 18, 1902.....	744 40
Pipe sewer and drain in Bellevue st., between Lark and Oriole sts., West Roxbury.....	Joseph J. Callahan.....	October 18, 1902.....	1,983 00
Pipe sewer in Temple st., between River and Monson sts., Dorchester.....	George J. Regan.....	October 20, 1902.....	867 00
Pipe sewer and drain in Cass st., between Powell and Ashland sts., West Roxbury.....	Charles W. Kinney.....	October 22, 1902.....	1,628 00
Pipe sewers and drains in Harvard st., Dorchester.....	Peter W. Hill.....	October 22, 1902.....	1,315 10
Pipe sewer and drain in Centre st., between Arundel and Hewlett sts., West Roxbury.....	J. C. Coleman & Son.....	October 22, 1902.....	1,898 50
Sewerage works in Fleet and North sts., between Commercial and Clark sts., city proper.....	Stephen Shaughnessy.....	October 25, 1902.....	2,100 00
Pipe catch-basin drains in Tolman st., Dorchester.....	John McMorrow.....	October 27, 1902.....	1,606 00
Pipe drains in Haverford st., West Roxbury.....	Thomas F. Minton.....	October 28, 1902.....	380 75
Pipe sewer and drain in Arden st., Brighton.....	H. T. Young & Co.....	October 28, 1902.....	1,830 10
Pipe sewer and drain in Centre st., between Farquhar and Fletcher sts., West Roxbury.....	Daniel E. Lynch.....	October 29, 1902.....	1,004 50
Pipe sewer in Fuller st., between Capen st. and Milton ave., Dorchester.....	George J. Regan.....	October 31, 1902.....	1,254 00
Pipe sewers and drains in Vicksburg st., South Boston.....	Hub Construction & Supply Co.....	October 31, 1902.....	331 50
Pipe sewer and drain in Powell st., between Spring and Cass sts., West Roxbury.....	Charles W. Kinney.....	November 6, 1902.....	1,681 55
Sewerage works in State st., between Commercial and India sts., city proper.....	Metropolitan Contracting Co.....	November 7, 1902.....	1,800 00
Pipe sewer and drains in Normandy st., Dorchester.....	W. T. Davern.....	November 10, 1902.....	1,257 20

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendments. — Continued.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Catch-basins and drains in Tremont st., between Roxbury Crossing and Huntington ave., Roxbury.....	J. C. Coleman & Son.....	November 10, 1902.....	\$1,073 50
Pipe sewer in Millet st., Dorchester.....	George J. Regan.....	November 10, 1902.....	664 00
Pipe drains and catch-basin in Bennington st., Sections 4 and 5, south side, East Boston	Ward & Conlin.....	November 10, 1902.....	1,608 50
Pipe sewer in Tileston ave., between Blue Hill ave. and Mattapan st., Dorchester.....	William J. Barry.....	November 13, 1902.....	1,161 60
Faneuil valley sewer, under the tracks of the Boston & Albany Railroad, near Faneuil Station, Brighton.....	Metropolitan Contracting Co.....	November 15, 1902.....	14,789 00
Pipe sewer in Northam park, Dorchester.....	John McMorro.....	November 17, 1902.....	252 00
Pipe sewer and drains in Millet st., between Talbot and Southern aves., and outlet in Southern ave., Dorchester...	Frank A. Foster.....	November 17, 1902.....	1,356 00
Pipe sewer in Barnes st., Dorchester	John McMorro.....	November 17, 1902.....	432 50
Pipe sewer and drain in Augustus ave., from Whitford st., 270 feet westerly, West Roxbury.....	William L. Dolan.....	November 18, 1902.....	831 25
Pipe sewer in Stanwood st., Dorchester.....	George J. Regan.....	November 18, 1902.....	528 00
Wooden culvert in private land from Mt. Hope st., 300 feet westerly, West Roxbury.....	Thomas J. Shea.....	November 18, 1902.....	960 00
Pipe sewers and drains in Charlotte st., Dorchester.....	George J. Regan.....	November 18, 1902.....	1,581 75
Pipe surface drain, Hildreth-st. spur, Canterbury branch of Stony brook, between Middleton ave. and Morton st., Dorchester.....	Frank A. Foster.....	November 21, 1902.....	531 25

Pipe drains in Sutherland road, between Strathmore road and Englewood ave., Brighton.....	H. T. Young & Co.....	November 28, 1902.....	914 50
Pipe sewer in Geneva ave., Dorchester.....	T. H. Connolly & Co.....	November 29, 1902.....	1,961 00
Pipe sewer and drain in Cleaves st., West Roxbury.....	Thomas F. Broderick.....	December 2, 1902.....	598 25
Pipe sewers and drains in Summer st., between Powell and Autumn sts., West Roxbury.....	Joseph J. Callahan.....	December 10, 1902.....	1,960 50
Culvert in South st., and private land for Bussey brook, West Roxbury.....	William L. Dolan.....	December 11, 1902.....	1,517 50
Pipe sewers and drains in St. Margaret st., Dorchester.....	George J. Regan.....	December 11, 1902.....	1,425 10
Catch-basins and drains in Clapp st., Dorchester.....	John H. Crane.....	December 11, 1902.....	897 00
Oakland brook sewerage works in private land, between River st. and N. Y., N. H. & H. R.R., Dorchester.....	Dorchester Construction Co.....	December 19, 1902.....	3,728 40
Pipe drains and catch-basins in Bennington st., Section 6, north and south sides, East Boston.....	Ward & Conlin.....	December 22, 1902.....	1,051 00
Pipe sewer and drain in Centre st., between Howlett and Farquhar sts., West Roxbury.....	P. Brennan & Co.....	December 29, 1902.....	863 00
Sewerage works in Commercial st., at Clinton and North Market sts., city proper.....	Metropolitan Contracting Co.....	December 31, 1902.....	825 00
Pipe catch-basins and drains in Columbia road, Dorchester, Sewerage works in Oakland st., between River and Rockdale sts., Dorchester.....	Edward J. Hayden.....	January 1, 1903.....	616 85
Sewerage works in Mattapan st., from Blue Hill ave. northerly to summit, Dorchester.....	John McMorro.....	January 6, 1903.....	725 00
Pipe sewer and drain in Summit ave., between Allston st. and Corinth ave., Brighton.....	George J. Regan.....	January 9, 1903.....	1,200 00
	H. T. Young & Co.....	January 16, 1903.....	1,887 00

Street Construction, under Chapter 323 of the Acts of 1891, or Special Acts or Amendments thereto.
Macadam Roads.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Darling st., between Calumet and Hillside sts., Roxbury...	Thomas H. Connolly.....	July 31, 1902.....	\$775 40
Milton ave., between Lauriat ave. and Norfolk st., Dorchester.....	Thomas Burke.....	August 1, 1902.....	706 50
Dakota st., between Washington and Greenbrier sts., Dorchester.....	John E. Gill.....	August 1, 1902.....	944 90
South st., between Jamaica st. and the Arborway, West Roxbury.....	Thomas F. Minton.....	August 1, 1902.....	3,854 00
Montrie sts., between Allston and Washington sts., Dorchester.....	Philip Doherty.....	August 1, 1902.....	1,854 20
Windmere road, between Stoughton st. and Cushing ave., Dorchester.....	James Doherty.....	August 2, 1902.....	1,501 40
Capen st., between Evans and Fairmount sts., Dorchester,	Timothy F. Bradley.....	August 2, 1902.....	1,954 10
Gibson st., between Dorchester ave. and Adams st., Dorchester.....	William J. Barry.....	August 6, 1902.....	2,140 80
Carter st., between Cambridge and Roland sts., Charles-town.....	P. Brennan & Co.....	August 15, 1902.....	505 00
Hamilton st., between Columbia road and Mt. Everett st., Dorchester.....	Thomas J. Shea.....	August 15, 1902.....	1,186 80
Oakwood st., between Norfolk and Torrey sts., Dorchester,	Daniel E. Lynch.....	August 23, 1902.....	1,307 40
Winthrop st., between Dennis st. and Brook ave., Roxbury,	J. C. Coleman & Son.....	October 3, 1902.....	705 20
Wayland st., between Howard ave. and Dacia st., Dorchester.....	John Connors.....	October 9, 1902.....	1,251 00

Morrill st., between Pleasant and Bakersfield sts., Dorchester.....	John E. Gill.....	October 21, 1902.....	962 00
Hinckley st., between Pleasant and Bakersfield sts., Dorchester.....	John E. Gill.....	October 21, 1902.....	840 50
Mead st., between Russell and Bunker Hill sts., Charlestown.....	Jeremiah J. Sullivan.....	October 21, 1902.....	965 15
Rynner st., between Day and Creighton sts., Roxbury.....	Thomas J. Shea.....	October 23, 1902.....	760 80
Bird st., between Columbia road and Hancock st., Dorchester.....	John F. Cullen.....	October 23, 1902.....	962 80
Washington st., between Talbot ave. and Euclid st., Dorchester.....	Thomas J. Shea.....	November 24, 1902.....	1,507 30
South Huntington ave., between Heath and Centre sts., West Roxbury.....	James Doherty.....	November 24, 1902.....	7,174 90
Lindsey st., between Greenbrier and Waldeck sts., Dorchester.....	Daniel E. Lynch.....	November 28, 1902.....	1,666 60
Carson st., between Crescent ave. and Shoreham st., Dorchester.....	Benj. M. Cram.....	December 1, 1902.....	1,758 40

Street Construction under Chapter 323 of the Acts of 1891, or Special Acts or Amendments thereto. — Concluded.
Telford-Macadam Roads.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials furnished by the City.
Bennington st., between Moore and Saratoga sts., East Boston	James Doherty	October 23, 1902	\$35,917 50
Columbia road, between I and Q sts., South Boston.....	H. P. Nawn	November 18, 1902.....	37,821 00
Columbia road, between Buttonwood st. and N. Y., N. H. & H. R. R. bridge, South Boston.....	Phillip Doherty	November 18, 1902.....	9,747 90

Bituminous Macadam Roads.¹

CONTRACT.	Awarded to	Dated	Price.
Hancock street, between Derne and Mt. Vernon sts., city proper	Warren Brothers Company	May 22, 1902.....	\$1,980 00
Massachusetts avenue, between Harvard bridge and Beacon st., city proper.....	Warren Brothers Company	August 30, 1902	\$2.50 per square yard.
Tremont st., between Phillips and St. Alphonsus sts., Roxbury.....	Warren Brothers Company	August 30, 1902.....	2.50 per square yard.
Hancock st., between Cambridge and Derne sts., city proper.....	Warren Brothers Company.....	October 4, 1902	2.50 per square yard.
Bowdoin st., between Cambridge st. and Ashburton pl., city proper.....	Warren Brothers Company	October 18, 1902	2.50 per square yard.
Belvidere st., between Massachusetts ave. and West Newton st., and West Newton st., between Falmouth st. and Huntington ave., city proper	Warren Brothers Company	November 12, 1902	2.50 per square yard.

¹ These streets are guaranteed by a surety company bond for ten (10) years from date of completion.

Furnishing Stone at Crushers.

CONTRACT.	Awarded to	Dated	Bid per ton of 2,000 pounds.
Dimock-st. crusher.....	John F. Cullen.....	April 14, 1902.....	\$0 78
Codman-st. crusher.....	John Bradley.....	April 29, 1902.....	75
Codman-st. crusher.....	James A. King.....	April 29, 1902.....	75
Dimock-st. crusher.....	John F. Cullen.....	May 9, 1902.....	75

Pile-driving.

CONTRACT.	Awarded to	Dated	Price.
Furnishing and driving spruce piles for sewer in Traverse st., between Friend and Portland sts., city proper.....	John T. Scully & Brother.....	February 6, 1902.....	\$.25 per linear foot of pile driven.
Furnishing and driving spruce piles for sewer in Jersey st., Roxbury.....	John T. Scully & Brother.....	July 24, 1902.....	.09½ per linear foot of pile driven.
Furnishing and driving spruce piles for sewer in Queensberry st., Roxbury.....	John T. Scully & Brother.....	July 24, 1902.....	.09½ per linear foot of pile driven.
Furnishing and driving spruce piles for surface drain in Freeport-st. brook, Dorchester.....	John T. Scully & Brother.....	August 29, 1902.....	.13½ per linear foot of pile driven.

Flooring and Brick Paving, Columbia Road Bridges.

CONTRACT.	Awarded to	Dated	Price.
Flooring of Columbia-road bridge over New York, New Haven & Hartford Railroad.....	Cahill Construction Co.....	July 23, 1902.....	\$3,906 00
Flooring Columbia-road bridge over Shoreham st., Dorchester.....	William H. Ellis.....	August 13, 1902.....	2,700 00
Brick paving, Columbia-road bridge, over Shoreham st., Dorchester.....	William H. Ellis.....	October 1, 1902.....	\$2.45 per square yard.
Brick paving, Columbia-road bridge, over New York, New Haven & Hartford Railroad.....	William H. Ellis.....	November 19, 1902.....	\$1.92½ per square yard.

Moon Island Construction, Etc.

CONTRACT.	Awarded to	Dated	Price.
Cages and chains for fifth hoist, pumping station, Calf Pasture.....	The Lockwood Manufacturing Company.....	February 14, 1902.....	\$1,835 00
Furnishing and delivering three (3) horizontal tubular boilers, pumping station, Calf Pasture.....	Edward Kendall and Son.....	April 24, 1902.....	1,025 00 each.
Re-roofing buildings, pumping station, Calf Pasture.....	Daniel L. Flanagan.....	April 25, 1902.....	946 75
Temporary machine shop, pumping station, Calf Pasture..	M. J. O'Brien.....	July 21, 1902.....	1,400 00
Temporary boiler-house, pumping station, Calf Pasture....	Eastern Expanded Metal Co	August 1, 1902.....	2,300 00
Building and installing six boilers at the pumping station, Calf Pasture.....	I. P. Morris Company	August 27, 1902.....	24,960 00
Furnishing and delivering twenty (20) capstones for pumping engine No. 5.....	Austin Ford & Son	November 24, 1902.....	1,760 00
Pile-driving for engine-bed at pumping station.....	George H. Cavanagh	December 23, 1902.....	Furnishing men and steam pile-driving machine the sum of \$30 per day; Furnishing and driving spruce piles the sum of \$8 each. Material at cost plus 15%.
Installing a plumbing system at pumping station, Calf Pasture.....	Bresnahan Bros.....	January 26, 1903.....	\$600 00

Sub-grading, Excavating Rock, Etc.

CONTRACT.	Awarded to	Dated	Price.
Excavating trench for water pipe in Ruggles place, Dorchester.....	John McMorrow.....	June 11, 1902.....	Rock excavation, \$4.00 per cubic yard. Earth excavation, \$0.40 per cubic yard.
Sub-grading Walter st., between Jones st. and the Arnold Arboretum, West Roxbury.....	Thomas F. Welch.....	October 16, 1902.....	\$0.44½ per cubic yard.
Rough grading Ritchie st., between Marcella st. and Columbus ave., Roxbury.....	Mark H. Lynch.....	October 31, 1902.....	0.60 per cubic yard.
Excavating rock, Ritchie st., between Marcella st. and Columbus ave., Roxbury.....	Mark H. Lynch.....	January 2, 1903.....	2.50 per cubic yard.

Miscellaneous Agreements.

CONTRACT.	Awarded to	Dated	Price.
Furnishing and refilling street-sweeping brooms.....	New England Broom Co.....	January 27, 1902.....	18-inch push-brooms, \$5.50 per dozen Teanners' brooms, \$5 per dozen. Refilling broom-rolls, blocks to be furnished, \$10 each. \$200 paid to the city.
Four (4) weighing machines at ferry head-houses.....	The National Automatic Weigh- ing Machine Co.....	January 28, 1902.....	
Bond for the maintenance of asphalt sidewalks and central ways on Malden bridge.....	William J. Lawler.....	March 31, 1902.....	Bond for \$750, with a five (5) year guarantee.
Building, erecting, and painting iron fences on Brooks-st. bridge, Brighton.....	W. A. Snow & Co.....	April 2, 1902.....	For each linear foot built on the northerly side of bridge the sum of \$5.30. For each linear foot built on the southerly side of bridge the sum of \$14.61.
Asphalt and granolithic floor surfacing Brooks-st. bridge, Brighton.....	Boston Asphalt Co.....	April 28, 1902.....	\$750, ten (10) year guarantee.
Re-roofing buildings, Sanitary and Street Cleaning Divisions, North Grove st., city proper.....	William Martin.....	May 3, 1902.....	\$500, the work to be maintained for a period of three (3) years after completion.
Furnishing and delivering five (5) sets of trucks for draw- bridges.....	The Atlantic Works.....	May 6, 1902.....	\$1,400 00
Plumbing, Roxbury paving yard.....	William J. Carlin.....	June 2, 1902.....	\$1,500 00
Furnishing, erecting and painting a pipe-rail fence, with chestnut posts, on Commonwealth ave.....	P. J. Dinn & Co.....	August 26, 1902.....	\$1,000 00
Repairing coal shed, south ferry, East Boston side.....	M. F. Sullivan.....	October 21, 1902.....	\$1,785 00
Stable building, Paving Division yard, Medford st., Charlestown.....	Charles Logue.....	October 28, 1902.....	\$7,485 00

Miscellaneous Agreements. — Concluded.

CONTRACT.	Awarded to	Dated	Price.
Building and installing a boiler and its appurtenances in the tug "Cormorant," also coal bunkers.....	The Atlantic Works	November 19, 1902.....	Boiler, \$6,300; coal bunkers, \$450.
Authority to carry the Faneuil valley surface drainage system by a conduit through and under the location of the Boston & Albany Railroad, near North Beacon st., Brighton.....	The Boston & Albany Railroad Co. and the New Central & Hudson River Railroad Co ..	January 16, 1903.	
Furnishing two (2) Buffalo Pitts double cylinder steam road rollers.....	Buffalo Pitts Steam Roller Works	January 14, 1903.....	\$5,600 and two old barrel rollers.

List of Streets Paved with Trinidad Asphalt, February 1, 1903.
City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
Albany st.	80 ft. north of Broadway, across Way st.	105	397	1899
Albany st.	E. Concord st. to 225 ft. north of Massachusetts ave.	450	2,700	1884
Andrews st.	E. Dedham to E. Canton st.	216	312	1899
Arch st.	Franklin to Milk st.	426	1,267	1883-93
Arlington st.	Boylston to Beacon st.	1,324	7,355	1901
Ash st.	Bennet to Nassau st.	230	427	1887
Avon st.	Washington to Chauncy st.	437	1,081	1901
Barton st.	Barton to Brighton st.	134	186	1894
Batterymarch st.	Milk st. to Liberty sq.	150	466	1896
Beacon st.	Charles, across Arlington st.	866	5,945	1891-01
Beacon st.	Easterly side of Dartmouth st. to within 150 ft. of westerly line of Gloucester st.	1,744	9,277	1892
Beacon st.	150 ft. from westerly line of Gloucester st. to 68 ft. beyond westerly line of Gloucester st. ...	218	1,183	1898
Beacon st.	68 ft. west of Gloucester st. to Massachusetts ave.	1,019	5,391	1893
Bennett st.	90 ft. west of Harrison ave. to 162 ft. east of Washington st.	180	350	1887
Berkeley st.	Between Boylston st. and St. James ave.	266	903	1902
Bond st.	Hanson to Milford st.	192	426	1895
Boylston st.	Tremont st., across Boylston pl.	357	1,395	1901
Boylston st.	Charles to Arlington st.	854	5,030	1901
Boylston st.	Easterly side of Berkeley st., across Clarendon st.	656	3,869	1897
Boylston st.	Clarendon, across Dartmouth st. ...	649	3,450	1901
Brattle sq.	Brattle to Elm st.	281	670	1888
Brighton st.	Leverett to Allen st.	845	1,737	1892
Brimmer st.	Beacon to Pinckney st.	1,087	3,300	1895
Broadway	Albany st. to 105 ft. west of Albany st.	105	467	1899
Castle st.	Castle sq. easterly		427	1899
Cazenove st.	Columbus ave. to 45 ft. south of Columbus ave.	45	100	1899
Central st.	Broad to Kilby st.	313	869	1887
Chambers st.	Green, across Poplar st.	460	1,083	1894-02
Chambers st.	Brighton to Charles st.	272	604	1895
Chandler st.	At Castle sq.		51	1899
<i>Carried forward..</i>		13,881	60,718	

List of Streets Paved with Trinidad Asphalt. — *Continued.*

City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
<i>Brought forward,</i>	.....	13,881	60,718	
Charles st.....	Southerly side of Fruit st., across Allen st.....	706	1,804	1899
Charter st.....	Hanover, across Unity st.....	318	636	1894
Cherry st.....	Washington st. to Shawmut ave....	334	594	1892
Clark st.	Hanover to North st.....	319	614	1892
Columbus ave.....	B. & A. R.R. bridge, across Massachusetts ave.	3,505	15,000	1884-87-88
Columbus ave.....	Massachusetts ave. to 301 ft. south of Camden st.....	903	5,418	1891-96-99
Congress sq.....	From Congress sq. to Congress st...	209	400	1883-1900
Cooper st.	N. Margin st. across Endicott st....	194	597	1887
Cooper st.....	Endicott to Charlestown st.....	205	604	1887-97
Corning st.....	Washington st. to Shawmut ave....	338	734	1883-96
Court st.....	Washington st. to Court sq.....	231	642	1891
Court sq.....	Court to Court st.....	665	1,883	1881-94
Dartmouth st.....	Buckingham st. to B. & A. R.R....	127	580	1899
Dartmouth st.....	Huntington ave. to Boylston st....	234	1,890	1901
Dartmouth st....	Boylston to Newbury st.....	266	2,058	1894
Davis st.	Washington st. to Harrison ave....	323	646	1892
Devonshire st.....	Milk to Water st.....	262	786	1899
Dillon st.....	Between Lenox and Sawyer sts....	205	301	1902
Doane st.....	Kilby to Broad st.....	312	624	1881
Edinboro' st.....	Essex to Beach st.....	470	924	1895
Endicott st.	Cooper, across Thacher st.....	318	1,078	1884-99
Exchange pl.....	Congress to Kilby st.....	244	678	1887
Ferdinand st.....	At Castle sq.....	37	107	1899
Groton st.....	Washington st. to Shawmut ave....	335	558	1892
Hanover ave.....	Hanover to North st.....	307	266	1892
Harrison ave.....	22 ft. south of Kneeland to 22 ft. north of Harvard st.....	249	885	1899
Harrison ave.....	Asylum st., across Davis st.	158	300	1901
Harrison ave.....	E. Newton to E. Springfield st....	928	2,681	1888-95
Harrison ave.....	E. Springfield st. to 90 ft. southerly,	.....	130	1887
Harvard pl.....	Harrison ave. to Washington st....	260	578	1898
Hollis st.....	Tremont st., toward Washington st.	276	521	1899
<i>Carried forward.</i>	.....	27,119	105,235	

List of Streets Paved with Trinidad Asphalt.—Continued.

City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
<i>Brought forward,</i>	.....	27,119	105,235	
Hudson st.....	Beach st. to 90 feet north of Curve st. (minus Kneeland and Harvard sts. intersections).....	1,407	3,938	1891
Huntington ave....	Boylston, across Dartmouth st.....	618	5,493	1901
Kilby st.	State to Milk st., including Liberty sq.....	640	4,059	1881-88-98
Laconia st.	Washington st. to Harrison ave....	330	727	1896
La Grange st.....	Tremont st., toward Washington st.	181	355	1897
Lincoln pl.....	Worcester to Springfield st.	217	313	1897
Malcolm st.	Mt. Vernon to Chestnut st.....	261	290	1892
Mason st.	Avery to Tremont st.....	85	206	1900
Massachusetts ave..	Columbus ave. to Tremont st., easterly roadway	267	1,621	1892
Massachusetts ave..	Tremont st. to Shawmut ave., easterly roadway	470	2,984	1892
Massachusetts ave..	Shawmut ave. to Washington st., easterly roadway	180	994	1892
Malden st.....	Between Washington st. and Harrison ave.....	516	1,514	1902
Moon st.....	North sq. to Lewis st.....	182	384	1891
North Bennet st....	Hanover to Salem st.....	552	920	1883
North Margin st....	Stillman to Thacher st.....	519	1,154	1895
Oxford st.....	Beach to Essex st.....	430	735	1895
Parkman st.....	North Anderson st., across Blossom st.....	241	550	1898
Parmenter st.....	Hanover to Salem st.....	279	764	1902
Parnell st.....	Between Lenox and Sawyer sts....	250	349	1902
Pinckney st.....	Charles st., across Brimmer st.....	271	723	1895
Pine st.....	Washington st. to Harrison ave....	419	597	1896
Pleasant st.	Bridge over Boston Elevated Railway.....	55	128	1900
Poplar st.	Chambers to Charles st.....	1,188	2,442	1887-92
Public alley 301....	Pinckney to River st.....	270	400	1897
Public alley 401....	Between Huntington ave. and St. Botolph sts., from Irvington to Garrison st.....	350	362	1899
Public alley 402....	Between Huntington ave. and St. Botolph st., from Garrison to West Newton st.....	358	374	1899
Public alley 403....	Between Huntington ave. and St. Botolph st., from West Newton st. to Cumberland st.....	355	370	1899
<i>Carried forward,</i>	.....	38,010	137,931	

List of Streets Paved with Trinidad Asphalt.—Continued.

City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
<i>Brought forward,</i>	.....	38,010	137,931	
Public alley 414.....	Between Beacon and Marlborough sts., from 53 feet east of Massachusetts ave. to Hereford st.....	614	574	1901
Public alley 415.....	Between Beacon and Marlborough sts., from Hereford to Gloucester st.....	398	382	1901
Public alley 416.....	Between Beacon and Marlborough sts., from Gloucester to Fairfield st.....	524	494	1901
Public alley 417.....	Between Beacon and Marlborough sts., from Fairfield to Exeter st.....	624	583	1901
Public alley 419.....	Between Beacon and Marlborough sts., from Dartmouth to Clarendon st.....	575	511	1899
Public alley 420.....	Between Beacon and Marlborough sts., from Clarendon to Berkeley st.....	580	515	1897
Public alley 422.....	Between Commonwealth ave. and Marlborough st., from Berkeley to Arlington st.....	631	586	1902
Public alley 423.....	Between Commonwealth ave. and Marlborough st., from Berkeley to Clarendon st.....	580	532	1902
Public alley 424.....	Between Commonwealth ave. and Marlborough st., from Clarendon to Dartmouth st.....	575	511	1902
Public alley 426.....	Between Commonwealth ave. and Marlborough st., from Exeter to Fairfield st.....	624	595	1901
Public alley 428.....	Between Commonwealth ave. and Marlborough st., from Gloucester st. to 205 ft. east of Hereford st.	190	193	1901
Public alley 431.....	Between Commonwealth ave. and Newbury st., from 205 ft. east of Hereford st. to 83 ft. west of Gloucester st.....	107	95	1899
Public alley 437.....	Between Commonwealth ave. and Newbury st., from Berkeley to Arlington st.....	631	561	1898
Public alley 701.....	Between Union Park and Upton sts., from 130 ft. east of Tremont st. to Shawmut ave.....	521	611	1899
St. James ave.....	At Huntington ave.....	123	600	1901
Spring st.....	Poplar to Leverett st.....	447	908	1895
Stevens st.....	Lincoln pl., towards Shawmut ave..	16	22	1897
Stillman st.....	Endicott, across N. Margin st.....	170	453	1892
Stoddard st.....	Howard to Court st.....	135	150	1892
Sun Court st.....	North to Moon st.....	151	218	1891
<i>Carried forward,</i>	.....	46,226	147,025	

List of Streets Paved with Trinidad Asphalt.—Continued.

City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
<i>Brought forward,</i>		46,226	147,025	
Temple pl.....	Washington to Tremont st.....	503	1,021	1900
Thacher st.....	Charlestown to Endicott st.....	203	562	1892
Tileston st.....	155 ft. west of Hanover, across Unity st.....	254	346	1887
Tileston st.....	Unity to Salem st.....	163	124	1895
Tremont st.....	Seollay sq. to 23 ft. north of Beacon st.....	460	1,586	1900
Tremont st.....	21 ft. south of Beacon to Boylston st.....	2,090	8,784	1900
Tremont st.....	At Castle sq.....	67	886	1899
Trinity pl.....	St. James ave., across Stuart st.....	391	1,130	1899
Trinity pl.....	Stuart, across Stanhope st.....	262	757	1900
Union Park st.....	Washington st. to Harrison ave.....	459	1,042	1902
Unity st.....	Charter to Tileston st.....	330	500	1897
Warrenton st.....	Eliot to Tremont st.....	670	1,587	1884-91
Warrenton st.....	Shawmut ave. to Washington st.....	468	910	1891
Water st.....	Congress to Kilby st.....	255	694	1899-02
Water st.....	Liberty sq. to Broad st.....	252	682	1896
West st.....	At Tremont st.....		64	1900
Wiget street.....	Salem to N. Margin st.....	259	240	1897
Wiggin st.....	N. Bennet to Tileston st.....	107	119	1887
Winter st.....	At Tremont st.....		38	1900
Total.....	City Proper.....	53,419	168,697	

Charlestown.

Austin st.....	Seminary pl. to Lawrence st.....	156	451	1891
Bunker Hill st.....	At Tufts st.....		150	1897
Charlestown bridge,	Over Fitchburg R.R.....	60	533	1899
Corey st.....	124 feet north of Moulton st. to Moulton st.....	124	276	1897
Moulton st.....	Easterly side of Corey st. to Vine st,	81	243	1897
Moulton st.....	Vine to Bunker Hill st.....	130	330	1897
Rutherford st.....	Devens st. to 128 feet westerly.....	128	284	1897
Tufts st.....	Bunker Hill st. to 141 feet northerly,	141	415	1897
Vine st.....	Bunker Hill, across Moulton st.....	165	670	1897
Total.....	Charlestown.....	985	3,412	

List of Streets Paved with Trinidad Asphalt.—*Concluded.*

South Boston.

NAME.	Location.	Length.	Area.	Year Laid.
D st	W. Fifth to Gold st.....	126	448	1889
E st.....	W. Third to Bolton st.....	111	410	1892
Rogers st.....	Dorchester to Preble st.....	360	480	1891
West Sixth st.....	160 feet east of C st., towards D st..	91	305	1887
West Third st.	153 feet west of C st., across E st....	185	769	1892
Total.....	South Boston.....	873	2,412	

Roxbury.

Cabot st.....	Tremont to Ruggles st	1,236	3,571	1899
Cabot st.....	Easterly side of Ruggles st. to Vernon st.....	723	2,988	1892
Cabot st.....	Easterly side of Vernon st. to Linden Park st.....	484	1,390	1897
Columbus ave.....	301 feet south of Camden st., across Terry st	2,640	15,840	1896
Public alley 404.....	Between Huntington ave. and St. Botolph st., from 66 feet south of Cumberland st. to Public alley 405.....	534	533	1899
Public alley 405.....	94 feet east of Huntington ave. to 62 feet west of St. Botolph st., rear of northeast side of Massachu- setts ave	100	89	1891
Public alley 428.....	Between Commonwealth ave. and Marlborough st., from 205 feet east of Hereford st. to Hereford st	205	186	1901
Public alley 429.....	Between Commonwealth ave. and Marlborough st., from 55 feet west of Hereford st. to 77 feet east of Massachusetts ave.....	533	502	1901
Public alley 431.....	205 feet east of Hereford st. to Hereford st.....	203	182	1899
Total.....	Roxbury.....	6,658	25,281	

List of Streets Paved with Sicilian Rock Asphalt, Feb. 1, 1903.

City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
Acton st.....	Washington to Bradford st.....	259	352	1896
Albany st.....	Easterly side of Stoughton, across Concord st.....	285	1,710	1897
Arch st.....	Summer to Franklin st.....	403	1,522	1901
Ash st.....	Oak st., across Nassau st.....	220	391	1895
Avery st.....	Washington to Mason st.....	360	275	1897
Barton st.....	Leverett to Milton st.....	403	683	1895
Beacon st.....	Arlington to Dartmouth st.....	1,856	9,933	1900-01
Boylston st.....	East side Arlington to Berkeley st.....	695	3,773	1900
Bradford st.....	Waltham st. to Shawmut ave.....	600	1,270	1897
Cobb st.....	Washington st. to Shawmut ave....	347	1,041	1897
Decatur st.....	Washington st. to Harrison ave....	370	781	1892
Dwight st.....	Shawmut ave. to Tremont st.....	716	2,075	1893
Essex pl.....	Tufts to Essex st.....	202	348	1901
Exeter pl.....	Chauncy st. to Harrison ave.....	170	387	1897
Fabiu st.....	Newland to Ivanhoe st.....	421	615	1895
Fay st.....	Dover st. to Harrison ave.....	318	560	1894
Hamburg st.....	Mystic st. to Harrison ave.....	383	597	1896
Hanover st.....	Tileston, across Charter st.....	315	934	1896
Huntington ave....	B. & A. R.R. to Cumberland st.....	1,593	8,840	1896
India st.....	Milk to India st., formerly India sq.....	565	2,135	1901
Kingston st.....	Beach to Essex st.....	492	1,859	1899
Marlborough st.....	Arlington to Clarendon st.....	1,251	5,004	1901
Mason st.....	West st. to 213 feet south of West st.,	213	473	1901
Mason st.....	From 213 feet south of West to 444 feet south of West st.....	231	470	1894
Massachusetts ave..	Washington st. to Harrison ave., easterly roadway.....	344	2,030	1894
Massachusetts ave..	Harrison ave. to Albany st., easterly roadway.....	318	2,121	1894
Massachusetts ave..	Marlborough to Beacon st.....	263	1,256	1901
Mayo st.....	Castle to Cobb st.....	251	418	1897
Meander st.....	E. Dedham to Malden st.....	307	437	1896
Morton st.....	Salem to Endicott st.....	325	253	1901
Mott st.....	Washington st. to Harrison ave....	332	516	1892-49
Mystic st.....	Malden to E. Dedham st.....	204	226	1896
<i>Carried forward..</i>		15,012	53,285	

List of Streets Paved with Sicilian Rock Asphalt.—Continued.
City Proper.

NAME.	Location.	Length.	Area.	Year Laid.
<i>Brought forward,</i>		15,012	53,285	
Mystic st.....	E. Dedham to E. Canton st.....	215	335	1896
Mystic st.....	E. Canton to E. Brookline st.....	216	337	1896
Newland st.....	Between W. Brookline and W. Newton sts.....	336	450	1902
N. Margin st.....	Thacher toward Endicott st.	205	518	1897
Norwich st.....	Mystic to Meander st.....	221	339	1896
Ohio st.....	Washington st. to Shawmut ave....	343	277	1896
Otter st.....	Beacon st. to alley along Charles River.....	168	523	1901
Pemberton sq.....	Front of Suffolk County Court-house.....	323	1,365	1894
Prince st.....	Hanover to Bennet ave.....	293	654	1895
Prince st.....	Bennet ave. to Salem st.....	213	497	1900
Public alley 434.....	Between Commonwealth ave. and Newbury st., from Exeter to Dartmouth sts.....	555	483	1901
Public alley 436.....	Between Commonwealth ave. and Newbury st., from Clarendon to Berkeley sts.....	580	544	1901
Public alley 438.....	Between Newbury and Boylston sts., from Arlington to Berkeley st.....	631	589	1901
Public alley 440.....	Between Newbury and Boylston sts., from Dartmouth to Exeter st.	555	529	1901
Public alley 442.....	Between Newbury and Boylston sts., from 59 ft. west of Fairfield to 110 ft. east of Gloucester st.....	351	312	1901
Salem st.....	Endicott, across Prince st.....	1,142	2,235	1901
Shawmut ave.....	132 ft. south of Castle st., across Cherry st.....	327	945	1898
Taylor st.....	Dwight to Milford st.....	196	274	1896
Tufts st.....	Kingston to South st.	485	985	1901
Tyler st.....	Oak to Harvard st.....	530	1,413	1901
Whitmore st.....	Kneeland to Harvard st.....	249	445	1895
Total.....	City Proper.....	23,146	67,334	

Charlestown.

Lawrence st.....	East side of Lawrence ave., across Miller st.....	385	1,014	1901
Miller st.....	Main to Lawrence st.....	203	383	1901
Warren st.....	Winthrop to Soley st.....	127	365	1895-01
		715	1,762	

List of Streets Paved with Sicilian Rock Asphalt. — Continued.
East Boston.

NAME.	Location.	Length.	Area.	Year Laid.
Meridian st.....	Trenton to Eutaw st.....	235	600	1900

Brighton.

Cottage Farm bridge,	Over B. & A. R.R.....	140	1,556	1896
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South Boston.

Athens st.....	W. Second to A st.....	617	916	1895
Athens st.....	B to C st.....	515	746	1892
Athens st.....	C to D st.....	519	750	1901
Bowen st.....	C to D st.....	519	750	1901
Bowen st.....	D to E st.....	523	755	1901
E. Broadway.....	Front of Lincoln School.....	180	1,000	1897
Gold st.....	B to C st.....	524	747	1901
Gold st.....	C to D st.....	521	753	1901
K st.....	E. Sixth to E. Eighth st.....	566	1,083	1896
Silver st.....	B to C st.....	522	754	1901
Silver st.....	C to D st.....	520	751	1901
Tudor st.....	C to D st.....	515	744	1901
W. Broadway.....	From 196 ft. east of easterly line of Dorchester ave. to A st.....	360	1,440	1892
W. Broadway.....	Gardner pl. to 150 ft. easterly.....	150	648	1893
W. Broadway.....	New England bridge to E st., 4-foot gutters.....		1,487	1897
W. Broadway.....	150 ft. west of F st. to 267 ft. east of F st.....	448	1,544	1897
W. Broadway.....	267 ft. east of F st. to 44 ft. west of Dorchester ave.....	410	1,818	1898
		7,409	16,686	

Roxbury.

Columbus ave.....	Terry st. to 61 ft. north of Station st.	884	5,304	1896
Dudley st.....	Easterly side, between Dunmore st. and Magazine st.....	271	343	1902
Huntington ave.....	Easterly side Cumberland st. to Massachusetts ave.....	747	4,150	1896
Huntington ave.....	Massachusetts ave. to Gainsboro' st.	587	3,372	1896
Ipswich st.....	Bridge over waterway.....	61	267	1898
Massachusetts ave...	Huntington ave., across Marlboro' st.....	2,897	13,842	1901
Public alley 901.....	From Hemenway to Hemenway st.....	575	552	1902
		6,022	27,830	

Streets Paved with Seyssel Rock Asphalt, February 1, 1903.

NAME.	Location.	Length.	Area.	Year Laid.
Genesee st.....	Harrison ave. to Albany st.....	505	1,122	1899
Mason st.	444 ft. south of West to Avery st.,	123	265	1899
Milton st.....	Brighton to Spring st.....	308	274	1899
Oswego st.	Harrison ave. to Albany st.....	506	1,068	1899
Paul st.....	Emerald to Village st.....	133	236	1897
Paul st.....	Village to Tremont st.....	276	456	1897-99
Pelham st.....	Washington st. to Shawmut ave....	320	693	1897
Public alley 102	23 ft. south of Marshall st. to Creek sq.....	182	184	1899
Public alley 702	Worcester to W. Springfield st.....	222	222	1899
Public alley 703	Between Newland st. and Public alley 702	116	103	1899
Waterford st.	Washington st. to Shawmut ave....	316	544	1897
		3,007	5,167	

Other Asphalt Streets, February 1, 1903.

Coal Tar.

NAME.	Location.	Length.	Area.	Year Laid.
Harris st.	Hanover to North st.....	294	425	
I st.	E. Broadway to E. Fourth st.	272	1,027	
		566	1,452	

Asphaltina.

Massachusetts ave...	Columbus ave. to Tremont st. north- erly roadway	267	1,622	1897
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Summary.

Trinidad Asphalt.....	61,935 feet, or	11.73 miles, or	199,802 square yards.
Sicilian Rock Asphalt.....	37,667 " "	7.13 " "	115,768 " "
Seyssel Rock Asphalt.....	3,007 " "	0.57 " "	5,167 " "
Other Asphalts.....	833 " "	0.16 " "	3,074 " "
Total Sheet Asphalt.....	103,440 " "	19.59 " "	323,811 " "
Asphalt blocks.....	1,749 " "	0.33 " "	3,048 " "
Grand totals.....	105,189 " "	19.92 " "	326,859 " "

**A List of Streets Paved with Sheet Asphalt, on a Concrete Base, and having a Maintenance Guarantee,
February 1, 1903.
Trinidad Asphalt.
City Proper.**

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yards.	Guarantee Expires
Albany st.....	80 feet north of Broadway, across Way st.....	Concrete..	105	.020	397	Aug. 17, 1904
Andrews st.....	E. Dedham to E. Canton st.....	Concrete..	216	.041	312	Oct. 22, 1909
Arlington st.....	Boylston to Beacon st.....	Concrete..	1,324	.251	7,355	June 16, 1911
Avon st.....	Washington to Chauncy st.....	Concrete..	437	.083	1,081	Oct. 29, 1911
Beacon st.....	150 ft. from west line of Gloucester st. to 68 ft. beyond westerly line of Gloucester st.....	Concrete..	218	.041	1,183	June 16, 1903
Beacon st.....	Charles st., across Arlington st., southerly side.....	Concrete..	866	.164	2,171	June 29, 1911
Berkeley st.....	Between Boylston st. and St. James ave.....	Concrete..	295	.050	903	Aug. 4, 1912
Boylston st.....	Tremont st., across Boylston pl.....	Concrete.	357	.068	1,395	Oct. 9, 1911
Boylston st.....	Charles to Arlington st.....	Concrete..	854	.162	5,030	Oct. 9, 1911
Boylston st.....	Clarendon st., across Dartmouth st.....	Concrete..	649	.123	3,450	Oct. 23, 1911
Broadway.....	Albany st. to 105 ft. west of Albany st.....	Concrete..	105	.020	467	Nov. 11, 1904
Chambers st.....	Green st., across Poplar st.....	Concrete..	460	.087	1,083	Oct. 25, 1912
Castle st.....	Castle sq., easterly.....	Concrete..	.....	.....	427	Aug. 27, 1904
Cazenove st.....	For 45 feet from Columbus ave.....	Concrete..	45	.009	100	July 15, 1904
Chandler st.....	At Castle sq.....	Concrete..	.....	.....	51	.....

List of Streets Paved with Sheet Asphalt, Etc. — Continued.

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yards.	Guarantee Expires.
Charles st.....	Easterly side of Fruit st., across Allen st.	Concrete..	706	.134	1,804	Oct. 31, 1909
Columbus ave.....	B. & A. R.R. to Clarendon st.	Concrete..	180	.034	740	July 15, 1904
Congress sq.....	Congress sq. to Congress st.	Concrete..	209	.040	400	June 15, 1905
Dartmouth st.....	Buckingham st. to B. & A. bridge.....	Concrete..	127	.024	580	May 16, 1904
Dartmouth st.....	Huntington ave. to Boylston st.	Concrete..	234	.044	1,890	Oct. 23, 1911
Devonshire st.	Milk to Water st.	Concrete..	262	.050	786	Oct. 1, 1909
Dillon st.....	Between Lenox and Sawyer sts.	Concrete..	205	.039	301	Nov. 28, 1912
Endicott st.....	Cooper st., across Thacher st.	Concrete..	318	.060	1,078	Oct. 26, 1909
Ferdinand st.....	At Castle sq.	Concrete..	37	.007	107	June 1, 1904
Harrison ave.....	22 ft. south of Kneeland st. to 22 ft. north of Harvard st.	Concrete..	249	.047	885	Nov. 16, 1909
Harrison ave.....	Asylum st., across Davis st.	Concrete..	158	.080	300	Aug. 24, 1911
Hayward pl.....	Washington st. to Harrison ave.	Concrete..	260	.049	578	Nov. 7, 1903
Huntington ave.	Boylston st., across Dartmouth st.	Concrete..	618	.117	5,493	Oct. 23, 1911
Kilby st.....	State to Milk st., including Liberty sq.	Concrete..	640	.121	3,554	Sept. 28, 1903
Malden st.....	Washington st. to Harrison ave.	Concrete..	516	.098	1,514	Dec. 8, 1912
Mason st.....	Tremont to Avery st.	Concrete..	85	.016	206	Nov. 10, 1910
Parkman st.....	North Anderson st., across Blossom st.	Concrete..	241	.046	550	Oct. 14, 1903
Parnell st.....	Between Lenox and Sawyer sts.	Concrete..	250	.047	349	Nov. 28, 1912

STREET DEPARTMENT.

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Parmenter st.....	Hanover to Salem st.....	Concrete..	279	.053	764	Sept. 13, 1912
Public alley 401....	Between Huntington ave. and St. Botolph st., from Irvington to Garrison st.....	Concrete..	350	.066	362	Oct. 2, 1909
Public alley 402....	Between Huntington ave. and St. Botolph st., from Garrison to West Newton st.....	Concrete..	358	.068	374	Sept. 30, 1909
Public alley 403....	Between Huntington ave. and St. Botolph st., from West Newton to Cumberland st.....	Concrete..	355	.067	370	Sept. 29, 1909
Public alley 414....	Between Beacon and Marlborough sts., from 53 ft. east of Massachusetts ave. to Hereford st.....	Concrete..	614	.116	574	Oct. 24, 1911
Public alley 415....	Between Beacon and Marlborough sts., from Hereford to Gloucester st....	Concrete..	398	.075	382	Oct. 12, 1911
Public alley 416....	Between Beacon and Marlborough sts., from Gloucester to Fairfield st....	Concrete..	524	.099	494	Nov. 14, 1911
Public alley 417....	Between Beacon and Marlborough sts., from Fairfield to Exeter st.....	Concrete..	624	.118	583	Nov. 29, 1911
Public alley 419....	Between Beacon and Marlborough sts., from Dartmouth to Clarendon st.....	Concrete..	575	.109	511	Sept. 28, 1909
Public alley 422....	Between Commonwealth ave. and Marlborough st., from Berkeley to Arlington st.....	Concrete..	561	.106	586	Sept. 18, 1912
Public alley 423....	Between Commonwealth ave. and Marlborough st., from Berkeley to Clarendon st.....	Concrete..	580	.110	516	Aug. 26, 1912
Public alley 424....	Between Commonwealth ave. and Marlborough st., from Berkeley to Dartmouth st.....	Concrete..	575	.109	511	April 22, 1912
Public alley 426....	Between Commonwealth ave. and Marlborough st., from Exeter to Fairfield st.....	Concrete..	624	.118	595	Oct. 16, 1911
Public alley 428....	Between Commonwealth ave. and Marlborough st., from Gloucester st. to 205 ft. east of Hereford st.....	Concrete..	190	.036	193	Oct. 23, 1911
Public alley 431....	Between Commonwealth ave. and Newbury st., from 205 ft. west of Hereford st. to 83 ft. west of Gloucester st.....	Concrete..	107	.020	95	Sept. 25, 1909
Public alley 437....	Between Commonwealth ave. and Newbury st., from Berkeley to Arlington st.....	Concrete..	631	.120	561	Dec. 10, 1908
Public alley 701....	Between Union Park and Upton st., from 130 ft. east of Tremont st. to Shawmut ave.	Concrete..	521	.099	611	Nov. 8, 1909
St. James ave.....	At Huntington ave.....	Concrete..	123	.023	600	Oct. 23, 1911
Temple pl.	Tremont to Washington sts.....	Concrete..	503	.095	1,621	Oct. 1, 1910

List of Streets Paved with Sheet Asphalt, Etc. — *Concluded.*

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yards.	Guarantee Expires.
Tremont st.	At Castle sq.	Concrete..	67	.013	886	Aug. 27, 1904
Tremont st.	Boylston st. to Scollay sq.	Concrete..	2,550	.483	10,370	Dec. 2, 1910
Trinity pl.	St. James ave., across Stuart st.	Concrete..	391	.074	1,130	Sept. 18, 1909
Trinity pl.	Stuart, across Stanhope st.	Concrete..	262	.050	757	Dec. 1, 1910
Union Park st.	Washington st. to Harrison ave.	Concrete..	459	.087	1,042	Aug. 2, 1912
Water st.	Congress to Kilby st.	Concrete..	255	.046	694	Sept. 16, 1912
West st.	At Tremont st.	Concrete..	.....	.....	64	Dec. 2, 1910
Winter st.	At Tremont st.	Concrete..	.....	.....	38	Dec. 2, 1910
Totals.....	.....	.....	1,367	.257	3,725	.....
Roxbury District.						
Public alley 401....	Between Huntington ave. and St. Botolph st., from 66 ft. south of Cumber- land st. to Public alley 405.....	Concrete..	534	.101	533	Oct. 5, 1909
Public alley 405....	Rear of northeast side of Massachusetts ave., from 94 ft. east of Hunting- ton ave. to 62 feet west of St. Botolph st.	Concrete..	100	.019	89	Oct. 5, 1909
Public alley 428....	Between Commonwealth ave. and Marlborough st., from 205 ft. east of Hereford to Hereford st.	Concrete..	205	.039	186	Oct. 23, 1911
Public alley 429....	Between Commonwealth ave. and Marlborough st., from 55 ft. west of Hereford st. to 77 ft. east of Massachusetts ave.	Concrete..	533	.101	502	Nov. 13, 1911
Public alley 431....	205 ft. east of Hereford to Hereford st.	Concrete..	205	.039	182	Sept. 25, 1909
Totals.....	.....	.....	1,572	.299	1,492	.....

Maintenance Guarantee, February 1, 1903. — Continued.
Sicilian Rock Asphalt.
 City Proper.

STREET DEPARTMENT.

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yards.	Guarantee Expires.
Arch st.....	Summer to Franklin st.....	Concrete..	403	.076	1,922	Oct. 12, 1911
Beacon st.....	Arlington to Dartmouth st.....	Concrete..	1,856	.352	9,933	June 14, 1911
Boylston st.....	Easterly side of Arlington st. to Berkeley st.....	Concrete..	695	.132	3,773	Nov. 28, 1910
Essex pl.....	Tufts to Essex st.....	Concrete..	202	.038	348	Oct. 3, 1911
India st.....	Milk to India st., formerly India sq.....	Concrete..	565	.107	2,135	Nov. 9, 1911
Kingston st.....	Beach to Essex st.....	Concrete..	492	.093	1,859	Aug. 9, 1909
Marlborough st.....	Arlington to Clarendon st.....	Concrete..	1,251	.237	5,004	Aug. 8, 1911
Mason st.....	West to 213 feet south of West st.....	Concrete..	213	.040	473	Aug. 15, 1911
Massachusetts ave.....	Marlborough to Beacon st.....	Concrete..	263	.050	1,256	Nov. 20, 1911
Morton st.....	Salem to Endicott st.....	Concrete..	325	.062	253	Dec. 16, 1911
Newland st.....	Between W. Brookline and W. Newton sts.....	Concrete..	336	.064	450	Oct. 15, 1912
Otter st.....	Beacon st. to alley along Charles river.....	Concrete	168	.032	523	Sept. 19, 1911
Prince st.....	Bennet ave. to Salem st.....	Concrete..	213	.040	497	Dec. 7, 1910
Public alley 434.....	Between Commonwealth ave. and Newbury st., from Exeter to Dartmouth st.....	Concrete..	555	.105	483	Oct. 29, 1911
Public alley 436.....	Between Commonwealth ave. and Newbury st., from Clarendon to Berkeley st.....	Concrete..	580	.110	544	Oct. 19, 1911
Public alley 438.....	Between Newbury and Boylston sts., from Arlington to Berkeley st.	Concrete..	631	.120	589	Oct. 22, 1911

Maintenance Guarantee, February 1, 1903. — Continued.
City Proper.

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yards.	Guarantee Expires.
Public alley 440...	Between Newbury and Boylston sts., from Dartmouth to Exeter st.....	Concrete..	555	.105	529	Nov. 5, 1911
Public alley 442...	Between Newbury and Boylston sts., from 59 ft. west of Fairfield st. to 110 ft. east of Gloucester st.....	Concrete..	351	.056	312	Nov. 29, 1911
Salem st.....	Endicott, across Prince st.	Concrete..	1,142	.216	2,235	Nov. 22, 1911
Shawmut ave.....	132 ft. south of Castle, across Cherry st.....	Concrete..	327	.062	945	Sept. 19, 1903
Tufts st.....	Kingston to South st.....	Concrete..	485	.092	985	Sept. 13, 1911
Tyler st.....	Oak to Harvard st.....	Concrete..	530	.100	1,413	Nov. 1, 1911
Totals.....	.....	.....	2,484	.470	5,578	
Charlestown District.						
Lawrence st.....	East of Lawrence ave., across Miller st.....	Concrete..	385	.073	1,014	Nov. 18, 1911
Miller st.....	Main to Lawrence st.....	Concrete..	203	.038	383	Nov. 18, 1911
Warren st.....	Winthrop to Soley st.....	Concrete..	127	.024	365	Aug. 22, 1911
Totals.....	.....	.....	715	.135	1,762	
East Boston.						
Meridian st.....	Trenton to Eutaw st.....	Concrete..	235	.045	600	Dec. 3, 1910

South Boston.

Athens st.	C to D st.	Concrete..	519	.098	750	Aug. 16, 1911
Bowen st.	C to D st.	Concrete..	519	.098	750	Oct. 30, 1911
Bowen st.	D to E st.	Concrete..	523	.099	755	Oct. 30, 1911
Gold st.	B to C st.	Concrete..	524	.099	747	Oct. 10, 1911
Gold st.	C to D st.	Concrete..	521	.099	753	Oct. 9, 1911
Silver st.	B to C st.	Concrete..	522	.099	754	Aug. 7, 1911
Silver st.	C to D st.	Concrete..	520	.098	751	Aug. 7, 1911
Tudor st.	C to D st.	Concrete..	515	.098	744	Oct. 12, 1911
W. Broadway....	267 ft. east of F to 44 ft. west of Dorchester st.	Concrete..	410	.078	1,818	Dec. 15, 1903
Totals.....	.....	.....	4,573	.866	7,822	

Roxbury.

Dudley st.	Easterly side, between Dunmore and Magazine sts.	Concrete..	271	.051	343	Nov. 1, 1912
Ipswich st.	Bridge over Waterway.	Concrete..	61	.011	267	Aug., 1903
Massachusetts ave	Huntington ave., across Marlborough st.	Concrete..	2,897	.549	13,842	Nov. 20, 1911
Public alley 901....	Hemenway to Hemenway st.	Concrete..	575	.109	552	Nov. 6, 1912
Totals.....	.....	.....	3,804	.720	15,004	

Seysse Rock Asphalt.

NAME.	Limits.	Base.	Length, Feet.	Length, Miles.	Area, Sq. Yds.	Guarantee Expires.
Genesee st.....	Harrison ave. to Albany st.....	Concrete..	505	.096	1,122	July 12, 1904
Mason st.....	444 ft. south of West to Avery st.....	Concrete..	123	.023	265	Nov., 23, 1904
Milton st.....	Brighton to Spring st.....	Concrete..	308	.058	274	Sept. 8, 1909
Osvego st.....	Harrison ave. to Albany st.....	Concrete..	506	.096	1,068	July 22, 1909
Public alley 102....	23 ft. south of Marshall st. to Creek sq.....	Concrete..	182	.034	184	Nov. 11, 1909
Public alley 702....	Worcester to W. Springfield st.....	Concrete..	222	.042	222	Nov. 9, 1909
Public alley 703....	Between Newland st. and Public alley 702.....	Concrete..	116	.022	103	Nov. 9, 1909
Totals.....	.....	.....	1,962	.371	3,238	

Summary.

Trinidad Asphalt.....	25,250 feet, or 4.781 miles, or 73,296 square yards.
Sicilian Rock Asphalt.....	61,249 "
Seysse Rock Asphalt.....	3,238 "
Total sheet asphalt under maintenance guarantee Feb. 1, 1908, 48,677 "	9,217 "
	137,783 "

Cost of Asphalt Patching, 1902.
Work done by Barber Asphalt Paving Company.
Trinidad Asphalt.

STREET AND LIMITS.	Year Laid.	Base.	Length in Miles.	Total Square Yards in Street.	Square Yards Resurfaced.	Cost of Patching.	Cost per Square Yard of Surface.
Albany st., E. Concord st. to 225 ft. north of Massachusetts ave.....	1884	Concrete .....	.085	2,700	20.88	\$52 20	\$0.019
Arelt st., Franklin to Milk st.....	1893	Concrete .....	.081	1,267	33.07	82 68	.065
Ash st., Bennet to Nassau st.....	1887	Concrete .....	.044	427	10.85	27 13	.064
Austin st., Sculmary pl. to Lawrence st.....	1891	Concrete . . .	.030	451	1.84	4 60	.010
Barton ct., Barton to Brighton st.....	1894	Cobble .....	.025	186			
Batterymarch st., Milk st. to Liberty sq.....	1896	Concrete .....	.028	465			
Beacon st., easterly of Dartmouth to within 150 ft. of westerly line of Gloucester st.....	1892	Concrete .....	.330	9,277	73.00	182 50	.020
Beacon st., 68 ft. west of Gloucester st. to Massachusetts ave.....	1893	Concrete .....	.193	5,391	34.16	85 40	.016
Beacon st., Charles st., across Arlington st.....	1891	Concrete .....	.164	3,774	36.67	91 68	.024
Bennet st., Washington st. to Harrison ave.....	1887	Cob. & Cob.....	.034	350	4.15	10 38	.030
Bond st., Hanson to Milford st.....	1895	Concrete .....	.036	426			
Boylston st., easterly side Berkeley st., across Charendon st.....	1897	Concrete .....	.124	3,869			
Brattle sq., Brattle to Elm st.....	1888	Concrete .....	.053	670	10.10	25 25	.038
Brighton st., Leverett to Allen st.....	1892	Cobble.....	.160	1,737	65.33	163 08	.094

Cost of Patching, Trinidad Asphalt. — Continued.

STREET AND LIMITS.	Year Laid.	Base.	Length in Miles.	Total Square Yards in Street.	Square Yards Resurfaced.	Cost of Patching.	Cost per Square Yard of Surface.
Brimmer st., Beacon to Pinckney st.....	1895	Concrete.....	.206	3,300	40.04	\$122 60	\$0.037
Bunker Hill st., at Tufis st.....	1897	Concrete . . .	.006	150			
Cabot st., Tremont to Ruggles st.....	1891	Concrete.....	.234	3,571	38.85	97 13	.027
Cabot st., easterly side Ruggles to Vernon st.....	1892	Concrete.....	.137	2,988	12.33	30 83	.010
Cabot st., easterly side Vernon to Linden Park st.....	1897	Concrete.....	.032	1,390			
Central st., Broad to Kilby st.....	1887	Concrete.....	.059	869	16.81	42 03	.048
Chambers st., Green st., across Poplar st.....	1902	Concrete.....					
Chambers st., Brighton to Charles st.....	1895	Cob. & Con...	.051	604	.83	2 08	.003
Charlestown bridge, over Fitchburg R.R.....	1899	Concrete.....	.001	533	45.98	114 95	.216
Charter st., Hanover st., across Unity st.	1894	Cobble.....	.060	636	7.86	19 65	.031
Cherry st., Washington st. to Shawmut ave.	1892	Concrete.....	.063	594	6.94	17 35	.029
Clark st., Hanover to North st.	1892	Cobble.....	.060	614	6.16	15 40	.025
Cottingham ave., Clarendon st. to Massachusetts ave.....	1891	Concrete.....	.630	14,260	714.05	1,785 13	.125
Columbus ave., Massachusetts ave. to 301 ft. south of Camden st.	1896	Concrete.....					
Columbus ave., 301 ft. south of Camden st., across Ferry st.	1896	Concrete.....	.071	21,258	173.92	434 80	.020
Cooper st., N. Margin st., across Endicott st.	1887	Concrete.....	.037	597	7.16	17 90	.030
Cooper st., Endicott to Washington st., north.....	1897	Concrete.....	.039	604			

STREET DEPARTMENT.

Corey st., 124 feet north of Moulton to Moulton st.....	1897	Concrete .....	.024	276		
Cornbug st., Washington st. to Shawmut ave.....	1896	Concrete .....	.064	734	68.88	172 20
Court sq., westerly side.....	1881	Concrete .....	.064	950	12.75	31 88
Court st., Washington st. to Court sq.....	1891	Concrete .....	.044	642	85.70	\$214 25
Court sq., easterly side	1894	Concrete .....	.062	933	27.64	69 10
D st., W. Fifth to Gold st.....	1889	Concrete .....	.024	448	10.12	25 30
Dartmouth st., Boylston to Newbury st.....	1894	Concrete .....	.050	2,058	5.84	14 60
Davis st., Washington st. to Harrison ave..	1892	Concrete .....	.061	646	14.03	35 08
Deane st., Kilby to Broad st.....	1881	Concrete .....	.059	624	20.69	50 23
E st., W. Third to Bolton st.....	1892	Concrete .....	.021	410		
Edinboro st., Essex to Beach st.....	1895	Concrete .....	.089	924	3.55	8 88
Exchange pl., Congress to Kilby st.....	1887	Concrete .....	.046	678	9.84	24 60
Groton st., Washington st. to Shawmut ave.....	1892	Block.....	.063	558	8.86	22 15
Hanover ave., Hanover to North st.....	1892	Collble.....	.058	266	1.72	4 30
Harrison ave., between E. Newton st. and Massachusetts ave.....	1888	Concrete .....	.144	1,095	89.84	224 40
Harrison ave., E. Newton to E. Springfield st.....	1895	Concrete .....	.176	1,716		
Hollis st., Tremont toward Washington st.....	1891	Block.....	.052	521	7.42	18 55
Hudson st., Beach to 90 ft. north of Curve st.....	1891	Concrete .....	.296	3,338	100.13	250 33
Laconia st., Washington st. to Harrison ave.....	1896	Concrete .....	.063	727	12.32	30 80
La Grange st., Tremont to Washington st.....	1897	Concrete .....	.034	355		
Liberty sq.....	1881	Concrete		505	7.76	19 40
Lincoln pl., Worcester to Springfield st.....	1897	Concrete .....	.041	313		

Cost of Patching, Trinidad Asphalt. — Continued.

STREET AND LIMITS.	Year Laid.	Base.	Length in Miles.	Total Square Yards in Street.	Square Yards Resurfaced.	Cost of Patching.	Cost per Square Yard of Surface.
Malcolm st., Mt. Vernon to Chestnut st.....	1892	Concrete .....	.049	290	1.14	\$2 85	\$0.010
Massachusetts ave., southerly roadway, Columbus ave. to Washington st.,	1892	Concrete .....	.174	5,849	72.50	181 25	.033
Moon st., north to Lewis st.....	1891	Cobble.....	.034	384	1.51	3 78	.010
Moulton st., easterly of Corey to Vine st.....	1897	Concrete .....	.015	243			
Moulton st., Vine to Bunker Hill st.....	1897	Concrete . . .	.025	390			
N. Bennet st., Hanover to Salem st.....	1883	Cobble.....	.105	920	48.64	121 60	.132
N. Margin st., Stillman to Thacher st.....	1895	Concrete .....	.098	1,154	6.75	16 88	.015
Oxford st., Beach to Essex st.....	1895	Macadam.....	.081	735			
Pinckney st., Charles across Brimmer st.....	1895	Concrete .....	.051	723	.70	1 75	.002
Pine st., Washington st., to Harrison ave.....	1896	Concrete .....	.080	597			
Poplar st., Chambers st., across Spring st.....	1892	Cobble.....	.115	1,250	8.85	22 13	.018
Poplar st., Spring to Charles st.....	1887	Cobble.....	.109	1,192	43.62	109 05	.092
Public alley 301, Pinckney to River st.....	1897	Concrete .....	.051	400			
Public alley 420, between Beacon and Marlborough sts., from Berkeley to Clarendon st.....	1897	.....	.110	515			
Rogers st., Dorchester to Preble st.....	1891	Cobble.....	.068	480			
Rutherford ave., Devon st. to 125 ft. westerly.....	1897	Concrete .....	.024	284			

STREET DEPARTMENT.

Spring st., Poplar to Leverett st.....	1895	Cobble.....	.085	908	30.36	75 90	0.084
Stevens st., Lincoln pl., toward Shawmut ave.....	1897	Concrete.....	.003	22			
Stillman st., Endicott, across N. Margth st.....	1892	Cobble.....	.032	453	5.47	13 68	.030
Stoddard st., Howard to Court st.....	1892	Cobble.....	.026	150	.83	2 08	.014
Sun Court st., North to Moon st.....	1891	Cobble.....	.029	218	2.09	5 23	.024
Thacher st., Washington st., north, to Endicott st.....	1892	Concrete.....	.038	562			
Tileston st., 155 ft. west of Hanover, across Unity st.....	1887	Cobble.....	.048	346	28.88	72 20	.209
Tileston st., Unity to Salem st.....	1895	Concrete.....	.031	124			
Tufts st., Bunker Hill st. to 141 ft. northerly.....	1897	Concrete.....	.027	415			
Unity st., Charter to Tileston st.....	1897	Concrete.....	.063	500			
Vine st., Bunker Hill, across Monilton st.....	1897	Concrete.....	.031	670			
Warrenton st., Elliot to Washington st.....	1891	Cob. & Con....	.216	2,497	19.99	49 98	.020
Water st., Liberty sq. to Broad st.....	1896	Concrete.....	.048	682	1.78	4 45	.007
Water st., Congress to Kilby st.....	.....	Resurfaced.					
W. Sixth st., 160 ft. west of E, toward D st., between C and D sts.....	1887	Concrete.....	.017	395	18.87	47 18	.154
W. Third st., 153 ft. west of E st., across E st.....	1892	Concrete.....	.035	769	9.41	23 53	.031
Wiget st., Salem to N. Margin st.....	1897	Concrete.....	.049	240			
Wiggin st., N. Bennet to Tileston st.....	1887	Cobble.....	.020	119	8.46	21 15	.178
Totals.....			7.225	126,362	2,166.22	\$5,415 47	

Average cost per square yard, \$0.043

Prices paid, \$2.50 per square yard for patching.

Cost of Patching, 1902. — Concluded.
Sicilian Rock Asphalt.

STREET AND LIMITS.	Year Laid	Base.	Length in Miles.	Total Square Yards in Street.	Square Yards Resurfaced.	Cost of Patching.	Cost per Square Yard of Surface.
Acton st., Washington to Bradford st.	1896	Concrete .....	.049	352	7.58	\$18 95	\$0.054
Albany st., easterly side of Stoughton st., across Concord st.	1897	Concrete .....	.054	1,710			
Ash st., Oak st., across Nassau st.	1894	Cobble .....	.042	391	30.73	76 83	.196
Athens st., B to C st.	1892	Concrete .....	.098	746			
Athens st., West Second to A st.	1895	Concrete .....	.117	916			
Avery st., Washington to Mason st.	1897	Concrete .....	.068	275	4.28	10 70	.015
Barton st., Leverett to Milton st.	1895	Concrete .....	.081	723			
Bradford st., Waltham st. to Shawmut ave.	1897	Concrete .....	.114	1,270			
Cobb st., Washington st. to Shawmut ave.	1897	Concrete .....	.066	1,041			
Columbus ave., Terry st., to 61 ft. north of Station st.	1896	Concrete .....	.167	5,304	355.05	887 63	.167
Cottage Farm bridge, over B. & A. R.R.	1896	Concrete .....	.027	1,556			
Decatur st., Washington st. to Harrison ave.	1892	Concrete .....	.070	781	22.86	76 40	.098
Dwight st., Shawmut ave. to Tremont st.	1893	Concrete .....	.136	2,075	25.18	62 95	.030
East Broadway, in front of Lincoln School.	1897	Concrete .....	.034	1,000			
Exeter pl., Chauncy st. to Harrison ave.	1897	Concrete .....	.032	387			
Fabin st., Newland to Ivanhoe st.	1895	Concrete .....	.080	615			
Fay st., Dover st. to Harrison ave.	1894	Cobble .....	.060	560	22.21	55 53	.099
Hamburg st., Mystic st. to Harrison ave.	1896	Concrete .....	.073	597			
Hanover st., Tileston st., across Charter st.	1896	Concrete060	934	33.12	97 80	.105

STREET DEPARTMENT.

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Huntington ave., B. & A. R.R. to Cumberland st.....	1896	Concrete.....	.301	8,840		
Huntington ave., easterly side of Cumberland st. to Massachusetts ave.....	1896	Concrete.....	.141	4,150	53.88	134 70 .008
Huntington ave., Massachusetts ave. to Gainsborough st.....	1896	Concrete.....	.111	3,372		
K st., East Sixth to East Eighth st.....	1896	Concrete.....	.107	1,083	36.49	91 23 .084
Mason st., 213 ft. south of West st. to 44 ft. south of West st.....	1894	Block.....	.044	470	18.57	46 43 .099
Massachusetts ave., Washington to Albany st.....	1894	Concrete.....	.125	4,151	23.97	59 93 .014
Mayo st., Castle to Cobb st.....	1897	Concrete.....	.048	418		
Meander st., East to Malden st.....	1896	Concrete.....	.058	437	31.87	79 68 .182
Motte st., Washington st. to Harrison ave.....	1892	Concrete.....	.063	136		
Mystic st., Malden to Brookline st.....	1896	Concrete.....	.120	898		
North Margin st., Thatcher toward Endicott st.....	1897	Concrete.....	.039	518		
Norwich st., Mystic to Meander st.....	1896	Concrete.....	.042	339		
Ohio st., Washington st. to Harrison ave.....	1896	Concrete.....	.065	277	4.76	11 90 .043
Pemberton sq., front of Suffolk County Court-house.....	1894	Concrete.....	.061	1,365		
Prince st., Hanover st. to Bennet ave.....	1895	Concrete.....	.055	654		
Taylor st., Dwight to Milford st.....	1896	Concrete.....	.037	274	1.50	3 75 .014
W. Broadway, 196 ft. east of easterly line of Dorchester ave. to A st.....	1892	Concrete.....	.068	1,440	149.68	374 20 .260
W. Broadway, between N. E. R. R. bridge and E st.....	1897	Concrete.....	.317	1,487		
W. Broadway, Gardner pl. to 150 ft. easterly.....	1893	Concrete.....	.028	648	89.19	222 98 .344
W. Broadway, 150 ft. west of F st. to 267 ft. east of F st.....	1897	Concrete.....	.085	1,544		
Whitmore st., Kneeland to Harvard st.....	1895	Concrete.....	.047	445	4.07	10 18 .023
Totals.....			3.390	54,179	920.99	\$2,321 77

Average cost per yard, \$0.043.

Seysse Rock Asphalt.

STREET AND LIMITS.	Year Laid.	Base.	Length in Miles.	Total Square Yards in Street.	Square Yards Resurfaced.	Cost of Patching.	Cost per Square Yard of Surface.
Paul st., Emerald to Village st.....	1897	Concrete .....	.025	236			
Paul st., Village to Tremont st.....	{ 1899 1897	Concrete .....	.052	238	456 ft. total area in street.		
Pelham st., Washington st. to Shawmut avenue.....	1897	Concrete .....	.061	693	238 ft. not under guarantee.		
Waterford st., Washington st. to Shawmut ave.	1897	Concrete .....	.060	544			
Totals .....			.198	1,711			

Coal Tar Patching.

Harris st., Hanover to North st.....		Cobble.....	.056	425	12.97	\$32 43	.076
I st., E. Broadway to E. Fourth st.....		Block.....	.051	1,027	44.57	111 43	.108
Totals .....			.107	1,452	57.54	\$143 86	

Average cost per yard, \$0.099.

Asphaltina.

Massachusetts ave., Columbus ave. to Tremont st., northerly roadway....	1897	Concrete051	1,622			
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Prices paid, \$2.50 per square yard for patching.

Comparative Cost for the Year 1902 of Patching Asphalt Pavements having no Maintenance Guaranteed.

Trinidad Asphalt.

PAVEMENT LAID.	Area, Square Yards.	Cost.	Average Cost Per Sq. Yd.
1881.....	2,079	\$101 51	.049
1883.	920	121 60	.132
1884.....	2,700	52 20	.019
1887.....	4,883	371 62	.076
*1888.....	16,025	2,034 78	.127
1889.....	448	25 30	.056
†1891.....	16,476	735 53	.045
1892.....	26,113	803 13	.031
1893.....	6,658	168 08	.025
†1894.....	4,548	103 35	.023
1895.....	9,879	228 09	.023
1896.....	24,464	642 25	.026
1897.....	10,636		
Totals.....	125,829	\$5,387 44	

* Including Columbus ave., laid in 1884-87 and 1891.

† Harrison ave., part of which has been resurfaced, included in 1888.

‡ Including Oxford st., which was laid in 1895.

Sicilian Rock Asphalt.

PAVEMENT LAID.	Area, Square Yards.	Cost.	Average Cost Per. Sq. Yd.
1892.....	3,103	\$450 60	.145
1893.....	2,723	285 93	.105
1894.....	6,937	238 72	.034
1895.....	3,353	20 88	.006
1896.....	28,413	1,325 64	.047
1897.....	9,650		
Totals.....	54,179	\$2,321 77	

Street Mileage.

The following table shows the length of public highways and character of the pavements, February 1, 1903 :

DISTRICTS.	Asphalt.	Granite Block.	Wooden Block.	Brick.	Cobble.	Bituminous Macadam.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1901 report.....	19.17	90.24	0.87	0.22	0.69	.....	295.26	81.85	8.60	496.90
February 1, 1903.										
City Proper.....	15.49	44.20	0.72	0.34	0.39	0.39	23.34	0.82	0.29	85.98
Charlestown.....	0.32	10.48	.....	.....	.....	.....	12.59	0.06	0.02	23.47
East Boston.....	0.05	5.26	.....	.....	0.13	.....	13.95	8.44	.....	27.83
South Boston.....	1.62	15.85	.....	.....	.....	.....	20.33	1.65	4.78	44.23
Roxbury.....	2.35	11.07	0.15	.....	.....	0.25	68.13	6.34	1.58	89.87
West Roxbury.....	.....	0.64	.....	.....	.....	.....	60.43	18.66	0.80	80.53
Dorchester.....	.....	5.57	.....	0.01	.....	.....	82.96	16.07	0.76	105.37
Brighton.....	0.03	.....	.....	.....	.....	.....	26.74	15.80	.....	42.57
Totals.....	*19.86	†93.07	0.87	0.35	0.52	0.64	308.47	67.84	8.23	499.85

NOTE.—The above districts refer to areas enclosed by the original boundary lines.

* Of this amount 0.21 miles = asphalt blocks.

† Of this amount 13.14 miles = granite block paving on concrete base.

4.69 miles of public alleys, chap. 298, Acts of 1898, included in this table.

Total length of public streets, 499.85 miles.

There have been laid out and accepted by the Street Commissioners during the year 2.37 linear miles of public streets; corrections to previous measurements on account of revision and other causes show an increase of .58 miles, making a total net increase of 2.95 miles.

The rate of increase from year to year is shown in the following table:

1859.....111.50 miles.	1882.....359.85 miles.	1894.....447.65 miles.
1871.....201.32 "	1883.....367.99 "	1895.....452.12 "
1872.....207.40 "	1884.....374.10 "	1896.....456.11 "
1873.....209.24 "	1885.....379.60 "	1897.....459.12 "
1874.....313.90 "	1886.....383.55 "	1898.....471.19 "
1875.....318.58 "	1887.....390.30 "	1899.....479.47 "
1876.....327.50 "	1888.....392.72 "	1900.....489.55 "
1877.....333.20 "	1889.....397.84 "	1901.....491.85 "
1878.....340.39 "	1890.....404.60 "	1902.....496.90 "
1879.....345.19 "	1891.....409.60 "	1903.....499.85 "
1880.....350.54 "	1892.....434.59 "	
1881.....355.50 "	1893.....443.34 "	

Area of Pavements.

The following Table shows the Area of Pavements in Square Yards arranged by Districts.

DISTRICTS.	Asphalt.	Granite Block.	Wooden Block.	Brick.	Cobble.	Bituminous Macadam.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1901 report	320,332	2,000,859	23,757	1,388	8,228	.....	5,451,587	1,279,591	291,822	9,377,564
February 1, 1903.										
City Proper.....	247,161	964,089	19,710	3,177	3,880	5,857	432,951	6,755	7,175	1,680,765
Charlestown.....	5,174	239,372	.....	.....	.....	.....	186,606	751	3,926	435,829
East Boston.....	600	116,304	.....	.....	2,950	.....	271,376	154,871	31,421	577,522
South Boston.....	20,125	355,164	.....	.....	.....	.....	362,300	32,634	102,419	872,782
Roxbury.....	53,116	249,651	4,047	.....	.....	4,021	1,235,859	91,265	31,455	1,669,414
West Roxbury.....	.....	13,723	.....	.....	.....	.....	994,442	283,860	37,696	1,329,721
Dorchester .....	.....	118,898	.....	131	.....	.....	1,469,536	251,634	33,212	1,873,411
Brighton.....	1,686	.....	.....	.....	.....	.....	681,854	231,302	.....	914,842
Totals.....	327,862	2,057,211	23,757	3,308	6,830	9,878	5,635,014	1,053,072	247,304	9,364,236

NOTE.—The above districts refer to areas enclosed by the original boundary lines.

*Of this amount 2,537 square yards = asphalt blocks.

†Of this amount 330,364 square yards = granite block paving on concrete base.

24,211 square yards of public alleys laid out under chap. 298, Acts of 1898, included in this table.

CENTRAL OFFICE DIVISION.

EXPENSES OF THE CENTRAL OFFICE.

For the current expenses of the Central Office the City Council appropriated the sum of twenty thousand (20,000) dollars, to which was transferred from the Cambridge and Boston Bridges the sum of three hundred eighty-seven dollars and fifty-four cents (\$387.54), making a total appropriation of twenty thousand three hundred eighty-seven dollars and fifty-four cents (\$20,387.54), which was expended as follows:

Salaries	\$17,106 25
General office expenditures	3,279 79
	<hr/>
Total	\$20,386 04

leaving a balance of one dollar and fifty cents (\$1.50), which was transferred to the Bridge Division.

Respectfully submitted,

JAMES DONOVAN,

Superintendent of Streets.

PART II.

APPENDICES.

PAGES I TO 181

APPENDIX A.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE BRIDGE DIVISION.

927 AND 928 TREMONT BUILDING,
BOSTON, February 1, 1903.

HON. JAMES DONOVAN,

Superintendent of Streets, Boston:

DEAR SIR, — I respectfully submit herewith the annual report of the expenditures, income, and operations of the Bridge Division of the Street Department for the financial year ending January 31, 1903.

The total number of bridges is 153, not including culverts. Eight of these, namely, Harvard, Canal, Prison Point, West Boston, Essex street, Cambridge, Western avenue to Cambridge, and North Harvard street, all connecting Boston and Cambridge, are in charge of two commissioners, one of whom is appointed by the Mayor of the City of Boston, and the other by the Mayor of the City of Cambridge.

One hundred and thirteen bridges are supported wholly or in part by the City of Boston, 28 of these being tide-water bridges provided with a draw. Forty bridges are supported wholly by railroad corporations.

There are 13 important tide-water bridges, namely, Mt. Washington avenue, operated by hand-power; Malden, Charlestown, Summer street, Chelsea north, Dover street, Federal street and Meridian street, operated by electricity; Warren, Broadway, Congress street, L street and Chelsea south, operated by steam-power.

The force employed on the tide-water bridges are all working on an 8-hour basis, which necessitated the employment of 9 men on each of the 12 bridges, and 12 men on the Charlestown bridge, making a total force of 120 men employed on the 13 principal draw-bridges. This makes an increase of 20 men, entailing an additional expense of approximately \$16,000.

The different inland bridges have been repaired at various

times, and have all been kept in a safe condition for public travel, all reported defects being promptly remedied.

The Shawmut-avenue bridge, over the New York, New Haven and Hartford Railroad, Providence Division, and the Boston and Albany Railroad, should be rebuilt. The City Engineer has called the attention of this department to the dangerous condition of this bridge. Several times during the past three years needed repairs have been made in order to make it safe for travel. Early in 1902 it was found necessary to remove the iron parapets, and after this had been done on one side of the bridge a thorough examination was made by the City Engineer, who reported that the bridge needed rebuilding in the interest of public safety, and requested that it be made safe, temporarily, for public travel. This has been done, and an appropriation should be provided to rebuild this bridge, as further repairs would be a useless expenditure of money.

Respectfully submitted,

J. P. LOMASNEY,

Deputy Superintendent.

OBJECT OF EXPENDITURES.

ADMINISTRATION.

Office expenses :

Printing and stationery	\$703 75	
Sundry office expenses	200 33	
		\$904 08
Salaries of Deputy Superintendent and clerical force		7,040 08
Salaries of Supervisors		3,349 77
Telephone at Deputy Superintendent's house		22 44

Amount expended, administration	\$11,316 37
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MAINTENANCE EXPENDITURES.

Administration	\$11,316 37
On tide-water bridges	123,624 00
On inland bridges	12,403 26
North yard and stable	6,918 31
South yard and stable	9,820 19
Total	\$164,082 13

FINANCIAL STATEMENT.

MAINTENANCE APPROPRIATION.

Appropriation 1902-03	\$160,000 00
Received from Portland Steamship Company for work done	35 96
Received from Boston & Albany Railroad Company, for work done	123 81
Received from New York, New Haven & Hartford Railroad Company, for work done	39 60
Transferred from New Charlestown Bridge, Public Landing. (Balance of appropriation)	606 92
Transferred from Central Office	1 50
Transferred from Cambridge Bridges Division	1,212 42
Childrens' Institutions Department:	
Placing-out and Office Division	1,296 40
House of Reformation	556 90
Lamp Department	208 62
Total	<u>\$164,082 13</u>

Amount of expenditures from February 1, 1902, to January 31, 1903. \$164,082 13

SPECIAL APPROPRIATIONS IN CHARGE OF BRIDGE DIVISION.

NAME OF APPROPRIATION.	Appropriations and Balances.	Expended Feb. 1, 1902, to Jan. 31, 1903.	Balances on hand Jan. 31, 1903.
Congress-street bridge, repairs.....	\$4,888 63	\$2,807 49	\$2,081 14
Construction of piers, Bridge Division,	10,000 00	1,457 99	8,542 01
Cottage-street bridge, improvement of,	6,500 00	4,915 43	1,584 57
Electric installation and construction, Bridge Division.....	3,000 00	1,138 58	1,861 42
New trucks, Bridge Division.....	2,500 00	1,400 00	1,100 00
Totals.....	\$26,888 63	\$11,719 49	\$15,169 14

Amount of expenditures February 1, 1902 to January 31, 1903 \$11,719 49
Balances 15,169 14

Amount of appropriations \$26,888 63

AMOUNTS CHARGED TO SPECIAL APPROPRIATIONS IN CHARGE OF
OTHER DIVISIONS.

Name of Appropriation.	Amount Expended.
Broadway bridge, rebuilding	\$197 61
Reserve fund	101 37
Total expended	<u>\$298 98</u>
Amount expended and charged to maintenance appropriation	\$164,082 13
Amount expended and charged to Bridge Division specials	11,719 49
Amount expended and charged to appropriations in charge of other divisions	298 98
Grand total of expenditures, February 1, 1902, to January 31, 1903	<u>\$176,100 60</u>

INCOME.

The amount of bills deposited with the City Collector during the year was \$306.18, and the amount received by the City Collector on account of the Bridge Division during the same period was \$350.44, including \$44.26 uncollected from last year.

Statements of expenditures on the tide-water and inland bridges, also under special appropriations follows; also a list of those bridges maintained wholly or in part by the City of Boston; statement of the public landing places; list of cable-houses and boxes; also buildings on bridges in charge of this division; table showing widths of bridges and kind of roadway and side-walks; width of draw openings; also one showing number of draw openings made for navigation :

*Table showing Expenditures on the Tide-water Bridges,
February 1, 1902, to January 31, 1903.*

NAME OF BRIDGE.	Repairs, Labor, Lumber, Ironwork and Painting.	Regular Ex- penses, Salaries, Fuel, and Supplies.	Total.
Broadway.....	\$444 82	\$7,648 28	\$8,093 10
Charlestown	1,510 31	11,639 71	13,150 02
Chelsea (north)....	574 86	7,890 43	8,465 29
Chelsea (south).....	651 33	7,472 38	8,123 71
Chelsea street.....	493 90	304 75	798 65
<i>Carried forward.....</i>	<i>\$3,675 22</i>	<i>\$34,955 55</i>	<i>\$38,630 77</i>

Table showing Expenditures, Etc. — Continued.

NAME OF BRIDGE.	Repairs, Labor, Lumber, Ironwork and Painting.	Regular Ex- penses, Salaries, Fuel, and Supplies.	Total.
<i>Brought forward</i>	\$3,675 22	\$34,955 55	\$38,630 77
Commercial Point.....		50 00	50 00
Congress street	928 88	8,057 84	8,986 72
Dover street.....	1,012 15	7,629 58	8,641 73
Federal street.....	1,783 33	8,840 65	10,623 98
Granite.....	61 53	243 80	305 33
L street	576 16	7,030 17	7,606 33
Malden	136 79	8,067 98	8,204 77
Meridian street.....	666 72	6,804 21	7,470 93
Mt. Washington avenue.....	1,073 32	8,126 52	9,199 84
Neponset	753 61	406 51	1,160 12
North Beacon street	1,062 44	101 76	1,164 20
Summer street	712 16	8,460 16	9,172 32
Warren	2,033 16	8,377 66	10,410 82
Western avenue to Watertown.	257 69	101 76	359 45
Winthrop	67 72	100 00	167 72
Sundry expenditures.....	233 49	547 98	781 47
Public landings.....		687 50	687 50
Totals.....	\$15,034 37	\$108,589 63	\$123,624 00

Table showing Expenditures on the Inland Bridges, from
February 1, 1902, to January 31, 1903.

NAME OF BRIDGE.	Repairs, Labor, Lumber, Ironwork, and Painting.
Albany street	\$30 89
Allston	168 70
Atlantic avenue (fence at Commercial wharf)	76 43
Atlantic avenue (fence at India wharf)	35 96
Baker street	38 30
Beacon street (over B. & A. R.R.)	30 58
Blakemore street	12 24
Bolton street	5 00
Boston street	110 24
Boylston street (over B. & A. R.R.)	1,005 10
Broadway (over B. & A. R.R.)	713 24
Brookline avenue (over B. & A. R.R.)	37 85
Central avenue	34 13
Cohasset street (culvert)	20 30

NAME OF BRIDGE.	Repairs, Labor, Lumber, Ironwork, and Painting.
Columbus avenue	\$1,552 78
Cottage street	670 60
Dartmouth street	736 00
Dorchester street	29 58
Everett street	539 45
Ferdinand street	118 93
Harvard street	2 00
Huntington avenue	330 75
Hyde Park avenue	105 32
Keyes street	7 90
Leyden street	16 75
Linden Park street	286 26
Massachusetts avenue (over B. & A. R.R.)	184 18
Massachusetts avenue (over N.Y., N.H. & H. R.R., Providence Division)	75 99
Shawmut avenue	1,162 26
Southampton street (west of railroad)	271 83
West Fourth street	2,015 66
West Newton street	1,000 62
Williams street	42 00
Sundry expenditures	935 44
Total	<u>\$12,403 26</u>

MAINTENANCE EXPENSES AT NORTH AND SOUTH YARDS.

NORTH YARD, DISTRICT NO. 1.

Warren Bridge.

Messenger, janitor, electrician, and watchman	\$3,103 40	
Repairing buildings and steam pipes	368 62	
Supplies	124 48	
	<u> </u>	\$3,596 50

STABLE, DISTRICT NO. 1.

Warren Bridge.

Teamster, driver, and hostlers	\$2,390 75	
Repairing vehicles, horseshoeing, feed, and supplies	931 06	
	<u> </u>	3,321 81
Total expended, North Yard and Stable		<u>\$6,918 31</u>

SOUTH YARD, DISTRICT NO. 2.

Nos. 168 and 170 Broadway Extension.

Yardman, electrician, janitor, and watchman	\$4,485 85	
Repairing building	77 15	
Tools and supplies	344 64	
	<u> </u>	\$4,907 64

STABLE, DISTRICT NO. 2.

Nos. 168 and 170 Broadway Extension.

Teamster, driver, and stableman	\$2,452 48	
Repairing vehicles, horseshoeing, feed, veterinary service, and supplies	1,817 57	
Buggy, caravan, harness, and horse	642 50	
	<u> </u>	4,912 55
Total expended, South Yard and Stable		<u><u>\$9,820 19</u></u>

SPECIAL APPROPRIATIONS.

IN CHARGE OF BRIDGE DIVISION.

Congress-street bridge, repairs.

Labor	\$1,089 81	
Material	1,717 68	
	<u> </u>	
Amount expended January 31, 1903		\$2,807 49
Balance		2,081 14
		<u> </u>
Balance of Appropriation (February 1, 1902)		<u><u>\$4,888 63</u></u>

CONSTRUCTION OF PIERS, BRIDGE DIVISION.

Warren bridge.

Labor	\$216 50	
Material	1,150 10	
	<u> </u>	\$1,366 60

Tide-water bridges.

Material		91 39
		<u> </u>
Amount expended January 31, 1903		\$1,457 99
Balance		8,542 01
		<u> </u>
Appropriation		<u><u>\$10,000 00</u></u>

Cottage-street bridge, improvement of.

Labor	\$4,823 33	
Material	92 10	
		<hr/>
Amount expended January 31, 1903		\$4,915 43
Balance		1,584 57
		<hr/>
Appropriation		<u>\$6,500 00</u>

ELECTRIC INSTALLATION AND CONSTRUCTION, BRIDGE DIVISION.**Charlestown bridge.**

Labor	\$36 00	
Material	1 13	
		<hr/>
		\$37 13

Chelsea [North] bridge.

Labor		66 00
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Dover-street bridge.

Labor		48 00
-----------------	--	-------

Federal-street bridge.

Labor	\$66 00	
Material	511 00	
		<hr/>
		577 00

Malden bridge.

Labor		48 00
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Meridian-street bridge.

Labor	\$72 00	
Material	290 45	
		<hr/>
		362 45

Amount expended January 31, 1903,		\$1,138 58
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Balance		1,861 42
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Appropriation		<u>\$3,000 00</u>
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NEW TRUCKS, BRIDGE DIVISION.

Chelsea [North] bridge, material	\$280 00	
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Federal-street bridge, material	560 00	
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Malden bridge, material	280 00	
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Summer-street bridge, material	280 00	
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Amount expended January 31, 1903		\$1,400 00
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Balance		1,100 00
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Appropriation		<u>\$2,500 00</u>
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SPECIAL APPROPRIATIONS IN CHARGE OF OTHER DIVISIONS.

Broadway draw-bridge, repairing
temporary foot-bridge.

Labor	\$38 00	
Material	159 61	
Charged to Broadway bridge, rebuilding		\$197 61

AWARDS OF COMMITTEE ON CLAIMS.

Michael Driscoll, injuries received	\$50 00	
Delong, Seaman & Co., damage to schooner "Adelaide"	51 37	
Charged to "Reserve Fund"		\$101 37

LIST OF BOSTON BRIDGES.

I. — BRIDGES WHOLLY MAINTAINED BY BOSTON.

[In the list those marked with an asterisk (*) are over navigable waters, and are each provided with a draw.]

In Charge of Bridge Division.

- Allston, over Boston & Albany Railroad at Cambridge street, Brighton.
- Ashland street, over N. Y., N. H. & H. Railroad, Providence Division, West Roxbury.
- Athens street, over N. Y., N. H. & H. Railroad, Midland Division.
- Baker street, at Brook Farm, West Roxbury.
- Beacon street, over outlet to Back Bay Fens.
- Beacon street, over Boston & Albany Railroad.
- Bennington street, over Boston, Revere Beach & Lynn Railroad.
- Berkeley street, over Boston & Albany Railroad.
- Berwick park (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.
- Blakemore street, over N. Y., N. H. & H. Railroad, Providence Division.
- Bolton street, over N. Y., N. H. & H. Railroad, Midland Division.
- Boylston street, over Boston & Albany Railroad.
- * Broadway, over Fort Point channel.
- Broadway, over Boston & Albany Railroad.
- Brookline avenue, over Boston & Albany Railroad.
- Byron street, over Boston, Revere Beach & Lynn Railroad.
- Charlesgate, over Ipswich street.

- * Charlestown, from Boston to Charlestown.
- * Chelsea [South] over south channel, Mystic river.
- * Chelsea street, from East Boston to Chelsea.
- Columbus avenue, over Boston & Albany Railroad.
- * Commercial Point, or Tenean, Dorchester.
- * Congress street, over Fort Point channel.
- Cottage Farm, over Boston & Albany Railroad, at Commonwealth avenue.
- Cottage street (foot-bridge), over flats, East Boston.
- Dartmouth street, over Boston & Albany Railroad.
- * Dover street, over Fort Point channel.
- Elmwood street (private way), over Stony brook, Roxbury.
- * Federal street, over Fort Point channel.
- Ferdinand street, over Boston & Albany Railroad.
- Florence street, over Stony brook, West Roxbury.
- Gold street (foot-bridge), over N. Y., N. H. & H. Railroad, Midland Division.
- Huntington avenue, over Boston & Albany Railroad.
- Hyde Park avenue, over Stony brook, West Roxbury.
- Ipswich street, over waterway.
- Irvington street (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.
- Keys street, over Stony brook, West Roxbury.
- * L street, over reserved channel at junction of Congress and L streets.
- Linden Park, over Stony brook, Roxbury.
- * Malden, from Charlestown to Everett.
- Massachusetts avenue, over Boston & Albany Railroad.
- Massachusetts avenue, over N. Y., N. H. & H. Railroad, Providence Division.
- * Meridian street, from East Boston to Chelsea.
- * Mount Washington avenue, over Fort Point channel.
- Shawmut avenue, over Boston & Albany and N. Y., N. H. & H. Railroad, Providence Division.
- Silver street, over N. Y., N. H. & H. Railroad, Midland Division.
- Southampton street, east of N. Y., N. H. & H. Railroad, Midland Division.
- Southampton street, west of N. Y., N. H. & H. Railroad, Midland Division.
- Summer street, over A street.
- Summer street, over B street.
- Summer street, over C street.
- * Summer street, over Fort Point channel.
- * Warren, from Boston to Charlestown.
- West Newton street, over N. Y., N. H. & H. Railroad, Providence Division.
- West Rutland square (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.
- Williams street, over Stony brook, West Roxbury.
- Winthrop, from Breed's Island to Winthrop.

In Charge of Park Department.

Agassiz, in Fens.
 Audubon, in Riverway, over Boston & Albany Railroad.
 Boylston, in Fens, over waterway.
 Bridle-path, in Riverway, over Muddy river.
 * Castle Island, in Marine Park, South Boston to Castle Island.
 Chapel Arch, in Riverway.
 Charlesgate, in Fens, over Boston & Albany Railroad.
 Commonwealth avenue, in Fens, over waterway.
 Ellicot Arch, in Franklin Park.
 Fen, in Fens.
 Forest Hills, in Franklin Park.
 Leverett Pond (foot) in Leverett Park.
 Neptune, in Wood Island Park, over Boston, Revere Beach & Lynn Railroad.
 Overlook Arch, in Franklin Park.
 Railroad Viaduct, in Arborway.
 Scarboro', in Franklin Park.
 Scarboro' pond (foot) in Franklin Park.
 Stony brook, in Arborway.
 Stony brook, in Fens.
 Wood Island (foot), in Wood Island Park.

In Charge of Public Grounds Department.

Public Garden (foot-bridge).

II. — BRIDGES OF WHICH BOSTON MAINTAINS THE PART WITHIN ITS LIMITS.

In Charge of Bridge Division.

Central Avenue, from Dorchester to Milton.
 * Chelsea [North], from Charlestown to Chelsea.
 * Granite, from Dorchester to Milton.
 Mattapan, from Dorchester to Milton.
 Milton, from Dorchester to Milton.
 * Neponset, from Dorchester to Quincy.
 * North Beacon street, from Brighton to Watertown.
 Spring street, from West Roxbury to Dedham.
 * Western avenue, from Brighton to Watertown.

In Charge of Park Department.

Bellevue, in the Riverway, over Muddy river.
 Brookline avenue, in the Riverway, over Muddy river.
 Chapel, in the Riverway, over Muddy river.
 Longwood, in the Riverway, over Muddy river.
 Tremont street, in the Riverway, over Muddy river.

III. — BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

In Charge of Bridge Division.

Albany street, over Boston & Albany Railroad.

Ashmont, junction Dorchester avenue and Talbot avenue, over N. Y., N. H. & H. Railroad, Plymouth Division (75 feet south of northerly end).

Dorchester street, over N. Y., N. H. & H. Railroad, Plymouth Division.

Harvard street, over N. Y., N. H. & H. Railroad, Midland Division (sidewalks).

In Charge of Commissioners of Cambridge Bridges.

* Cambridge street, from Brighton to Cambridge.

* Canal, from Boston to Cambridge.

* Essex street, from Brighton to Cambridge.

* Harvard, from Boston to Cambridge.

* North Harvard street, from Brighton to Cambridge.

* Prison Point, from Charlestown to Cambridge.

* West Boston, from Boston to Cambridge.

* Western avenue, from Brighton to Cambridge.

IV. — BRIDGES OF WHICH BOSTON MAINTAINS THE WEARING SURFACE.

In Charge of Bridge Division.

Boston street, over N. Y., N. H. & H. Railroad, Plymouth Division.

Cambridge street, over Boston & Maine Railroad.

Chelsea bridge, over Boston & Maine Railroad.

Dorchester avenue, over N. Y., N. H. & H. Railroad, Plymouth Division.

Everett street, over Boston & Albany Railroad, Brighton.

Perkins street (foot-bridge), over Boston & Maine Railroad.

Summer street, over N. Y., N. H. & H. Railroad, Midland Division.

Southampton street, over N. Y., N. H. & H. Railroad, Plymouth Division.

West Fourth street, over N. Y., N. H. & H. Railroad, Plymouth Division.

V. — BRIDGES MAINTAINED BY RAILROAD CORPORATIONS.

1st. — Boston & Albany Railroad.

Harrison avenue.

Market street, Brighton.

Tremont street.

Washington street.

2d. — Boston & Maine and Boston & Albany Railroads.

Main street.
Mystic avenue.

3d. — Boston & Maine Railroad, Eastern Division.

Wauwatosa avenue, East Boston.

4th. — Boston, Revere Beach & Lynn Railroad.

Everett street.

5th. — New York, New Haven & Hartford Railroad, Midland Division.

Dorchester avenue.
Morton street, Dorchester.
Norfolk street, Dorchester [North].
Norfolk street, Dorchester [South].
Washington street, Dorchester.
West Broadway.
West Fifth street.
West Fourth street.
West Second street.
West Sixth street.
West Third street.

6th. — New York, New Haven & Hartford Railroad, Plymouth Division.

Adams street.
Freeport street.
Medway street.
Savin Hill avenue.

7th. — New York, New Haven & Hartford Railroad, Providence Division.

Albany street (new part).
Beech street, West Roxbury.
Bellevue street, West Roxbury.
Berkeley street (new part).
Broadway (new part).
Canterbury street, West Roxbury.
Castle street.
Centre and Mt. Vernon street, West Roxbury.
Chandler street.
Columbus avenue (new part).
Dartmouth street (new part).
Dudley avenue, West Roxbury.
Ferdinand street (new part).

Harrison avenue (new part).
 Park street, West Roxbury.
 Tremont street (new part).
 Washington street (new part).

RECAPITULATION OF BRIDGES.

I.	Number wholly maintained by Boston :		
	In charge of Bridge Division	57	
	In charge of Park Department	20	
	In charge of Public Grounds Department,	1	
		—	78
II.	Number of which Boston maintains the part within its limits :		
	In charge of Bridge Division	9	
	In charge of Park Department	5	
		—	14
III.	Number of which Boston pays a part of the cost of maintenance :		
	In charge of Bridge Division	4	
	In charge of Commissioners of Boston and Cambridge Bridges	8	
		—	12
IV.	Number of which Boston maintains the wear- ing surface :		
	In charge of Bridge Division	9	
		—	9
V.	Number maintained by railroad corporations :		
	1. Boston & Albany	4	
	2. Boston & Maine and Boston & Albany Railroads	2	
	3. Boston & Maine, Eastern Division	1	
	4. Boston, Revere Beach & Lynn	1	
	5. New York, New Haven & Hartford, Midland Division	11	
	6. New York, New Haven & Hartford, Plymouth Division	4	
	7. New York, New Haven & Hartford, Providence Division	17	
		—	40
	Total number		<u>153</u>

PUBLIC LANDING-PLACES.

The following public landing-places have been built by the city, and are maintained and controlled by the Bridge Division.

East Boston Public Landing. — Size, 18 × 30. Built in 1893. Moored at dock of The Atlantic Works. Dock and flats leased at \$250 per year.

Jefferies' Point, East Boston. — Size, 20 × 50. Moored from Fitzpatrick's Wharf; \$350 per year.

CABLE-HOUSES AND BOXES.

The following is a list of cable-houses and boxes on bridges in charge of this division:

New England Telephone and Telegraph Company:

- Chelsea [South] bridge, 1 house.
- Congress-street bridge, 2 houses.
- Dover-street bridge, 2 houses or boxes.
- Chelsea [North] bridge, 1 box.
- Chelsea-street bridge, 1 box.
- Malden bridge, 4 boxes.
- Meridian-street bridge, 2 boxes.
- Neponset bridge, 2 boxes on poles.
- Warren bridge, 2 boxes.

American Telephone and Telegraph Company:

- Federal-street bridge, 1 house.
- Mt. Washington-avenue bridge, 2 boxes.
- Neponset bridge, 1 box on pole.
- Summer-street bridge, 1 box.

Merchants' Telegraph Company:

- Congress-street bridge, 2 boxes.

Postal Telegraph Cable Company:

- Congress-street bridge, 2 houses.
- Malden bridge, 2 boxes.
- Warren bridge, 2 boxes.

Boston Electric Light Company:

- Congress-street bridge, 2 boxes.

Lynn & Boston Railroad Company:

- Chelsea [North] bridge, 4 boxes.
- Chelsea [South] bridge, 8 boxes.

Boston Elevated Railway Company:

- Cambridge-street bridge, 1 house.
- Dover-street bridge, 1 house, 1 box.
- Federal-street bridge, 2 houses.
- Malden bridge, 2 houses.
- Warren bridge, 2 houses.

Boston Police Department:

- Chelsea [South] bridge, 1 box.
- Malden bridge, 2 boxes.

Boston Fire Department:

- Chelsea [North] bridge, 1 box.
- Dover-street bridge, 1 house, 1 box.
- Meridian-street bridge, 2 boxes.
- Warren bridge, 2 boxes.

LAND AND BUILDINGS, IN CHARGE OF BRIDGE DIVISION.

- Broadway Bridge.* — Draw-house, engine-room, and storehouse.
Land, Broadway and Dorchester avenue, containing 5,516 feet, on which is a brick stable and workshop.
- Charlestown Bridge.* — Draw-house, electrical power-room, and six storehouses.
- Chelsea [North] Bridge.* — Draw-house, storehouse and tool-house.
- Chelsea [South] Bridge.* — Draw-house, engine-house and tool-house.
- Chelsea-street Bridge.* — Tool-house.
- Congress-street Bridge.* — Draw-house, storehouse, tool-house and two shelter-houses.
- Cottage-street (foot-bridge).* — Watchman's house.
- Dover-street Bridge.* — Draw-house and storeroom.
- Federal-street Bridge.* — Draw-house, tool-house, two motor-houses, one controller-house.
- L-street Bridge.* — Draw-house, engine-house.
- Malden Bridge.* — Draw-house and tool-house.
- Meridian-street Bridge.* — Draw-house, tool-house and storehouse.
- Mt. Washington-avenue Bridge.* — Draw-house and tool-house.
- Neponset Bridge.* — Tool-house.
- Summer-street Bridge.* — Draw-house, controller-house, two shelter-houses.
- Warren Bridge.* — Stable, draw-house, engine-house, boiler-house, tool-house.
- Western-avenue Bridge to Watertown.* — Tool-house.

List of Small Bridges or Culverts having Wooden Tops, which are Repaired by Bridge Division. — Walls Repaired and Openings Cleaned by Sewer Division.

LOCATION.	Span.	Height of Opening.	Length.	Side Walls	Covering.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>		
Ashland street and Canterbury, near Calvary Cemetery, West Roxbury.....	7.6	5.5	75	Stone....	Wood.
Beach street, near Arawan avenue, at Central Station, West Roxbury.....	4.0	4.0	50	Stone....	Wood.
Cass street, near Spring-street Station, West Roxbury.....	7.0	3.0	21	Stone....	Wood.
Cohasset street, Roslindale.....	14.0	7.5	60	Stone....	Wood.
Gardner street, near Cow Island, West Roxbury.....	5.0	5.5	33	Wood....	Wood.
Jamaica street, Jamaica Plain.....	10.0	4.0	39	Stone....	Wood.
Park street, west of Dorchester avenue, Dorchester.....	5.0	3.7	50	Stone....	Wood.
Park street, west of New York, New Haven & Hartford Railroad, Dorchester....	8.5	5.0	50	Stone....	Wood.
Spring street, near Spring-street Station, West Roxbury.....	2.7	2.7	63	Stone....	Wood.
Summer street, near Spring-street Station, West Roxbury.....	4.0	4.5	40	Stone....	Wood.
Williams street, at Stony brook, West Roxbury.....	5.0	5.0	50	Wood....	Wood.
Woodman street, Jamaica Plain.....	6.3	4.0	65	Stone....	Wood.

Table showing Width of Bridges, kind of Roadways, Sidewalks, etc., on Tide-water Bridges, 1902.

NAME OF BRIDGE.	Width of Bridge.		ROADWAY.		SIDEWALKS.	
	Width.	Kind of Roadway.	No.	Width.	Kind of Walks.	
	<i>Ft. In.</i>	<i>Ft. In.</i>		<i>Ft. In.</i>		
Broadway.....	60 0	40 0	Plank	2	10 0	Coal-tar concrete.
Cambridge street.....	40 0	32 9	"	1	6 0	Plank.
Canal.....	64 0	48 0	Paved.....	2	8 0	Brick.
Charlestown.....	100 0	{ 127 9 122 0 127 9 }	"	2	10 0	Asphalt.
Chelsea, North.....	49 0	40 0	"	1	8 0	Coal-tar concrete and plank.
" South.....	50 3	41 2	"	1	8 0	Plank.
" street.....	30 0	23 2	Plank	1	6 0	"
Commercial point.....	about 34 0	about 27 0	" .....	.....	
Congress street.....	60 0	44 0	Paved.....	2	8 0	Coal-tar concrete.
Dover st. (over water)	60 0	40 0	"	2	10 0	Asphalt.
Essex street.....	31 0	22 8	Plank	1	7 6	Plank.
Federal street.....	69 0	49 0	Paved.....	2	10 0	Asphalt.
Granite.....	30 2	24 4	Plank	1	5 0	Plank.
Harvard.....	69 4	51 0	"	2	9 2	Asphalt.
L street.....	60 0	44 0	Paved.....	2	8 0	"
Malden.....	{ 60 0 to 67 6 }	44 0	"	2	8 0	Composition.
Meridian street.....	50 0	36 0	"	2	7 0	Coal-tar concrete,
Mt. Washington ave..	61 0	39 6	"	2	10 9	" "
Neponset.....	30 0	23 10	Plank	1	5 5	Plank.
North Beacon street ..	31 0	25 2	"	1	5 0	"
North Harvard street,	23 2	26 7	" .....	.....	
Prison Point.....	50 0	36 0	{ Plank part } { Paved part }	2	7 0	Coal-tar concrete.
Summer street.....	100 0	76 0	" entire..	2	12 0	Asphalt.
Warren.....	80 0	60 0	Paved.....	2	10 0	Coal-tar concrete.
Western avenue to Cambridge.....	33 2	25 3	Plank	1	6 0	Plank.
Western avenue to Watertown.....	33 0	24 2	"	1	8 0	"
Winthrop.....	24 2	19 10	"	1	3 7	"
West Boston (old bridge).....	50 0	36 0	Paved.....	2	7 0	Brick.

Table showing the Widths of Openings for Vessels in all Bridges Provided with Draws in the City of Boston, 1902.

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Boston & Maine R.R., Eastern Division.....	Boston to Charlestown.....	1	39 feet 7 inches.
Boston & Maine R.R., Eastern Division.....	Over Miller's river.....	1	35 " 9 "
Boston & Maine R.R., Fitchburg Division.....	Boston to Charlestown....	1	36 " 0 "
Boston & Maine R.R., Fitchburg Division (for teaming freight)..	" "	1	36 " 0 "
Boston & Maine R.R. (freight), Southern Division.....	Boston to East Cambridge,	1	40 " 2 "
Boston & Maine R.R. (passenger), Southern Division.....	" "	1	39 " 7 "
Boston & Maine R.R., Western Division.....	Boston to Charlestown.....	1	39 " 7 "
Boston & Maine R.R., Western Division.....	Over Miller's river.....	1	35 " 10 "
Broadway.....	Over Fort Point channel....	1	43 " 0 "
Cambridge street.....	Brighton to Cambridge....	1	36 " 4 "
Canal (or Craigie's)	Boston to East Cambridge,	1	36 " 0 "
Charlestown (main channel)....	Boston to Charlestown.....	2	50 " 0 "
Charlestown (north channel)...	" "	50	" 0 "
Chelsea (south channel).....	Charlestown to Chelsea....	1	38 " 10 "
Chelsea (north channel).....	" "	1	60 " 0 "
Chelsea street (East Boston side)	East Boston to Chelsea....	2	36 " 0 "
Chelsea street (Chelsea side)....	" "	36	" 0 "
Commercial Point (or Tenean)...	Dorchester.....	1	24 " 2 "
Congress street (Boston side)....	Over Fort Point channel....	2	43 " 3 "
Congress st. (South Boston side),	" " "	43	" 9 "
Dover street.....	" " "	1	37 " 0 "
Essex street.....	Brighton to Cambridge....	1	36 " 0 "
Federal street.....	Over Fort Point channel....	1	41 " 6 "
Grand Junction R.R.....	Brighton to Cambridge....	1	36 " 0 "
Grand Junction R.R.....	East Boston to Chelsea....	1	49 " 2 "
Granite.....	Dorchester to Milton	1	36 " 0 "
Harvard (Boston side).....	Boston to Cambridge.....	2	36 " 6 "
Harvard (Cambridge side).....	" "	36	" 10 "
L street.....	Over Reserved channel, South Boston.....	1	39 " 9 "
Malden.....	Charlestown to Everett....	1	50 " 0 "

Table showing Width of Openings, etc.—*Concluded.*

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Meridian st. (East Boston side) ..	East Boston to Chelsea....	2	59 feet 2 inches.
Meridian street (Chelsea side)....	“ “		59 “ 0 “
Mt. Washington avenue (Boston side)	Over Fort Point channel... ..	2	42 “ 2 “
Mt. Washington avenue (South Boston side)	“ “ “		43 “ 7 “
Neponset.....	Dorchester to Quincy.....	2	36 “ 0 “
New York, New Haven & Hartford R.R.	Over South Bay.....	1	28 “ 4 “
New York, New Haven & Hartford R.R., Y-connection.....	Over Fort Point channel... ..	1	41 “ 10 “
New York, New Haven & Hartford R.R.	“ “ “		41 “ 5 “
New York, New Haven & Hartford R.R.	Dorchester to Quincy.....	1	35 “ 10 “
North Beacon street.....	Brighton to Watertown....	1	30 “ 0 “
North Harvard street.....	Brighton to Cambridge....	1	36 “ 0 “
Prison Point.....	Charlestown to Cambridge, ..	1	36 “ 0 “
Summer street	Over Fort Point channel... ..	1	50 “ 0 “
Warren.....	Boston to Charlestown	1	36 “ 0 “
West Boston (temporary)	Boston to Cambridge.....	1	36 “ 0 “
Western avenue.....	Brighton to Cambridge....	1	36 “ 0 “
Western avenue.....	Brighton to Watertown....	1	35 “ 10 “

DRAWTENDERS' REPORTS.*

Giving Number of Vessels passing through the Drawbridges Controlled by the City of Boston from February 1, 1902, to January 31, 1903, Inclusive.

BRIDGE.	STEAMERS.		SAILING VESSELS.			TUGS.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Cargoes.	Total Number of Openings.	
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.			Total.
Broadway.....	5	1	6	1,346	240	1,586	638	5,156	2,069	347	2,409	7,931	1,226	9,157	1,958	4,497	
Charlestown.....	.....	.....	.....	905	360	1,265	3,110	3,907	1,447	460	1,907	5,462	1,617	7,079	1,476	1,902
Chelsea (North).....	424	19	443	728	54	782	7,119	647	3,409	417	3,826	11,680	1,437	12,817	2,304	7,824	
Chelsea (South).....	29	1	30	635	31	726	3,591	3,789	1,996	90	2,086	6,311	320	6,631	1,508	4,772	
Chelsea street.....	2	.....	2	4	.....	4	178	21	199	217	267	401	71	472	125	210
Commercial Point.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Congress street.....	66	7	73	1,619	247	1,866	6,870	7,868	2,890	463	3,353	11,445	1,515	13,160	2,380	6,777	
Dover street.....	4	.....	4	1,211	179	1,390	4,029	4,557	1,675	293	1,968	6,919	1,000	7,319	1,674	4,961
Federal street.....	6	.....	6	1,232	267	1,539	4,571	5,338	1,922	380	2,302	7,791	1,414	9,205	1,908	5,156
Granite.....	.....	.....	.....	33	.....	33	165	1	166	.....	66	264	1	265	40	172
L street.....	.....	.....	.....	280	52	332	3,043	3,398	1,767	341	2,108	5,090	748	5,838	701	4,121
Malden.....	.....	.....	.....	222	10	232	1,628	1,756	933	98	1,031	2,783	236	3,019	547	1,656
Meridian street.....	58	9	67	396	25	331	5,757	1,116	6,873	539	3,434	8,716	1,689	10,405	1,365	6,522	
Mt. Washington avenue.....	61	9	70	1,476	233	1,709	6,204	846	2,497	439	2,936	10,238	1,627	11,765	2,318	6,696	
Neponset.....	.....	.....	.....	43	6	49	160	164	52	1	53	255	11	266	49	176
North Beacon street.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Summer street.....	66	7	73	1,730	249	1,979	6,856	7,851	2,772	460	3,232	11,424	1,711	13,135	2,381	6,786	
Warren.....	7	.....	7	876	336	1,212	2,501	3,222	1,237	387	1,624	4,711	1,354	6,065	1,323	3,811
Western avenue to Watertown.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	728	53	781	12,766	2,289	15,055	60,452	69,122	27,571	4,765	32,336	101,517	15,777	117,294	22,074	65,710	

* West Boston, Cambridge street, Essex street, North Harvard street, Western avenue to Cambridge, Prison Point, Canal (Craigie's) and Harvard Bridges are not included in this table, being in the care of commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

DRAWTENDERS' REPORTS.*

Giving Number of Vessels passing through Drawbridges Controlled by the City of Boston from February 1, 1898, to January 31, 1903, Inclusive.

NAME OF BRIDGE.	STEAMERS.				SAILING VESSELS.				TUGS.				ALL OTHERS.				TOTAL NUMBER OF VESSELS.				TOTALS						
	1898	1899	1900	1901	1902	1898	1899	1900	1901	1902	1898	1899	1900	1901	1902	1898	1899	1900	1901	1902							
	13	4	8	4	6	2,403	2,309	1,630	1,719	1,586	3,035	3,954	3,866	4,558	5,156	1,236	1,783	1,913	2,140	2,409		6,687	8,050	7,417	8,421	9,157	
Broadway.....	34	55	...	...	...	4,753	3,769	3,866	4,558	5,156	2,912	2,101	1,913	2,140	2,409	9,710	7,633	7,417	8,421	9,157	32,732	39,732	34,016	34,016	34,016	34,016	
Charles River.....	99	245	518	504	443	7,892	6,986	9,411	7,884	7,766	4,748	3,123	3,826	3,826	3,826	13,982	11,304	14,954	12,400	12,817	65,957	65,957	65,957	65,957	65,957	65,957	
Chelsea (North).....	39	8	40	6	30	3,202	3,369	3,155	3,789	1,120	1,275	1,521	1,652	2,086	5,556	5,655	5,977	5,481	6,631	6,631	29,300	29,300	29,300	29,300	29,300	29,300	
Chelsea (South).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chelsea street.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Commercial Point.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Congress street.....	70	113	91	112	73	3,431	2,765	1,916	1,970	1,866	8,418	8,185	8,129	7,868	3,296	3,034	3,089	3,275	3,353	3,353	15,205	14,097	12,359	13,495	13,160	68,316	
Dover street.....	15	16	10	10	6	2,543	2,378	1,633	1,765	1,659	5,764	4,177	4,083	4,887	5,338	1,593	1,717	1,875	2,049	2,302	7,861	8,318	7,577	8,221	9,205	41,682	
Federal street.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Granite.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
L street.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malden.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meridian street.....	58	83	68	105	67	533	437	487	487	487	1,487	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	1,378	5,607	5,607	5,607	5,607	5,607	5,607	5,607
Mt. Wash. avenue.....	69	83	59	85	70	2,857	2,486	1,717	1,811	1,709	6,154	6,797	6,154	5,875	6,875	3,199	3,251	3,161	2,806	3,134	9,219	9,439	10,165	9,192	10,409	48,480	
Neposset.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. Beacon street.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Summer street.....	36	32	12	7	1,834	1,834	1,834	1,834	1,834	1,834	7,160	8,128	7,851	7,851	7,851	7,851	7,851	7,851	7,851	7,851	2	2	2	2	2	2	2
Warren.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Watertown.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals.....	447	645	991	956	781	21,072	18,990	16,584	16,242	15,055	62,859	55,568	64,684	67,393	63,122	26,475	26,778	31,260	32,610	32,536	100,853	101,481	113,519	117,131	117,294	550,778	

* West Boston, Cambridge street, Essex street, North Harvard street, Western avenue to Cambridge, Priston Point, Canal (Craigie's), and Harvard Bridges are not included in this table, being in care of Commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

APPENDIX B.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE FERRY DIVISION.

NORTH FERRY, EAST BOSTON, February 1, 1903.

MR. JAMES DONOVAN,

Superintendent of Streets :

DEAR SIR, — I herewith submit the annual report of the expenditures, income, and operation of the Ferry Division, for the financial year ending January 31, 1903, also the amount of property in the care of the division and the condition of the same.

Upon assuming charge of this division, an investigation was made of the condition of the boats, piers, and buildings by a commission of three disinterested men, who reported that the whole plant needed a general overhauling and renovation, especially the machinery on the boats, and in addition to their recommendations it was found that there were many other matters that needed attention, which have been attended to.

Two new shafts have been put in the "General Hancock," her main deck calked, the dynamo and electric lights taken out of the "Revere" and transferred to her.

The "D. D. Kelly" was put on the railway and her hull patched and cleaned and main deck calked.

The main deck of the "Hugh O'Brien" was calked.

The "Revere" was put on the railway and her hull patched and cleaned and rudders straightened.

The "Governor Russell" was put on the railway and four new propeller blades put on.

The "Noddle Island" and "General Summer" were put on the railway and their hulls calked and metalled for the first time. Both main decks were also calked.

In addition to the above work, the machinery and woodwork of all the boats except the "Revere" were thoroughly overhauled and repaired and painted from the hull up.

The coal-pocket at South Ferry, East Boston side, was seriously damaged by fire in September, 1901, and cost to repair in 1902 about \$2,000. Proper ventilation has been put into this pocket now, and the chances of it taking fire again have been greatly reduced.

In the future a first-class grade of coal should be purchased, as experience teaches that the better the coal the less liability there is of spontaneous combustion and better results for steam purposes. If the price of coal should advance very considerably during the coming year on account of strikes it will hamper this division greatly, as we use about 12,000 tons during the year, which must be paid from the maintenance fund.

Speaking of the increase in expenditures, it is well to add that the cost of supplies (other than coal) has advanced almost one-third in the past few years, and on account of the many improved facilities, running extra boats, etc., a large amount of extra supplies has necessarily been used.

Steam heating fixtures have been extended so as to practically abolish the use of stoves in the division, something long looked for, as heat from stoves for our extensive ferry plant, besides being very dangerous to life and property, was extremely unsatisfactory, and the cause of much complaint from the citizens.

Considerable complaint was made at the beginning of the year on account of the unclean condition of the head-houses and boats, and an extra force was put at work to remedy the trouble.

The working force (all the employees of the division) have been placed on an eight-hour basis, to comply with the law.

Because of these reasons the regular force of the division had to be increased, and a careful examination of the work of this division will show more work done during the past year than ever before, and the plant in good working condition, with the exception of the middle pier at the North Ferry, East Boston side, which should be replaced as soon as possible during the year, as it is now in a dangerous condition, and the three piers at the South Ferry, Boston side, which should be replaced by new ones at once, and the head-house should be moved to one side, as at the other landings.

The increase in receipts over 1901 was \$6,310.26, and there were over 500,000 more passengers carried than in the preceding year.

The following steam ferry-boats are in commission :

Name.	When built.	Kind.	Length.
Revere.....	1875.	Side-wheel.	148 ft.
D. D. Kelly.....	1879.	“	148 “
Hugh O'Brien.....	1883.	“	163 “
General Hancock.....	1887.	“	148 “
Noddle Island.....	1899.	Propeller.	164 “ 3 in.
Governor Russell.....	1900.	“	164 “ 3 in.
General Sumner.....	1900.	“	164 “ 3 in.

Respectfully yours,

WM. J. DONOVAN,

Deputy Superintendent.

Ferry Division of the Street Department.*Consolidated Financial Statement for the Year 1902-3.*

1. RECEIPTS.

Total cash receipts during the year	\$173,192 73
Cash in hands of tollmen at beginning of the year	575 00
	<hr/>
Total	\$173,767 73
Cash paid over to City Collector	\$173,189 88
Counterfeit money received and destroyed	2 85
	<hr/>
	173,192 73
	<hr/>
Balance of cash on hand at end of year	<u>\$575 00</u>

2. APPROPRIATIONS AND EXPENDITURES.

Balance unexpended from previous years (loans)	\$10,639 71
Received from City Treasurer by transfer	7,688 29
* Total appropriations of all kinds	320,000 00
	<hr/>
	\$338,328 00
* Total expenditures of all kinds	296,978 99
	<hr/>
Balance unexpended (loans)	<u>\$41,349 01</u>

3. RESULT OF OPERATIONS FOR THE YEAR.

Receipts paid over to City Collector as above (net income)	\$173,189 88
Ordinary expenses	\$227,688 29
Extraordinary expenses (special appropriations)	69,290 70
Interest on ferry debts	15,003 00
Depreciation on boats	17,115 05
Decrease of stock of supplies	3,218 13
	<hr/>
Total debits	\$332,315 17
Appreciation of real estate (assessors' figures) credit	30,800 00
	<hr/>
Net outgo for the year	301,515 17
	<hr/>
Net loss for the year	<u>\$128,325 29</u>

* Details of appropriations and expenditures given in Table 5.

4. Balance Sheet.

End of fiscal year, January 31, 1903.

ASSETS.		LIABILITIES.	
AVAILABLE ASSETS:		CURRENT LIABILITIES:	
Cash on hand.....	\$575 00	None.	
Accounts receivable.....	62 50		
Inventory of supplies, etc., on hand.....	7,153 65		
	\$7,791 15		
TOTAL AVAILABLE ASSETS		CONTINGENT LIABILITIES:	
CONTINGENT ASSETS:		Appropriations account.....	\$41,349 01
City treasury, balance of appropriations.....	41,349 01	FIXED LIABILITIES:	
FIXED ASSETS:		Capital of the city invested in the ferries.....	3,337,779 86
Real estate and buildings*.....	† 577,400 00	Viz.: Total expenditures all	
Ferry-boats †.....	268,135 80	kinds for 45 years, including	
Machinery and tools	300 00	interest on debts.....	\$9,020,811 64
		Less total receipts.....	5,683,031 78
TOTAL TANGIBLE ASSETS	\$894,975 96		
Avenues, etc., East Boston \$.....	315,815 68		
Deficiency or loss by operation and maintenance			
of the ferries to date.....	2,108,337 23		
	\$8,379,128 87		

* Original purchase of ferries..... \$276,375 00
 New buildings, drops, slips, etc., cost to date..... 485,062 10
 Land, Lincoln's Wharf, cost, 1887..... 5,562 52
 Land, Battery Wharf, cost, 1893..... 10,000 00

† Assessors' figures for 1901. \$777,929 62
 † Total cost to date, per ferry books..... \$618,070 58
 Less boats sold, depreciated or destroyed..... 332,819 73

\$285,250 85

‡ Cost (net) previous to 1870, per ferry books, viz.:
 " Expenditures for avenues"..... \$250,000 00
 " Expenditures for improvements"..... 45,815 68
 \$315,815 68

These expenditures were practically subsidies to the East Boston Ferry Company by the city before the ferries were purchased by the latter, and should properly be added to the deficiency or loss.

Table 5.
COMPARISON OF RECEIPTS, APPROPRIATIONS, AND EXPENDITURES FOR FIVE YEARS.

	1893-9.	1899-0.	1900-1.	1901-2.	1902-3.
RECEIPTS.					
From foot passengers (tollmen).....	\$117,377 76	\$119,925 21	\$118,172 57	\$120,115 63	\$125,457 18
“ “ passes (office sales).....	1,388 50	1,541 30	1,497 80	1,571 00	1,470 70
“ extra passengers on teams (gatemen).....	2,980 85	3,083 92	2,725 46	2,338 99	2,165 31
“ team tickets (office sales).....	676 00	577 50	320 00	334 00	547 50
“ strip team tickets (tollmen).....	25,478 50	27,517 00	25,521 00	27,137 50	27,168 50
“ teams (gatemen).....	14,152 26	13,902 38	14,263 96	13,291 47	13,308 09
Total from rates.....	\$162,053 87	\$166,547 31	\$162,500 79	\$164,788 59	\$170,117 28
From rents (Sargent's Wharf and pedler's privileges).....	2,740 00	2,523 32	2,578 34	2,540 00	2,477 50
“ old material sold.....	97 70	174 50	176 75	179 77	46 45
“ other sources.....	110 00	395 00	375 50	372 50	551 50
Total ordinary receipts.....	\$165,001 57	\$169,640 13	\$165,631 38	\$167,880 86	\$173,192 73
From sales of boats.....	128,500 00	2,385 00	1,199 50	.....	.....
Total receipts.....	\$293,501 57	\$172,025 13	\$166,830 88	\$167,880 86	\$173,192 73
Less rejected money (counterfeit, etc.).....	5 42	10 09	10 55	1 24	2 85
Total receipts turned over to city.....	\$293,496 15	\$172,015 04	\$166,820 33	\$167,879 62	\$173,189 88
APPROPRIATIONS.					
Regular appropriations.....	\$220,000 00	\$212,500 00	\$237,000 00	\$250,600 00	\$220,000 00
Special appropriations:					
New ferry landing, etc.....	*26,000 00	*131,200 00	.....	.....	.....
New electric lights.....	.....	.....	.....	.....	.....
New ferry-boats.....	128,500 00	.....	.....	.....	.....
New clock, South Ferry.....	.....	500 00	.....	.....	.....
Ferry improvements.....	.....	.....	.....	.....	100,000 00
Total appropriations.....	\$374,500 00	\$344,200 00	\$237,000 00	\$250,600 00	\$320,000 00

EXPENDITURES (ORDINARY).							
Office:							
Superintendent's salary	\$3,000 00	\$2,925 00	\$3,000 00	\$3,000 00	\$3,000 00	\$3,000 00	\$3,000 00
Clerks and cashier	4,500 00	4,388 28	4,500 00	4,500 00	4,500 00	4,500 00	4,100 30
Stationery	282 25	434 82	282 25	287 70	287 70	287 70	348 59
Printing	950 31	591 59	950 31	804 80	804 80	804 80	1,342 84
Telephones	429 29	290 51	429 29	295 59	336 61	336 61	265 88
† Keeping horse and repairing vehicle	547 71	607 06	547 71	218 68	315 47	315 47	947 90
Advertising, etc.	102 32	22 00	102 32	60 96	.....	.....	102 07
Examination of accounts, etc.	500 50	.....	500 50	.....	.....	.....	469 00
Entertaining guests.	.....	319 85	.....	.....	.....	.....	.....
Travelling expenses	10 00	280 00	10 00	43 00	63 00	63 00	70 00
Premiums, Surety Companies	.....	156 50	.....	156 00	114 50	114 50	115 00
Other expenses	.....	.....	.....	.....	.....	.....	.....
Total office expenditures	\$10,322 38	\$10,015 61	\$10,322 38	\$9,577 86	\$9,122 08	\$9,122 08	\$10,761 58
Ferry-boats and landings:							
Employees	138,857 19	138,934 50	138,857 19	145,298 65	151,200 46	151,200 46	130,562 51
Fuel	26,233 05	24,499 69	26,233 05	41,499 46	40,249 21	40,249 21	47,301 50
Teaming, wheeling coal, etc.	3,724 20	3,796 40	3,724 20	4,098 40	4,237 50	4,237 50	5,143 00
Oil, waste, and supplies	2,914 38	3,605 86	2,914 38	5,257 58	5,761 51	5,761 51	6,112 60
Tools, iron, and hardware	2,453 11	1,551 43	2,453 11	1,423 99	1,613 28	1,613 28	2,702 22
Gas	1,447 30	1,361 90	1,447 30	1,280 29	957 56	957 56	716 05
Electric light	5,282 36	5,417 83	5,282 36	6,156 49	7,160 98	7,160 98	6,749 25
Water	3,333 60	.....	3,333 60	.....	.....	.....	.....
Towing by horses	.....	.....	.....	.....	.....	.....	.....
" " electric power	600 00	600 00	600 00	605 00	600 00	600 00	519 36
Repairs of boats	10,137 26	10,862 66	10,137 26	8,445 62	16,331 98	16,331 98	6,164 08
" " buildings and drops	2,510 90	5,377 93	2,510 90	7,286 88	6,108 99	6,108 99	4,850 62
Furnishings	717 56	898 94	717 56	852 67	636 76	636 76	639 97
Damages	10 00	.....	10 00	52 00	20 00	20 00	23 45
Rent Sargent's Wharf	4,000 00	4,000 00	4,000 00	4,000 00	4,000 00	4,000 00	4,000 00
Other expenditures	512 50	900 12	512 50	1,165 04	753 75	753 75	842 00
Total from regular appropriations	\$213,055 79	\$211,822 87	\$213,055 79	\$236,999 91	\$248,754 06	\$248,754 06	\$227,688 29

* Portion of \$500,000 loan authorized, of which \$200,000 was transferred to Sewer Division.

† Includes repair coal carts.

TABLE 5. — COMPARISON OF RECEIPTS, ETC. — *Concluded.*

RECEIPTS.	1898-9.	1899-0.	1900-1.	1901-2.	1902-3.
<i>Amount brought forward</i>	\$213,055 79	\$211,822 77	\$236,991 99	\$248,754 06	\$227,688 29
EXPENDITURES FROM SPECIAL APPROPRIATIONS.					
New ferry landing	79,135 68	12,187 69	96,191 74	41,988 16	10,639 71
New electric lights	2,137 12	.....	.....	.....	.....
New ferry-boats	50,463 60	64,853 80	8,781 81	.....	.....
New clock, South Ferry .....	.....	474 79	.....	.....	.....
Ferry improvements.....	.....	.....	.....	.....	58,650 99
Total expenditures, regular and special.....	\$344,792 19	\$289,339 15	\$341,973 46	\$290,742 22	\$296,978 99
Transfers { to treasury.....	.....	25 21	09	.....	.....
{ to other departments.....	6,944 21	200,077 13	.....	4,959 87	.....
Total expenditures, including transfers.....	\$351,736 40	\$490,041 49	\$341,973 55	\$295,702 09	\$296,978 99
Balances in treasury unexpended:	.....	.....	.....	.....	.....
From ordinary appropriations.....	.....	.....	.....	.....	.....
From special appropriations.....	\$434,642 91	\$157,601 42	\$52,627 87	\$10,639 71	\$41,349 01

Table 6.

COMPARATIVE BALANCE SHEETS AT THE CLOSE OF EACH YEAR FOR FIVE YEARS.

	January 31, 1899.	January 31, 1900.	January 31, 1901.	January 31, 1902.	January 31, 1903.
<i>Assets.</i>					
Cash in hands of tollmen,	\$575 00	\$575 00	\$575 00	\$575 00	\$575 00
Accounts receivable.....		16 68			62 50
Fuel and supplies on hand.....	2,972 85	12,429 92	10,870 05	10,371 78	7,153 65
City Treasurer (balance of appropriations)....	103,442 91	157,601 42	52,627 87	10,639 71	41,349 01
Real estate and buildings (Assessors' valuations)	457,500 00	457,500 00	498,900 00	546,600 00	577,400 00
Ferry-boats (less depre- ciation).....	160,041 26	216,756 31	303,458 37	285,250 85	268,135 80
Machinery and tools....	6,000 00	6,000 00	6,000 00	6,000 00	300 00
Total tangible assets..	\$730,532 02	\$850,879 33	\$872,431 29	\$859,437 34	\$894,975 96
Cost of avenues, etc., East Boston (previous to 1870) †.....	315,815 68	315,815 68	315,815 68	315,815 68	315,815 68
Deficiency of assets (loss),	1,798,939 12	1,863,118 43	1,927,086 05	2,034,374 44	2,168,337 23
Totals.....	\$2,845,286 82	\$3,029,813 44	\$3,115,333 02	\$3,209,627 46	\$3,379,128 87
<i>Liabilities.</i>					
Capital invested by City of Boston to date.....	\$2,741,843 91	\$2,872,212 02	\$3,062,705 15	\$3,198,987 75	\$3,337,779 86
Appropriations account (credit balances).....	103,442 91	157,601 42	52,627 87	10,639 71	41,349 01
Total liabilities.....	\$2,845,286 82	\$3,029,813 44	\$3,115,333 02	\$3,209,627 46	\$3,379,128 87

Details of Capital Invested by the City of Boston.

Total expenditures to date, per ferry books..	\$7,394,170 41	\$7,694,882 56	\$8,049,900 02	\$8,355,982 24	\$8,666,381 23
Interest on debts for the year (per City Audi- tor).....	11,373 00	13,044 00	15,340 00	13,420 00	15,003 00
Interest previous years, etc. (net debts per Audi- tor).....	279,148 85	279,148 85	279,148 85	279,148 85	279,148 85
Total expenditures....	\$7,684,692 26	\$7,987,075 41	\$8,344,388 87	*\$8,648,551 09	\$8,960,533 08
Deduct total receipts paid to Collector.....	4,942,848 35	5,114,863 39	5,281,683 72	*5,449,563 31	5,622,753 22
Excess of expenditure, viz., capital invested by city.....	\$2,741,843 91	\$2,872,212 02	\$3,062,705 15	\$3,198,987 75	\$3,337,779 86

* Auditor's figures for total expenditures and receipts are \$60,278.56 more than above, the difference (capital invested) being the same.

\$3,542.50 for additional interest and \$33, discrepancy in total stated by ferry books, have also been included in these figures.

† See foot note § under Table 4.

Table 7.

TOTAL EXPENDITURES UPON FERRIES SINCE 1858-9.

Expenditures for avenues, paving, interest, etc., previous to purchase of the ferries by the city,†	\$444,101	30
Purchase of ferries, April, 1870	276,375	00
*Expenditures for ferry-boats since April, 1870	618,070	58
*Expenditures for new buildings, piers, drops, etc.,	502,455	58
*Expenditures for tools and fixtures	14,752	46
Expenditures for land from Lincoln's Wharf in 1887	5,562	52
Expenditures for land from Battery Wharf in 1893	10,000	00
<hr/>		
Total expenditures on capital account	\$1,871,317	44
*Expenditures for repairs of all kinds	751,927	37
*Expenditures for fuel	1,144,662	26
*Expenditures for salaries and wages	3,856,970	02
Expenditures for all other purposes	1,395,934	55
<hr/>		
	\$9,020,811	64

TOTAL RECEIPTS FROM FERRIES SINCE 1858-9.

Receipts from rents, etc., previous to purchase of ferries	\$29,588	56
*Receipts from ferry-tolls since purchase of ferries,	5,406,045	40
*Receipts from rents since purchase of ferries	57,770	46
*Receipts from sales of ferry-boats	147,331	21
*Receipts from all other sources, per ferry books	12,314	98
Receipts from all other sources, additional, per Auditor	30,690	00
<hr/>		
	\$5,683,740	61
Less counterfeit money destroyed	\$100	83
Less amount counted twice	33	00
Less amount in hands of tollmen	575	00
<hr/>		
	708	83
<hr/>		
Total, per City Auditor's figures	\$5,683,031	78

* According to books of the Ferry Division.
† See foot note § under Table 4.

REGULAR ANNUAL (ORDINARY) AND SPECIAL APPROPRIATIONS
(EXTRAORDINARY) OF THE FERRY DIVISION OF THE STREET
DEPARTMENT FOR THE YEAR ENDING JANUARY 31, 1903.

Appropriation for year ending January 31, 1903.	\$220,000 00
Received by transfer	7,688 29
	<hr/>
Total amount	\$227,688 29
Amount of expenditures	\$227,688 29
	<hr/> <hr/>

SPECIAL APPROPRIATIONS.

Appropriation authorized and issued for new ferry landings, head-house, new boats, slips, and drops (1897)	\$500,000 00
Amount transferred by City Government January 14, 1901, approved by the Mayor January 19, 1901, unexpended balance of appropriation for new ferry-boats	4,400 79
	<hr/>
	\$504,400 79
Amount expended to February 1, 1899	\$143,393 49
Amount transferred to Sewer Division, Street Department, by order of Mayor, authorized by Acts of Legislature, chap. 450, sect. 14, 1899	200,000 00
Amount expended from February 1, 1899, to February 1, 1900	12,187 69
Amount expended from February 1, 1900, to February 1, 1901	96,191 74
Amount expended from February 1, 1901, to February 1, 1902	41,988 16
Amount expended from February 1, 1902, to February 1, 1903	10,639 71
	<hr/>
	\$504,400 79
Appropriation authorized and issued May 27, 1902, for ferry improvements	\$100,000 00
Amount expended from May 27, 1902 to February 1, 1903	58,650 99
	<hr/>
Unexpended balance of appropriation January 31, 1903	\$41,349 01
	<hr/> <hr/>

DETAILS OF EXPENDITURES FROM SPECIAL APPROPRIATIONS
AND BALANCES, 1902-3.

New Ferry Landing Appropriation.

Paid on new head-house, South Ferry, East Boston		\$10,628 69
Paid miscellaneous expenditure		11 02
		<hr/>
		\$10,639 71
John J. Flynn, Contractor	\$9,775 00	
Sundry bills for labor, inspection, and material	853 69	
	<hr/>	
	\$10,628 69	
Paid for labor account	11 02	
	<hr/>	
		<u>\$10,639 71</u>

Ferry Improvements Appropriation.

Amount of expenditure to January 31, 1903		\$58,650 99
Paid on new head-house, South Ferry, East Boston, to John J. Flynn, Contractor	\$6,205 00	
Paid Harrison H. Atwood, Architect	529 79	
	<hr/>	
	\$6,734 79	
Paid for repairs and improvements on ferry-boats	15,968 18	
Paid for repairs to buildings, piers, and drops	3,080 79	
Paid for material and supplies for above	4,259 96	
Paid for labor	28,607 27	
	<hr/>	
		<u>\$58,650 99</u>
Total special expenditures for year ending January 31, 1903		<u>\$69,290 70</u>

STATEMENT SHOWING RECEIPTS AT EACH FERRY.

North Ferry.

	From Tollman.	Foot Passengers.	Team Tickets.	Total.
No. 2		\$13,656 60	\$2,304 00	\$15,960 60
" 3		13,636 95	2,380 00	16,016 95
" 5		13,703 28	2,251 00	15,954 28
" 6		13,600 87	2,334 00	15,934 87
" 9		13,542 18	2,426 50	15,968 68
" 10		13,516 95	2,442 50	15,959 45
" 13		13,930 73	2,143 50	16,074 23
		\$95,587 56	\$16,281 50	\$111,869 06

From tollmen	\$111,869 06
From gatemen :	
For 144,259 foot passengers, at 1c.,	\$1,442 59
For cash fares for teams	8,282 61
	9,725 20
Total at North Ferry	<u>\$121,594 26</u>

South Ferry.

	From Tollman.	Foot Passengers.	Team Tickets.	Total.
No. 1		\$7,046 62	\$2,793 50	\$9,840 12
" 4		6,792 79	2,386 00	9,178 79
" 7		7,088 44	2,718 50	9,806 94
" 8		6,661 05	2,813 50	9,474 55
" 11		1,127 04	95 00	1,222 04
" 12		1,153 68	80 50	1,234 18
		\$29,869 62	\$10,887 00	\$40,756 62

From tollmen	\$40,756 62
From gatemen :	
For 72,272 foot passengers, at 1c.	\$722 72
For cash fares for teams	5,025 48
	5,748 20
	<u>\$46,504 82</u>

North and South Ferries, as above	\$168,099 08
Tickets paid for at office of City Collector	437 50
Tickets paid for at office of Ferry Division	1,580 70
Received in lieu of free ferries July 4, 1902	1 00

Total ferriage receipts \$170,118 28

Rents for the year	2,477 50
Sales of old material, head-house and bootblack privileges	596 95

Total cash receipts as above \$173,192 73

STATEMENT SHOWING THE DIFFERENCE OF TRAVEL ON THE FERRIES
FROM FEBRUARY 1, 1902, TO FEBRUARY 1, 1903.

	North Ferry.	South Ferry.
Foot passengers at 1 cent each	9,703,015	3,059,234
Foot passengers by ticket	115,750	45,735
Foot passengers free	76,325	7,075
Total foot passengers	<u>9,895,090</u>	<u>3,112,044</u>

One-horse teams and pleasure car- riages	428,601	213,195
Two-horse teams	131,567	118,147
Three-horse teams	3,962	3,524
Four-horse teams	8,411	4,769
Two-horse pleasure carriages and hacks, Handcarts, etc.	14,156	4,959
Drag wheels	4,290	2,430
Free teams	66	20
	6,687	1,027

Total Travel on both Ferries from February 1, 1898, to
February 1, 1903.

	From Feb. 1, 1898, to Feb. 1, 1899.	From Feb. 1, 1899, to Feb. 1, 1900.	From Feb. 1, 1900, to Feb. 1, 1901.	From Feb. 1, 1901, to Feb. 1, 1902.	From Feb. 1, 1902, to Feb. 1, 1903.
One-horse teams.....	685,422	689,754	679,746	645,283	641,796
Two-horse teams.....	207,402	230,100	210,390	232,557	249,714
Three-horse teams.....	9,474	10,355	8,376	9,215	7,486
Four-horse teams.....	15,311	15,360	12,344	13,804	13,180
Two-horse carriages and hacks.....	13,582	14,764	15,390	16,365	19,115
Two-cent tolls for hand- carts, etc.....	6,850	6,076	5,547	13,582	6,720
Drag wheels, etc.....	99	66	60	122	86
Foot passengers.....	12,182,842	12,453,163	12,243,877	12,395,649	12,923,734

Ticket Statement for the Year 1902-1903.

	Balance Out- standing, Jan. 31, 1902.	Sold during the Year.	Delivered on Requisitions.	Total.	Received and destroyed.	Balance out- standing Jan. 31, 1903.
Foot passes	200,328	107,020	66,150	373,498	161,485	212,013
One-horse team-tickets.....	58,252	351,440	3,424	413,116	343,724	69,392
Two-horse team-tickets.....	39,571	216,112	4,096	259,779	227,820	31,959
Three-horse team-tickets....	3,165	7,902	90	11,157	6,550	4,607
Four-horse team-tickets.....	5,337	12,760	.....	18,097	12,039	6,058
One-horse carriage-tickets..	19,575	32,520	1,420	53,515	33,242	20,273
Two-horse carriage-tickets,	3,496	8,220	.....	11,716	9,591	2,125

APPENDIX C.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE PAVING DIVISION.

ROOM 44, CITY HALL, BOSTON, February 1, 1903.

HON. JAMES DONOVAN, *Superintendent of Streets* :

DEAR SIR,—I respectfully submit the annual report of the expenditures and income of the Paving Division of the Street Department for the financial year ending January 31, 1903, showing the nature of the work, the number and variety of permits issued, and the details of expenditures involved in paving, macadamizing, regulating, and constructing various streets.

The Paving Division has charge of the following work :

The maintenance and rebuilding of street surfaces and sidewalks.

The placing of street signs.

The numbering of buildings.

The issuing of permits to open or to occupy the streets, or for such other purposes as may be required under the ordinances.

The removal of snow and ice from the streets and gutters.

The cleaning of streets in the outlying sections of the city not covered by the Street Cleaning Division.

The division is in charge of a Deputy Superintendent, with a clerical force under the direction of a chief clerk, and an engineering force under the direction of a chief engineer.

DOWN-TOWN STREETS.

Broad street, between State and Central streets, was paved with large granite blocks, on a six (6) inch American concrete base, with pitch and pebble joints. The paving and regulating was done under contract by H. Gore & Company. Former pavement granite blocks on gravel base.

Bath street, Post Office square to Post Office square, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by John E. Burns & Company. Former pavement, granite blocks on gravel base.

Bedford street, between Washington and Chauncy streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by H. Gore & Company. Former pavement, granite blocks on gravel base.

Bedford street, from Summer street across Kingston street, was paved with large granite blocks, on a six (6) inch American cement concrete base. The paving and regulating was done under contract by Patrick McGovern. Former pavement, granite blocks on concrete base. The old base was considerably cut and patched by corporations, and was in such a poor condition that a new base was laid.

Cornhill, between Washington and Court streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The paving and regulating was done under contract by P. H. Bradley. Former pavement, granite blocks on gravel base.

Devonshire street, between Summer street and Winthrop square, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by James E. Bunting. Former pavement, granite blocks on gravel base.

Dover street, between Washington and Tremont streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The paving and regulating was done under contract by Benjamin M. Cram. Former pavement, granite blocks on gravel base.

Elm street, from Hanover street to Washington street and Washington street to Dock square, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by P. H. Bradley. Former pavement, granite blocks on gravel base.

Essex street, Washington street to Harrison avenue, was

paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The work was done under contract by John E. Burns & Company. Former pavement, granite blocks on gravel base.

Essex street, between Atlantic avenue and South street, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The work was done under contract by John E. Burns & Company. Former pavement, granite blocks on gravel base.

Essex street, from South street across Lincoln street, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by Benjamin M. Cram. Former pavement, granite blocks on gravel base.

Franklin avenue, Court street to Cornhill, was paved with large granite blocks, on a gravel base, with Portland cement grout joints. The paving and regulating was done under contract by Benjamin M. Cram. Former pavement, flagging on gravel base.

Friend street, between Causeway and Merrimac streets, was paved with large granite blocks, on a six (6) inch American concrete base, with pitch and pebble joints. The paving and regulating was done under contract by Daniel J. Kiley. Former pavement, granite blocks on gravel base. In connection with the paving of Friend street, Market street, between Friend and Canal streets, was repaved on gravel base, with gravel joints.

Hawley street, between Milk and Franklin streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The paving and regulating was done under contract by Benjamin M. Cram. Former pavement, granite blocks on gravel base.

Lincoln street, between Summer and Essex streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by Patrick McGovern. Former pavement, granite blocks on gravel base.

Merrimac street, between Haymarket square and Causeway street, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by

the Boston Elevated Railway Company. The paving and regulating was done under contract by William J. Rafferty. Former pavement, granite blocks on gravel base. In connection with the paving and regulating of Merrimac street, parts of Prospect street, Merrimac and Lancaster streets were relaid and the edgestones and sidewalks regulated by William J. Rafferty.

Portland street, between Hanover and Causeway streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The paving and regulating was done under contract by Dennis Kiley. Former pavement, granite blocks on gravel base.

South street, Summer street across Essex street, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints, including the area within the tracks, which was paid for by the Boston Elevated Railway Company. The paving and regulating was done under contract by P. H. Bradley. Former pavement, granite blocks on gravel base.

Traverse street, between Portland and Merrimac streets, and Portland and Canal streets, was paved with large granite blocks, on a six (6) inch American cement concrete base, with pitch and pebble joints. The paving and regulating was done under contract by Daniel J. Kiley. Former pavement, granite blocks on gravel base.

West First street, from A street to the railroad, was paved with large granite blocks on gravel base, with gravel joints. The paving and regulating was done under contract by J. B. O'Rourke. Former pavement, granite blocks on gravel base.

ASPHALT STREETS.

The repairs made on all asphalt streets not under guarantee have been measured, and the patches located and plotted. Cuts made in asphalt streets, by corporations and those having rights in the streets, whether under guaranty or not, have also been located and plotted; these patches are made by the company which originally laid the surface at the expense of the party making the cut. Streets under guaranty are inspected and the companies notified when repairs are necessary.

PAVING.

The laying of the paving in the following streets has been done under the inspection, the lines and grades given and

the quantities measured, by representatives of this office. The most important work was the renewal of the pavements, which were paved with large granite blocks, with pitch and pebble joints, on an American cement concrete base :

Portland street, Hanover street to Causeway street.
Friend street, Merrimac street to Causeway street.
Merrimac street, Sudbury street to Causeway street.
Elm street, Hanover street to Washington street.
Elm street, Washington street to Dock square.
Cornhill, Scollay square to Washington street.
Broad street, State street to Central street.
Bedford street, Washington street to Chauncy street.
Bedford street, Summer street to Kingston street.
Essex street, Washington street to Harrison avenue.
Essex street, Atlantic avenue across Lincoln street.
Lincoln street, Summer street to Essex street.
South street, Summer street to Essex street.
Dover street, Washington street to Tremont street.

Asphalt laid has been less extensive than during former years. Streets paved with Trinidad Lake asphalt, with a binder course of asphaltic cement concrete, on an American cement concrete base, 8,282 square yards, at a cost of \$3.25 per square yard, exclusive of the cost of repairing the roadbed for the concrete base. The streets paved with Trinidad asphalt were :

Berkeley street, St. James avenue to Boylston street.
Chambers street, Green street across Poplar street.
Dillon street, between Lenox street and Sawyer street.
Malden street, Washington street to Harrison avenue.
Parnell street, between Lenox street and Sawyer street.
Parmenter street, between Hanover and Salem streets.
Union Park street, Washington street to Harrison avenue.
Water street, between Congress street and Kilby street.
Public alley 422.
Public alley 423.
Public alley 424.

Sicilian rock asphalt on an American cement concrete base, 1,345 square yards, at a cost of \$3.25 per square yard, exclusive of the cost of preparing the roadbed for the concrete base. Streets paved with Sicilian rock asphalt were :

Dudley street, east side, Dunmore street to Magazine street.
Newland street, West Newton street to West Brookline street.
Public alley 901.

Both Trinidad and Sicilian rock asphalts are laid under a ten (10) years guarantee.

BITUMINOUS MACADAM.

A new form of pavement has been introduced during the year known as Warren's bituminous macadam. It consists of a foundation of crushed stone about four inches in depth, rolled in the same manner as ordinary macadam, over this is spread layers of bituminous cement for the purpose of holding the foundation and uniting it with the wearing surface. The wearing surface consists of about two inches of stone, which vary in size from one inch to a fine powder, carefully proportioned in order to give as great a compactness as possible, and the least number of voids; heated and thoroughly mixed with bituminous cement, and rolled by a heavy steam road-roller.

The advantages claimed for this pavement are that it is suitable for all grades, as it affords an excellent foothold for horses, is noiseless and free from mud and dust, and is not affected by the moisture in the atmosphere. The streets surfaced with bituminous macadam are:

- Hancock street*, Mt. Vernon street to Cambridge street.
- Bowdoin street*, Ashburton place to Cambridge street.
- Massachusetts avenue*, Harvard bridge across Beacon street.
- Belvidere street*, Massachusetts avenue to Falmouth street.
- Tremont street*, Phillips street to St. Alphonsus street.

A total area of 9,609 square yards of bituminous macadam laid.

Concrete base laid	26,448 square yards
Granite block pavement, on concrete base with pitch and pebble joints	30,042 " "
Granite flagging pavement, on concrete base with pitch and pebble joints	1,897 " "
Granite block pavement, on gravel base with grout joints	1,949 " "
Granite flagging pavement, on gravel base with grout joints	82 " "
Granite block pavement, on gravel base with gravel joints	3,472 " "
Brick sidewalks	14,033 " "
Bituminous macadam	9,609 " "
Sheet asphalt	9,627 " "
Edgestones reset	19,743 linear feet

Notwithstanding the pavement which has been renewed, a large amount of gravel paving has been relaid and the streets regulated. The amount of work done is as follows, viz.:

Edgestones set and reset	104,133 linear feet
Granite block paving laid on gravel base	140,387 square yards
Brick sidewalks laid	39,051 " "
Artificial sidewalks laid	14,119 " "
Macadam streets resurfaced	698,894 " "

This work is exclusive of the pitch and pebble construction and of the work done under chapter 323, etc.

ASPHALT STREETS.

Berkeley street, between Boylston street and St. James avenue, was paved with Trinidad Lake asphalt on a six (6) inch American cement concrete base, by the Barber Asphalt Paving Company, except in the track area and brows which were paved with granite blocks on concrete base with pitch and pebble joints. Former pavement macadam:

Chambers street, from Green street, across Poplar street, was paved with Trinidad Lake asphalt on a six (6) inch American cement concrete base, by the Barber Asphalt Paving Company. The old pavement was removed and the roadbed prepared by the Street Department. Former pavement, asphalt.

Dillon street, between Lenox and Sawyer streets, was paved with Trinidad Lake asphalt, on a six (6) inch American cement concrete base, by the Barber Asphalt Paving Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by Peter Gilligan.

Dudley street, east side between Magazine and Dunmore streets, was paved with Sicilian rock asphalt, on a six (6) inch American cement concrete base, by the Boston Asphalt Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by H. Gore & Co.

Malden street, between Washington street and Harrison avenue, was paved with Trinidad Lake asphalt on a six (6) inch American cement concrete base by the Barber Asphalt Paving Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by the Street Department.

Newland street, between West Brookline and West Newton streets, was paved with Sicilian rock asphalt on a six (6) inch American cement concrete base by the Boston Asphalt Company. The edgestones and sidewalks were regulated and the dirt roadway excavated by M. H. Lynch.

Parnell street, between Lenox and Sawyer streets, was paved with Trinidad Lake asphalt, on a six (6) inch Amer-

ican cement concrete base by the Barber Asphalt Paving Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by R. S. Barrett.

Parmenter street, between Hanover and Salem streets, was resurfaced with Trinidad Lake asphalt, on a six (6) inch American cement concrete base by the Barber Asphalt Paving Company. The old asphalt surface was removed by the contractors.

Union Park street, between Washington street and Harrison avenue, was paved with Trinidad Lake asphalt, on a six (6) inch American cement concrete base, by the Barber Asphalt Paving Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by the Street Department.

Water street, between Congress and Kilby streets, was resurfaced with Trinidad Lake asphalt, on the old concrete base, by the Barber Asphalt Paving Company. The old asphalt surface was removed, and the old concrete base dug out and replaced where necessary, by the contractors.

BITUMINOUS MACADAM.

Belvidere street, from Massachusetts avenue to Dalton street, was paved with bituminous macadam by the Warren Brothers Company. The edgestones and sidewalks were regulated and the macadam roadway excavated by the contractors.

Bowdoin street, between Ashburton place and Cambridge street, was paved with bituminous macadam by the Warren Brothers Company. The edgestones and sidewalks were regulated by D. J. Kiley, and the old macadam roadway excavated by the Warren Brothers Company.

Hancock street, between Mt. Vernon and Derne streets, was paved with bituminous macadam by the Warren Brothers Company. The edgestones and sidewalks were regulated and the old macadam roadway excavated by the Street Department.

Hancock street, from Cambridge street across Derne street, was paved with bituminous macadam by the Warren Brothers Company. The edgestones and brick sidewalks were regulated by D. J. Kiley, and the old macadam roadway excavated by the Street Department.

Massachusetts avenue, from Harvard bridge across Beacon street, was paved with bituminous macadam by the Warren Brothers Company, except the track area and brows, which were paved with large granite blocks, on a concrete base, with

pitch and pebble joints. The edgestones, sidewalks and block paving and the old macadam roadway excavated by J. J. Coughlan.

Tremont street, between Phillips and St. Alphonsus streets, was paved with bituminous macadam by the Warren Brothers Company, except the track area and brows, which were paved with large granite blocks, on a concrete base, with pitch and pebble joints. The edgestones and sidewalks were regulated and block paving laid by H. Gore & Co. The old macadam roadway was excavated by the Street Department.

ASSESSMENT STREETS.

The following streets have been constructed or are in process of construction under chapter 323 of the Acts of 1891 and Acts in amendment thereof or in addition thereto:

Alford street, between the Mystic river and Everett line, is about 2,101 feet long and was relocated and widened August 21, 1899. The contract for constructing the surface of this street was awarded to Jeremiah J. Sullivan, July 28, 1902. Work under this contract was begun August 4, 1902, and completed October 31, 1902. It is a granite block pavement, laid on gravel base, with gravel joints and brick sidewalks. The edgestones, flagging and paving blocks were furnished by the city and hauled by the contractor; the bricks for the sidewalks were delivered on the line of the work by the city.

Bennington street, from Central square to the Revere town line, was relocated and widened to 100 feet in width, June 27, 1899.

The contract for constructing the surface of the section between Moore and Saratoga streets was awarded to James Doherty, October 23, 1902. Work under this contract was commenced October 29, and suspended December 23, 1902.

The contract for the section between Saratoga street and the Revere town line will be awarded when the season opens in the spring of 1903.

Brd street, from Columbia road to Hancock street, is about 341 feet long and was extended November 6, 1899. The contract for constructing the surface of this street was awarded to John F. Cullen, October 28, 1902. Work under this contract was begun November 22, 1902, and suspended December 24, 1902. It is to be a 6-inch macadam roadway and sidewalks.

Bynner street, between Day and Creighton streets, is 331 feet long, and was laid out January 3, 1902. The contract

for constructing the surface of this street was awarded to Thomas J. Shea, October 28, 1902. Work under this contract was begun December 8, 1902, and suspended December 24, 1902. It is to be a 6-inch macadam roadway and sidewalks.

Blue Hill avenue, from Walk Hill street to River street, Mattapan, was relocated at a width of 120 feet, November 5, 1894. It consists of two roadways, with a car reservation between, and 15-foot sidewalks, five feet of which being loam spaces and ten feet gravel walks. The roadways are constructed with an 8-inch telford base and four inches of macadam surface; the gutters at the edgestones are three (3) feet wide and at the reservation four (4) feet dish. The contract for constructing the surface of this street was awarded to James Doherty, July 23, 1901, and suspended January 11, 1902; work was resumed May 1, 1902, and completed October 2, 1902. The telford-macadam crushed stone for sidewalks and gutter blocks were delivered on the line of the work by the city. The edgestones were furnished by the city and hauled by the contractor; the flagging for crosswalks was furnished by the contractor.

Brackett street, from Washington street to Faneuil street, is about 577 feet long, and was laid out October 31, 1901. The contract for constructing the surface of this street was awarded to J. H. Sullivan, January 3, 1902. Work under this contract was begun September 22, 1902, and completed October 27, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The crushed stone, edgestones and flagging were furnished by the city and hauled by the contractor; the gutter blocks were delivered on the line of the work by the city.

Brookline avenue, between the Longwood entrance to the Back Bay Fens and the Riverway, is about 3,100 feet long, and was relocated October 13, 1899. The contract for constructing the surface of this street was awarded to John C. Coleman & Son, December 26, 1901. Work under this contract was begun August 28, 1902, and is still in progress. It is a 6-inch macadam roadway with crushed stone sidewalks.

Brooks street, between Holton and North Beacon streets, is 1,140 feet long, and was relocated and extended December 17, 1897. The contract for constructing the surface of this street was awarded to John F. McBride and Jesse Moulton, July 2, 1901. Work under this contract was begun July 11, 1901, and suspended December 14, 1901; work was resumed March 31, 1902, and completed July 11, 1902. It consists of a main roadway which is depressed to go under the Boston

& Albany Railroad and of two upper roads leading to the Faneuil station of the Boston & Albany Railroad. The construction is 6-inch macadam with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor; the gutter blocks were delivered on the line of the work by the city; the flagging for crosswalks was furnished by the contractor.

Carter street, from Cambridge street to Roland street, is about 175 feet long, and was laid out as a public street October 11, 1901. The contract for surfacing this street was awarded to P. Brennan & Co., August 5, 1902. Work under this contract was begun August 18, 1902, and completed September 11, 1902. It is a 6-inch macadam roadway with brick sidewalks. The edgestones, crushed stone, gutter blocks and bricks were furnished on the line of the work by the city.

Columbia road, from Blue Hill avenue to Marine Park, was relocated and laid out in 1897. The portion between Blue Hill avenue and Buttonwood street has been completed. It is a telford macadam construction, consisting of two (2) roadways, one for pleasure driving and the other for ordinary traffic with a twenty-five (25) feet reservation between for surface cars. The sidewalks are thirteen (13) feet wide on the pleasure drive and ten (10) feet wide on the traffic road. Of the balance of the road, between Buttonwood street and the Marine Park, two sections have been let for construction, one to Philip Doherty, who was awarded the section between Buttonwood street and the railroad bridge, November 18, 1902. The section between I and Q streets was awarded to H. P. Nawn, November 18, 1902. These sections will be completed during the season of 1903, and plans for the remainder are now under way.

Capen street, between Evans and Fairmount streets, is about 1,100 feet long, and was laid out October 7, 1901. The contract for constructing the surface of this street was awarded to Timothy F. Bradley, August 2, 1902. Work under this contract was begun October 29, 1902, and suspended January 3, 1903. It is to be a 6-inch macadam roadway with crushed stone sidewalks.

Dakota street, between Washington and Greenbrier streets, is about 438 feet long, and was laid out November 13, 1901. The contract for constructing the surface of this street was awarded to John E. Gill, August 1, 1902, and completed September 29, 1902. It is a 6-inch macadam roadway, with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor;

the flagging and gutter blocks were delivered on the line of the work by the city.

Darling street, between Hillside and Calumet streets, is about 438 feet long, and was laid out October 30, 1901. The contract for constructing the surface of this street was awarded to T. H. Connolly, July 31, 1902. Work under this contract was begun August 25, 1902, and completed November 17, 1902. It is a 6-inch macadam roadway with brick sidewalks. The edgestones, crushed stone, and flagging were furnished by the city and hauled by the contractor; the gutter blocks and paving blocks were delivered on the line of the work by the city.

E street, between Summer and Fargo streets, is about 293 feet long, and was laid out December 16, 1901. The contract for constructing the surface of this street was awarded to The Hub Construction and Supply Company, October 7, 1902. Work under this contract was begun October 14, 1902, and completed December 4, 1902.

Fairfax street, between Carruth and Beaumont streets. The contract for constructing the artificial stone walks was awarded to Simpson Bros. Corporation, May 8, 1902. Work under this contract was begun May 8, 1902, and completed June 6, 1902.

Fayston street, between Blue Hill avenue and Mascoma street, is about 1,280 feet long, and was laid out October 23, 1901. The contract for constructing the surface of this street was awarded Philip Doherty, December 30, 1901. Work under this contract was begun August 11, 1902, and completed October 1, 1902. It is a 6-inch macadam roadway, and brick sidewalks on part of the street. There was an artificial stone sidewalk laid by the abutters previous to the acceptance of the street by the city, which was found all right for grade and was not disturbed. The edgestones and crushed stone were furnished by the city and hauled by the contractor; the bricks were delivered on the line of the work by the city; flagging for crosswalks was furnished by the contractor.

Gibson street, between Dorchester avenue and Adams street, is about 1,097 feet long and was relocated November 20, 1899. The contract for constructing the surface of this street was awarded to William J. Barry, August 6, 1902. Work under this contract was begun August 14, 1902, and completed November 13, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones and crushed stones were furnished by the city and hauled by the contractor; the gutter blocks and flagging were delivered on the line of the work by the city.

Hamilton street, between Columbia road and Mt. Everett street, is 428 feet long and was relocated July 10, 1901. The contract for surfacing this street was awarded to Thomas J. Shea, August 15, 1902. Work under this contract was begun September 17, 1902, and completed November 14, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones, flagging and crushed stone were furnished by the city and hauled by the contractor; the gutter blocks were delivered on the line of the work by the city.

Hinckley street, between Pleasant and Bakersfield streets, is 406 feet long and was laid out September 24, 1901. The contract for surfacing this street was awarded to John E. Gill, October 21, 1902. Work under this contract was begun November 3, 1902, and suspended December 11, 1902.

Mead street, between Russell and Bunker Hill streets, is 192 feet long and was laid out June 21, 1901. The contract for surfacing this street was awarded to Jeremiah J. Sullivan, October 21, 1902. Work under this contract was begun October 29, 1902, and completed December 4, 1902. The materials used in the construction of this street were delivered on the line of the work by the city.

Milton street, between Lauriat avenue and Norfolk street, is 325 feet long and was relocated November 1, 1901. The contract for constructing the surface of this street was awarded to Thomas Burke, August 1, 1902. Work under this contract was begun September 8, 1902, and completed November 28, 1902. It is 6-inch macadam roadway with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor; the flagging and gutter blocks were furnished by the city on the line of the work.

Moseley street, between Columbia road and Crescent avenue, is 1,096 feet long and was laid out August 25, 1899. The contract for constructing the surface of this street was awarded to J. B. O'Rourke, October 9, 1901. Work under this contract was begun October 23, 1901, and suspended December 2, 1901; resumed May 7, 1902, and completed June 27, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones crushed stone and gutter blocks were furnished by the city and hauled by the contractor; the flagging for crosswalks was furnished by the contractor.

Moultrie street, between Allston and Washington streets, is 1,328 feet long and was laid out October 1, 1901. The contract for constructing the surface of this street was

awarded to Philip Doherty, August 1, 1902. Work under this contract was begun October 2, 1902, and completed November 17, 1902. It is a 6-inch macadam roadway. The edgestones and crushed stone were furnished by the city and hauled by the contractor; the flagging and gutter blocks were delivered on the line of the work by the city.

The sidewalks on that part of the street, between Allston and Seaborn streets, had been previously constructed of artificial stone and the sidewalks of the remaining part will be constructed in the same manner in the coming spring.

Morrill street, between Pleasant and Bakersfield streets, is 406 feet long and was laid out September 24, 1901. The contract for constructing the surface of this street was awarded to John E. Gill, October 21, 1902. Work under this contract was begun November 4, 1902, and completed December 6, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor; the flagging and gutter blocks were delivered on the line of the work by the city.

Newland street, between West Brookline and West Newton streets, is 336 feet long and was laid out September 12, 1900. The contract for excavating and regulating this street was awarded to Mark H. Lynch, September 5, 1902. Work under this contract was begun September 10, 1902, and completed October 15, 1902. The edgestones, bricks, flagging and paving blocks were furnished on the line of the work by the city.

The contract for constructing the asphalt surface of this street was awarded to the Boston Asphalt Company, October 6, 1902. Work under this contract was begun September 10, 1902, and completed October 15, 1902.

Oak Square avenue, between Washington and Faneuil streets, is 945 feet long and was laid out October 29, 1901. The contract for constructing the surface of this street was awarded to William J. Barry, January 3, 1902. Work under this contract was begun July 12, 1902, and completed August 18, 1902. It is a 6-inch macadam roadway; the sidewalks were to be constructed of crushed stone, but on petition of the abutters, were changed to artificial stone. The edgestones were furnished by the city and hauled by the contractor. The gutter blocks were delivered on the line of the work by the city. The flagging and crushed stone were furnished by the contractor.

The artificial stone sidewalks were laid by Simpson Bros. Corporation.

Oakwood street, between Norfolk and Torrey streets, is 645 feet long, and was laid out September 26, 1901. The contract for constructing the surface of this street was awarded to Daniel E. Lynch, August 23, 1902. Work under this contract was begun October 21, 1902, and suspended December 10, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones, flagging and crushed stone were furnished by the city and hauled by the Contractor; the gutter blocks were furnished on the line of the work by the city. This street is practically completed; there may be a few days' work required in the spring to repair.

Public alley 422, between Commonwealth avenue and Marlborough streets, from Arlington to Berkeley streets, is 631 feet long and was laid out January 15, 1900. The contract for excavating this alley was awarded to the Barnes, Ruffin Company, August 31, 1901. Work under this contract was begun August 1, 1902, and completed August 30, 1902.

The contract for constructing the asphalt surface in this alley was awarded to The Barber Asphalt Paving Company, August 29, 1901. Work under this contract was begun September 1, 1902, and completed September 18, 1902. The asphalt construction consists of $1\frac{1}{2}$ inches of wearing surface and $1\frac{1}{2}$ inches of concrete binder on a 6-inch American concrete base, laid under a ten (10) years' guarantee.

Public alley 423, between Marlborough street and Commonwealth avenue, from Berkeley to Clarendon streets, is 580 feet long, and was laid out January 15, 1900. The contract for excavating and regulating this alley was awarded to The Barnes, Ruffin Company, August 31, 1901. Work under this contract was begun July 24, 1902, and completed August 12, 1902.

The contract for constructing the asphalt surface was awarded to The Barber Asphalt Paving Company, August 29, 1901. Work under this contract was begun August 12, 1902, and completed August 26, 1902. The asphalt surface in this alley was also laid under a ten (10) years' guarantee.

Public alley 424, between Marlborough street and Commonwealth avenue, from Clarendon street to Dartmouth street, is 575 feet long and was laid out January 15, 1900. The contract for excavating and regulating this alley was awarded to The Barnes, Ruffin Company, August 31, 1901. Work under this contract was begun November 8, 1901, and suspended December 7, 1901; resumed March 28, 1902, and completed April 3, 1902.

The contract for constructing the asphalt surface was awarded to The Barber Asphalt Paving Company, August 29, 1901. Work under this contract was begun April 3, 1902, and completed April 22, 1902. The asphalt surface of this alley is laid under a ten (10) years' guarantee.

Public alley 444, between Newbury and Boylston streets, from Hereford street westerly, is 532 feet long, and was laid out October 13, 1899. The contract for constructing the surface of this alley was awarded to James E. Bunting, August 19, 1902. Work under this contract was begun August 26, 1902, and completed September 17, 1902. It is paved with large granite blocks on gravel base, with pitch and pebble joints and brick sidewalks. The granite paving blocks were furnished by the city and hauled by the contractor; the bricks were delivered on the line of the work by the city.

Public alley 502, between Rutland and Concord squares, parallel therewith and between Columbus avenue and Tremont street, is 475 feet long, and was laid out August 26, 1901. The contract for constructing the surface of this alley was awarded to Benjamin M. Cram, November 18, 1902. Work under this contract was begun November 19, 1902, and suspended December 31, 1902.

Public alley 706, from Newland street, between West Concord and Worcester streets, is 566 feet long, and was laid out September 11, 1901. The contract for constructing the surface of this alley was awarded to Thomas F. Welch, November 19, 1901. The work under this contract was begun November 26, 1901, and completed May 12, 1902. It is a granite block pavement on gravel base, with grout joints and brick sidewalks. As about all the yards are below the level of the sidewalks, concrete walls were built at the back of the sidewalks extending two feet below the level of the yards.

Public alley 901, from Hemenway street to Hemenway street, is 803 feet long, and was laid out March 23, 1899. The contract for excavating and regulating was awarded to H. Gore & Co., September 17, 1902. Work under this contract was begun September 23, 1902, and completed November 14, 1902. The contract for constructing the surface of this alley was awarded to The Boston Asphalt Company, October 15, 1902. Work under this contract was begun October 20, 1902, and completed November 14, 1902. The surface of this alley consists of asphalt, except at either end, where it is paved with granite blocks on concrete base, with pitch and pebble joints.

Roland street, from Boston & Maine Railroad to Somerville line, Charlestown, is 991 feet long, and was laid out October 11, 1901. The contract for constructing the surface

of this street was awarded to Daniel E. Lynch, August 2, 1902. Work under this contract was begun August 25, 1902, and completed November 13, 1902. It is a granite block pavement on gravel base, with gravel joints and crushed stone sidewalks. The edgestones and granite blocks were furnished by the city and hauled by the contractor. The crushed stone was furnished by the contractor.

Robinwood avenue, from Centre street to Enfield street, is 1,850 feet long, and was laid out March 1, 1901. The contract for constructing the surface of this street was awarded to Thomas F. Welch, December 12, 1901. Work under this contract was begun August 22, 1902, and completed December 6, 1902. It was ordered constructed of 12 inches of gravel, with dish gutters; subsequently the gravel construction was changed to crushed stone for the roadway. The gutter blocks were furnished on the line of the work by the city. The crushed stone was furnished by the contractor.

Snow street, from Washington street to Union street (Ward 25), is 640 feet long, and was laid out September 24, 1901. The contract for constructing the surface of this street was awarded to J. H. Sullivan, January 3, 1902. Work under this contract was begun August 18, 1902, and completed September 20, 1902. It is a 6-inch macadam roadway, with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were furnished on the line of the work by the city. The flagging for crosswalks was furnished by the contractor.

South street, between Jamaica street and the Arborway, is 1,635 feet long, and was relocated April 3, 1899. The contract for constructing the surface of this street was awarded to Thomas F. Minton, August 1, 1902. Work under this contract was begun September 15, 1902, and completed December 4, 1902. It is a 6-inch macadam roadway, with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were delivered on the line of the work by the city. The flagging for crosswalks was furnished by the contractor.

Thane street, from Athelwold street to the junction of Harvard and School streets, is 335 feet long, and was laid out September 29, 1899. The contract for constructing the surface of this street was awarded to The Barnes, Ruffin Company, August 23, 1901. Work under this contract was begun September 30, 1901, and suspended October 30, 1901; resumed May 21, 1902, and completed July 23, 1902. This

street is a 6-inch macadam roadway, with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were furnished on the line of the work by the city. The flagging for the crosswalks was furnished by the contractor.

Torrey street, between Washington and Wentworth streets, is 1,055 feet long, and was laid out August 28, 1901. The contract for constructing the surface of this street was awarded to James McGovern, December 26, 1901. Work under this contract was begun July 26, 1902, and completed November 15, 1902. It is a 6-inch macadam roadway, with crushed stone sidewalks. The edgestones and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were furnished on the line of the work by the city. The flagging for the crosswalks was furnished by the contractor.

Vinson street, between Park street and Geneva avenue, is 776 feet long, and was laid out October 21, 1901. The contract for constructing the surface of this street was awarded to Charles J. Jacobs, December 30, 1901. Work under this contract was begun July 28, 1902, and completed October 31, 1902. It is a 6-inch macadam roadway. The edgestones and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were furnished on the line of the work by the city. The flagging for the crosswalks was furnished by the contractor.

Vinson street, between Park street and Geneva avenue. Artificial stone sidewalks. The contract for constructing the artificial stone sidewalks was awarded to W. A. Murtfeldt Company.

Washington street, between Talbot avenue and Euclid street, is 600 feet long, and was relocated October 1, 1901. The contract for constructing the surface of this street was awarded to Thomas J. Shea, November 24, 1902. Work under this contract was begun November 29, 1902, and suspended December 11, 1902. It is to be a 6-inch macadam roadway with crushed stone sidewalks.

Wayland street, between Howard avenue and Dacia street, is 630 feet long, and was laid out and extended September 25, 1901. The contract for constructing the surface of this street was awarded to John Connors, October 9, 1902. Work under this contract was begun October 17, 1902, and suspended December 8, 1902. It is a 6-inch macadam roadway with brick sidewalks. The edgestones, flagging and crushed stone were furnished by the city and hauled by the

contractor. The gutter blocks and sidewalk bricks were furnished by the city on the line of the work.

West Selden street, between Morton and Manchester streets, is 3,424 feet long, and was laid out November 27, 1897. The contract for constructing the surface of this street was awarded to Timothy F. Bradley, December 17, 1901. Work under this contract was begun April 29, 1902, and completed October 27, 1902. The edgestones were furnished by the city and hauled by the contractor. The gutter blocks and crushed stone were furnished by the city on the line of the work. The flagging for the crosswalks was furnished by the contractor.

West Tremlett street, between Washington and Whitfield streets, is 893 feet long, and was laid out August 14, 1901. The contract for constructing the surface of this street was awarded to James McGovern, December 26, 1901. Work under this contract was begun July 21, 1902, and completed November 1, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones and crushed stone were furnished by the City and hauled by the Contractor. The gutter blocks were furnished by the city on the line of the work. The flagging for crosswalks was furnished by the contractor.

Windermere road, between Stoughton street and Cushing avenue, is 794 feet long, and was laid out October 25, 1901. The contract for constructing the surface of this street was awarded to James Doherty, August 2, 1902. Work under this contract was begun September 11, 1902, and completed October 21, 1902. It is a 6-inch macadam roadway with crushed stone sidewalks. The edgestones, flagging and crushed stone were furnished by the city and hauled by the contractor. The gutter blocks were delivered on the line of the work by the city.

Winthrop street, between Dennis street and Brook avenue, is 332 feet long, and was laid out October 21, 1901. The contract for constructing the surface of this street was awarded to J. C. Coleman & Son, October 3, 1902. Work was begun under this contract October 22, 1902, and suspended November 9, 1902.

Walter street, from Jones street to Arnold arboretum. The contract for doing the work of rough grading was awarded to Thomas F. Welch, October 16, 1902, and is still in progress.

Yours respectfully,

HENRY V. MACKSEY,
Deputy Superintendent.

FINANCIAL STATEMENT.

REGULAR APPROPRIATION.

Maintenance	\$850,000 00	
Amount collected for repairs made by Paving Division for different companies, etc.	7,611 46	
Transferred from appropriation for Street Improvements	75,000 00	
Transferred from appropriation for House of Correction	7,282 99	
Transferred from appropriation for Surplus Revenue	13,041 60	
	<u> </u>	
	\$952,936 05	
Less amount trans- ferred to appropri- ation for Sanitary Division	\$23,000 00	
Less amount trans- ferred to appropri- ation for Street Cleaning Division	27,800 00	
	<u> </u>	
	50,800 00	
	<u> </u>	
		\$902,136 05
Expenditures from February 1, 1902, to January 31, 1903		<u> </u>
		\$902,136 05

STREET IMPROVEMENTS.

Amount of appropriation	\$500,000 00	
Amount of loan	500,000 00	
Amount collected for repairs made by Paving Division for different companies, etc.	10,739 84	
	<u> </u>	
	\$1,010,739 84	
Less amount transferred to appro- priation for Paving Division	75,000 00	
	<u> </u>	
		\$935,739 84
Amount of expenditures from February 1, 1902, to January 31, 1903		864,349 63
		<u> </u>
Balance unexpended		<u> </u>
		\$71,390 21

TOTAL EXPENDITURES.

Maintenance appropriation, Paving Division,	\$902,136 05
Blue Hill and Other Avenues	23,767 82
Carleton street	28,758 33
Laying Out and Construction of Highways	* 97,489 98
Laying Out and Constructions of Highways, chapter 478 of the Acts of 1900	242,338 08
Construction of Highways already laid out	30,801 03
Malden Bridge	4,692 78
Street Improvements	864,349 63
	<u>\$2,194,333 70</u>

INCOME.

Statement showing the amount of bills deposited with the City Collector from February 1, 1902, on account of the Paving Division.

Edgestone and sidewalk assessments	<u>\$33,979 12</u>
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The amount paid into the City Treasury during the year on account of the Paving Division was as follows :

Sidewalk construction assessments (law of 1892),	\$2,856 60
Sidewalk construction assessments (law of 1893),	13,261 89
	<u>\$16,118 49</u>

* Fifty dollars received for old buildings on Bow street and \$5 for old buildings on Adams street credited to the appropriation for Highways, making of.

Objects of Expenditures from the Regular Appropriation Classified by Districts, from February 1, 1902, to January 31, 1903.

DISTRICTS.	Repairs.	Snow.	Edgestone and Sidewalk Repairs.	Repairing Fences.	Repairing Plank-walks.	A. Miscellaneous.	B. New Work Paid from Maintenance.	Totals.
1. South Boston	\$7,628 11	\$9,694 21	\$10,398 70	\$1,544 44	\$892 18	.....	.....	\$30,097 64
2. East Boston	9,826 85	3,392 45	5,293 33	1,014 45	663 73	.....	.....	20,190 81
3. Charlestown	11,942 76	8,226 59	4,288 26	153 44	90 32	.....	.....	24,701 37
4. Brighton	9,079 71	4,902 23	588 90	377 42	682 50	.....	.....	15,630 76
5. West Roxbury	23,395 47	9,630 26	843 13	2,813 30	578 76	.....	.....	37,260 92
6. Dorchester	53,980 12	10,787 91	6,908 22	619 79	4,502 48	.....	.....	76,798 52
7. Roxbury	32,867 91	12,307 11	8,051 63	4,806 16	2,132 22	.....	.....	60,165 03
8. South End	21,230 82	27,849 27	5,340 82	671 22	2,384 61	.....	.....	57,476 74
9. Back Bay	11,592 36	7,542 38	5,258 23	1,700 73	452 30	.....	\$2,241 48	28,787 48
10. North End	20,357 23	27,567 25	5,963 09	82 53	.....	\$497,056 68	.....	53,970 10
Totals	\$201,301 34	\$121,899 66	\$52,984 31	\$13,783 48	\$12,319 10	\$497,056 68	\$2,241 48	\$902,136 05

SCHEDULE A.

Salaries of Deputy Superintendent and office employees	\$15,817 66
Salaries of Permit Office employees	8,743 61
Salaries of Inspectors	26,087 69
Salaries of Engineers	21,602 39
Smoke inspection	1,067 32
Holidays	50,387 51
Signs and numbers	6,379 45
Furniture	109 75
Repairs to offices, stables, sheds, etc.	3,752 91
Repairing stable at yard on Child street, West Roxbury	3,157 23
Printing and stationery	7,019 14
Gas and electric lighting	507 86
Messenger service	28 07
Wharfage and rent	14,080 09
Medical attendance on injured employees	694 00
Fuel and oil	2,928 43
Taxes	1,450 94
Advertising	239 39
Sundries	968 49
Boiler insurance	15 07
Execution of court	124 30
Travelling expenses, car-fares, etc.	1,194 75
Badges	2 80
Photographs	24 00
Expenses of yards and stables, including repairs to carts, har- nesses, stables and care of horses, etc.	\$178,369 17
Less amount earned by division teams	82,668 49
	<hr/>
	95,700 68
Tools, cost of keeping same in repair, etc.	18,488 42
Veterinary services	2,704 75
Telephones	1,331 08
Artificial stone sidewalks	6,041 97
Street cleaning, suburban districts	60,466 56
Edgestones and sidewalks, new	6,299 83
Building new fences, etc.	1,271 33
Crossing repairs	6,207 67
Crossings, new	4,092 35
Engineering supplies	291 70
	<hr/>
<i>Carried forward</i>	\$369,279 19

STREET DEPARTMENT—PAVING DIVISION. 63

<i>Brought forward</i>	\$369,279 19
Subway, Traverse street	619 85
Steam rollers	1,928 76
Stock	24,652 80
Street Cleaning Division (proportional share of cost of rent, care of horses, etc.) at East Eagle-street yard	2,360 79
Repairing office, South Yard	3,360 27
New stable, Charlestown	2,287 95
Building new shed, Brighton	1,872 29
Repairing wharf, North End	1,166 84
Stone crushers	85,418 24
Steam heating plant, Hancock-street yard	515 00
Derrick	260 00
Ice	34 70
Steam roller (new)	3,300 00
	<hr/>
	\$497,056 68
	<hr/> <hr/>

SCHEDULE B.

NEW WORK—PAID FROM MAINTENANCE.

<i>Newbury street</i> , Fairfield to Hereford street, unfinished work from 1901: Labor, teaming and materials furnished by the city	\$240 70
Amount retained from United States Wood Preserving Company for work done in 1901, under contract	2,000 78
	<hr/>
	\$2,241 48
	<hr/> <hr/>

DETAIL OF EXPENDITURES UNDER SPECIAL APPROPRIATIONS.

<i>Carleton street</i> , Yarmouth street to Massachu- setts avenue	\$28,758 33
<i>Malden bridge</i>	4,692 78
	<hr/>
	\$33,451 11
	<hr/> <hr/>

STREET IMPROVEMENTS.

<i>Abbot street</i> , Blue Hill avenue to Harvard street	1,405 50
<i>Academy Hill road</i> , Chestnut Hill avenue to Mt. Vernon avenue	345 63
	<hr/>
<i>Carried forward</i>	\$1,751 13

<i>Brought forward</i>	\$1,751 13
<i>Adams street</i> (Charlestown), Common to Chelsea street	5,843 81
<i>Adams street</i> (Dorchester), Dorchester avenue to Bowdoin street	19,830 84
<i>Advertising</i> , repairs to streets	339 50
<i>Albany street</i> , at City Hospital (included in cost of Harrison avenue).	
<i>Albany street</i> , East Canton to East Brookline street	933 99
<i>Arcadia street</i> , Adams to Draper street	5,085 28
<i>Arlington street</i> , Market to Parsons street	2,708 84
<i>Arnold street</i> , Weld street to Brookline line	1,111 71
<i>Auckland street</i> , Savin Hill avenue to Belfort street	301 30
<i>B street</i> , West First street to West Broadway,	2,235 41
<i>Baker street</i> , Spring to Johnson street	1,506 18
<i>Bartlett street</i> , Pearl to Walker street	976 44
<i>Bath street</i> , Post Office square to Post Office square	1,179 53
<i>Beacon street</i> , Park to Charles street	8,084 73
<i>Beacon street</i> , Raleigh to St. Mary's street	13,061 53
<i>Bedford street</i> , Washington to Chauncy street,	6,608 86
<i>Bedford street</i> , Kingston to Summer street	6,072 01
<i>Beech street</i> , Anawan avenue to Westbourne street	3,395 77
<i>Belvidere street</i> , Massachusetts avenue to West Newton street, and West Newton street, Belvidere street to Huntington avenue	10,716 77
<i>Bowdoin street</i> , Ashburton place to Cambridge street	10,133 18
<i>Boyls'on street</i> , Dartmouth to Hemenway street	4,955 38
<i>Braintree street</i> , Everett to Franklin street	1,534 77
<i>Bremen street</i> , Saratoga to Porter street	2,402 27
<i>Brighton street</i> , Cambridge to Perkins street	2,259 56
<i>Broad street</i> , State to Central street	4,624 53
<i>Brooks street</i> , East Boston	91 00
<i>Brooks street</i> , Faneuil to Holton street	6,576 97
<i>Bryant street</i> , Huntington avenue to Hemenway street	208 25
<i>Burrell street</i> , Norfolk avenue to Clifton street,	1,229 41
<i>Cambridge street</i> , approaches to West Boston-bridge	654 13
<i>Carried forward</i>	\$126,413 08

<i>Brought forward</i>	\$126,413 08
<i>Camden street</i> , Washington street to Shawmut avenue	204 46
<i>Canterbury street</i> , Mt. Hope street to Neponset avenue	2,016 11
<i>Carson street</i> , Crescent avenue to Shoreham street	221 75
<i>Cedar street</i> , Highland to Thornton street	4,833 41
<i>Central street</i> , Broad to Kilby street	574 12
<i>Centre street</i> , Parker to Day street	4,728 17
<i>Centre street</i> , Paul Gore to Eliot street	9,040 67
<i>Chadwick street</i> , Hampden to Ambrose street,	2,168 06
<i>Chambers street</i> , Green to Poplar street	5,969 42
<i>Charlesview street</i> , Bigelow to Newton street,	2,511 27
<i>Chelsea street</i> , Gove to Saratoga street	12,025 28
<i>Chestnut street</i> , Charles river to Walnut street	6,986 45
<i>Church street</i> , Melrose street to Columbus avenue	2,503 11
<i>Clapp street</i> , Boston street to Massachusetts avenue	4,071 78
<i>Clayton street</i> , Park to Greenwich street	6,467 94
<i>Cliff street</i> , Warren to Washington street	766 21
<i>Codman street</i> , Dorchester	140 00
<i>Commercial street</i> , Eastern avenue to Hanover street	1,132 14
<i>Common street</i> , Park to Adams street	4,553 69
<i>Commonwealth avenue</i>	1,520 00
<i>Corey road</i> , from Brookline, 500 feet north	3,988 34
<i>Corey street</i> , Centre to Weld street	178 43
<i>Cornhill</i> , Washington to Court street	¹ 6,554 88
<i>Court street</i> , Washington street to Court square	127 97
<i>Cross street</i> , Fulton street to North street	1,010 57
<i>Corning street</i> (included in cost of Porter street).	
<i>Dale street</i> , Warren to Washington street	1,864 03
<i>Decatur street</i> , Meridian to Border street	7,133 39
<i>Devonshire street</i> , Summer street to Winthrop square	4,953 61
<i>Dighton place</i> , from Washington street	2,643 99
<i>Dillon street</i> , Lenox to Sawyer street	1,404 57
<i>Dilworth street</i> , Camden to Northampton street,	622 02
<i>Carried forward</i>	<hr/> \$229,328 92

¹\$642 paid by Boston Elevated Railway Company.

<i>Brought forward</i>	\$229,328	92
<i>Ditson street</i> , Charles to Westville street	2,488	71
<i>Dorchester avenue</i> , Summer street to draw- bridge	1,292	96
<i>Dorchester avenue</i> , drawbridge to Broadway	5,541	76
<i>Dorchester avenue</i> , Broadway to A street	3,334	41
<i>Dorchester avenue</i> , junction of B and Seventh streets	2,810	35
<i>Dorchester avenue</i> , Columbia road to Crescent avenue	3,053	03
<i>Dorchester avenue</i> , Belfort street to Savin Hill avenue	3,903	18
<i>Dorchester avenue</i> , Roach to Freeport street	2,112	04
<i>Dorchester avenue</i> , Ellet to Adams street	4,728	40
<i>Dover street</i> , Washington to Tremont street	*17,546	12
<i>Dresser street</i> , F to Dorchester street	2,861	80
<i>Dudley street</i> , Dunmore to Magazine street	1,673	73
<i>East street</i> , Dorchester avenue to Adams street	1,550	29
<i>East Broadway</i> , G to H street	4,376	13
<i>East Brookline street</i> , Harrison avenue to Albany street	5,611	36
<i>East Cottage street</i> , Humphreys street to Columbia road	1,696	76
<i>East Eighth street</i> , K to M street	2,502	45
<i>East Fifth street</i> , K to O street	4,063	54
<i>East First street</i> , H to L street	3,678	14
<i>East Fourth street</i> , K to L street	5,060	96
<i>East Second street</i> , K to L street	1,653	87
<i>East Third street</i> , O to P street	3,509	92
<i>Egleston street</i> , School to Boylston street	424	76
<i>Elm street</i> , Dock square to Washington street,	2,365	76
<i>Elm street</i> , Washington to Hanover street	1,828	09
<i>Endicott street</i> , Hanover to Stillman street	1,320	56
<i>Essex street</i> , Washington to Chauncy street	†6,554	98
<i>Essex street</i> , Lincoln to South street	5,629	75
<i>Essex street</i> , South street to Atlantic avenue	4,612	80
<i>Everett street</i> , Orleans to Lamson street	2,149	78
<i>Exeter street</i> , Huntington avenue to Boylston street	1,104	37
<i>Fairview street</i> , Mendum to Proctor street	551	99
<i>Falcon street</i> , Putnam to Glendon street	129	00
<i>Carried forward</i>	\$341,050	67

* \$3,664.01 paid by Boston Elevated Railway Company.

† \$871.91 paid by Boston Elevated Railway Company.

<i>Brought forward</i>	\$341,050	67
<i>Ferdinand street</i> , Tennyson to Chandler street,	983	98
<i>Florence street</i> , Washington street to Harrison avenue	821	28
<i>Franklin avenue</i> , Court street to Cornhill	836	48
<i>Freeport street</i> , Park street to Neponset avenue,	9,441	88
<i>Fremont street</i> , Blue Hill avenue to Norfolk street	488	71
<i>Friend street</i> , Causeway to Merrimac street	14,248	46
<i>Frothingham avenue</i> , Main street to Rutherford avenue	1,843	65
<i>Fruit street</i> , Charles to North Grove street	892	27
<i>George street</i> , Hampshire to Shirley street	7,833	86
<i>Georgia street</i> , Blue Hill avenue to Elm Hill avenue	324	84
<i>Glen road</i> , Washington street to Franklin Park,	656	96
<i>Granite avenue</i> , Adams street to the bridge	5,419	65
<i>Green street</i> , Bunker Hill to High street	1,309	10
<i>Greenough avenue</i> , Centre to Elm street	560	89
<i>Greenville place</i> , Columbus avenue to Church street	1,549	00
<i>Grove street</i> , Centre street to Dedham line	2,823	49
<i>H street</i> , East First to East Third street	1,992	40
<i>Hammond street</i> , Shawmut avenue to Tremont street	2,451	82
<i>Hancock street</i> , Mt. Vernon to Derne street	2,953	87
<i>Hancock street</i> , Derne to Cambridge street	7,973	68
<i>Hancock street</i> , Elm to Green street	506	78
<i>Hanover street</i> , Washington to Union street	377	87
<i>Harrison avenue</i> , Way to Asylum street	2,150	24
<i>Harrison avenue</i> , Davis to Dover st	3,316	21
<i>Harrison avenue</i> , Laconia to Savoy st	1,671	09
<i>Harrison avenue</i> , Union Park to Malden street,	*4,091	37
<i>Harrison avenue</i> , East Concord street to Mas- sachusetts avenue and Albany street at City Hospital	700	47
<i>Harrison avenue</i> , Northampton to East Lenox street	1,567	51
<i>Harrison avenue</i> , East Lenox to Thorndike street	†3,483	60
<i>Hartwell street</i> , Schuyler to Georgia street	982	96
<i>Harvard street</i> , Washington street to Glenway street	3,758	61
<i>Carried forward</i>	\$429,063	65

* \$753.60 paid by Boston Elevated Railway Company.

† \$1,151.15 paid by Boston Elevated Railway Company.

<i>Brought forward</i>	\$429,063 65
<i>Havre street</i> , Meridian to Bennington street	\$7,159 10
<i>Hawley street</i> , Milk to Franklin street	5,187 96
<i>Hecla street</i> , Dorchester avenue to Adams street	1,624 06
<i>Hemenway street</i> , Boylston street to Huntington avenue	6,488 94
<i>Henley street</i> , Chelsea street to Navy Yard	1,348 85
<i>Henshaw street</i> , from Cambridge street	118 95
<i>Holborn street</i> , Warren street to Blue Hill avenue	428 39
<i>Hollander street</i> , Crawford street to Humboldt avenue	313 87
<i>Holton street</i> , Everett to Franklin street	970 81
<i>Huntington avenue</i> , Dartmouth to Exeter street	1,781 96
<i>Huntington avenue</i> , Francis street to Brookline line	4,438 16
<i>Hyde Park avenue</i> , Canterbury street to Hyde Park line	2,393 10
<i>Ivanhoe street</i> , West Brookline to West Canton street	939 91
<i>Judson street</i> , West Cottage to Brookford street	620 65
<i>Julian street</i> , Howard avenue to Judson street	630 37
<i>K street</i> , East First street to Broadway	2,086 74
<i>Kemble street</i> , Gerard to Magazine street	2,073 20
<i>Kendall street</i> , Tremont street to Shawmut avenue	5,904 68
<i>Kingsbury street</i> , Kensington to Galena street	117 46
<i>L street</i> , Broadway to East Fourth street	3,554 94
<i>L street</i> , junction of East First street	446 70
<i>LaGrange street</i> , Washington street to Police Station 4	2,079 80
<i>Lark street</i>	176 60
<i>Lawrence street</i> , Union to Austin street	1,000 99
<i>Leicester street</i> , Washington to Bennett street,	1,835 50
<i>Lenox street</i> , Washington to Tremont street	7,916 41
<i>Leonard street</i> , Clayton to Duncan street	1,989 07
<i>Lewis street</i> , approach to South Ferry	1,028 85
<i>Leyden street</i> , Bennington to Boardman street,	6,153 11
<i>Lincoln street</i> , Summer to Essex street	7,106 32
<i>Liverpool street</i> , Sumner street to Central square	4,287 07
<i>Carried forward</i>	\$511,266 17

<i>Brought forward</i>	\$511,266	17
<i>Longwood avenue, Huntington avenue to Brookline line</i>	4,472	28
<i>Lucas street</i>	181	68
<i>Lyon street, Dorchester avenue to Adams street</i>	1,782	61
<i>Magazine street, Norfolk to Massachusetts avenue</i>	2,042	47
<i>Malden street, Albany to Washington street</i>	12,171	77
<i>Marcella street, at Centre street</i>	305	50
<i>Marion street, Bennington to Bremen street</i>	2,425	78
<i>Market street, Canal to Friend street</i>	446	15
<i>Marsh street, Granite avenue to the marsh</i>	4,364	68
<i>Massachusetts avenue, Southampton street to bridge</i>	911	00
<i>Massachusetts avenue, Columbus avenue to bridge</i>	1,630	18
<i>Massachusetts avenue, Huntington avenue to Beacon street</i>	1,351	97
<i>Massachusetts avenue, across Beacon street to Harvard bridge</i>	7,536	20
<i>Maverick street, Meridian to Border street</i>	7,040	98
<i>May street, Pond to Centre street</i>	941	33
<i>Melcher street, Summer to A street</i>	5,355	55
<i>Merrimac street, Causeway street to Haymarket square</i>	23,907	62
<i>Mill street, Neponset avenue to Freeport street</i>	6,057	26
<i>Mindoro street, Prentiss to Station street</i>	1,442	71
<i>Minot street, Neponset avenue to Adams street,</i>	7,609	98
<i>Minot street, Nashua to Lowell street</i>	1,841	10
<i>Moulton street, Corey to Medford street</i>	1,739	49
<i>Mountfort street, Beacon street to Audubon road</i>	2,046	70
<i>Moreland street, Warren to Dennis street</i>	2,729	25
<i>Mt. Hope street, Hyde Park avenue to Canterbury street</i>	3,043	71
<i>Mt. Vernon street, West Cedar to Walnut street,</i>	518	74
<i>Neponset avenue, Hyde Park avenue to Stony brook</i>	3,180	76
<i>Newbury street, Arlington to Fairfield street</i>	6,132	37
<i>Newton street, Brooks to Charlesview street</i>	1,061	96
<i>North Russell street</i>	132	02
<i>Orchard Park street, Orchard to Adams street,</i>	587	94
<i>Page street, McLellan to Glenway street</i>	952	98
<i>Carried forward</i>	\$627,210	89

<i>Brought forward</i>	\$627,210 89
<i>Paris street</i> , Brooks to Meridian street	2,132 55
<i>Park street</i> , Henley to Common street	4,862 90
<i>Parker Hill avenue</i> , Sunset to Hillside street	859 50
<i>Parker street</i> , Centre street to Bromley park	1,090 42
<i>Parmenter street</i> , Hanover to Salem street	1,964 63
<i>Parnell street</i> , Lenox to Sawyer street	1,471 29
<i>Pearl street</i> , Bunker Hill to High street	1,245 20
<i>Piedmont street</i> , Ferdinand to Pleasant street,	3,360 19
<i>Pleasant street</i> , Savin Hill avenue to Willis	2,671 08
<i>Pleasant street</i> , Washington street to Shawmut	
avenue, and Tremont to Eliot street	4,155 43
<i>Pond street</i> , May street to Brookline line	3,060 47
<i>Porter street</i> , Pleasant street to Corning street,	
and Corning street, Porter to Tremont	2,241 94
<i>Portland street</i> , Traverse to Causeway street	*12,818 28
<i>Portsmouth street</i> , Lincoln to Waverly street	1,233 35
<i>Province street</i> , Bromfield to School street	1,732 59
<i>Pratt street</i> , Wadsworth to Ashford street	334 34
<i>Putnam street</i> , Bennington to Saratoga street,	1,225 40
<i>Quincy street</i> , Bowdoin to Bellevue street	1,629 45
<i>Randolph street</i> , Albany street to Harrison	2,359 15
avenue	
<i>Rochester street</i> , Albany street to Harrison	1,297 95
avenue	
<i>Rockland street</i> , Washington street to Dedham	
line	617 40
<i>Rockland street</i> , Warren to Dale street	2,841 89
<i>Roughan road</i> , Park to Main street	218 80
<i>Ruthven street</i> , Walnut to Elm Hill avenue	165 50
<i>Saratoga street</i> , Wordsworth to Austin street,	3,378 72
<i>Savin Hill avenue</i> , railroad bridge to Denny	
street, and Grampian way to Evandale	2,805 55
terrace	
<i>Sawyer street</i> , Lenox street to Shawmut avenue,	2,987 80
<i>Seaver street</i> , Webster to Summer street	163 10
<i>Shawmut avenue</i> , Dover to Milford street	690 05
<i>Shawmut street</i> , Church to Pleasant street	2,834 75
<i>Sherman street</i> , Rockland to Bower street	906 91
<i>Smyrna street</i> , Binney street to Brookline	
avenue	229 68
<i>Carried forward</i>	\$696,797 15

* \$2,446.92 paid by Boston Elevated Railway Company.

<i>Brought forward</i>	\$696,797	15
<i>Snow Hill street</i> , Hull to Prince street	2,657	60
<i>Soley street</i> , Warren to Monument square	2,397	43
<i>South street</i> , Summer to Essex street	*7,192	47
<i>South street</i> , Eliot to St. Joseph street	463	36
<i>Spring street</i> , Centre street to Charles river	5,979	23
<i>Sterling street</i> , Tremont street to Shawmut avenue	1,741	55
<i>Story street</i> , G to H street	642	76
<i>Sumner street</i> , Jeffries street to water's edge	500	98
<i>Surrey street</i> , Market to Parsons street	1,648	77
<i>Tennyson street</i> , Columbus avenue to Pleasant street	2,351	16
<i>Tolman street</i> , Neponset avenue to Norwood street	5,035	44
<i>Traverse street</i> , Canal to Merrimac street	4,448	61
<i>Tremont street</i> , Roxbury Crossing to Hunting- ton avenue	41,755	76
<i>Trumbull street</i> , Newland to Ivanhoe street	1,466	52
<i>Union Park street</i> , Harrison avenue to Wash- ington street	4,765	77
<i>Wales street</i> , Blue Hill avenue to Harvard street	425	56
<i>Waltham street</i> , Harrison avenue to Tremont street	3,601	63
<i>Warren avenue</i> , Berkeley street to Columbus avenue	10,448	85
<i>Warren street</i> , Winthrop to Soley street	276	13
<i>Washington street</i> , Winship to Foster street	5,185	62
<i>Washington street</i> , Devens to Austin street	14,965	48
<i>Washington street</i> , Poplar to Walk Hill street, Morton to Green street and Beech street to Dedham line	9,025	69
<i>Washington street</i> , Dudley to Bartlett street	2,437	92
<i>Washington street</i> , Blue Hill to Talbot avenue	3,169	10
<i>Water street</i> , Congress to Kilby street	2,053	50
<i>Water street</i> , Chamber to Wapping street	2,069	34
<i>Waumbeck street</i> , Warren to Crawford street	1,253	87
<i>Waverly street</i> , Market street to Western avenue	3,469	31
<i>Weld street</i> , Corey to Arnold street	861	71
<i>West Broadway</i> , A to B street	2,979	76
<i>Carried forward</i>	\$842,068	03

* \$1,210.25 paid by Boston Elevated Railway Company.

<i>Brought forward</i>	§842,068 03
<i>West Cedar street</i> , Mt. Vernon to Pinckney street	467 80
<i>West Cottage street</i> , Dudley street to Blue Hill avenue	520 25
<i>West Fifth street</i> , D to F street	2,666 36
<i>West First street</i> , A street to railroad crossing .	3,107 17
<i>West Fourth street</i> , Dorchester avenue to B street	4,067 05
<i>West Newton street</i> , Columbus avenue to bridge,	655 92
<i>West Ninth street</i> , E to Dorchester street .	2,358 22
<i>West Sixth street</i> , Dorchester avenue to B street	3,116 93
<i>Woodbury street</i> , Washington street to Shawmut avenue	1,409 19
<i>Woodward avenue</i> , Dudley to George street .	2,635 05
<i>Wyman street</i> , Centre street to Chestnut avenue	1,277 66
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	§864,349 63
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LAYING-OUT AND CONSTRUCTION OF HIGHWAYS, CHAPTER 478 OF THE ACTS OF 1900.

<i>Adams street</i> , Common to Chestnut street .	\$1,354 65
<i>Alford street</i> , Mystic river to Everett line .	22,732 41
<i>Ashley street</i> , Breed to Walley street . .	4 00
<i>Austin street</i> , Washington to Lawrence street,	54 83
<i>B street</i> , from line of original low water to Congress street	53 75
<i>Barry street</i> , Quincy to Richfield street . .	125 52
<i>Bennington street</i> , Chelsea street to Belle Isle inlet	18,006 82
<i>Bird street</i> , Columbia road to Hancock street,	150 76
<i>Bow street</i> , Washington street to City square,	31 50
<i>Brookline avenue</i> , Longwood avenue entrance to Back Bay Fens to Riverway	14,677 32
<i>Brooks street</i> , Holton to North Beacon street,	20,022 37
<i>Cambridge street</i> , Brighton avenue to Washington street	24 50
<i>Columbia road</i>	40,441 80
<i>Devens street</i> , Rutherford avenue to Washington street	9 00
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<i>Carried forward</i>	§117,689 23

<i>Brought forward</i>	\$117,689	23
<i>Gibson street</i> , Dorchester avenue to Adams street	7,170	44
<i>Hancock street</i> , Columbia road to Winter street,	2,154	12
<i>Louder's lane</i> , at Centre street	68	02
<i>Millet street</i> , Park to Athelwold street	245	76
<i>Milton avenue</i> , Lauriat avenue to Norfolk street	4,484	72
<i>Moseley street</i> , Crescent avenue to Columbia road	3,387	89
<i>Normandy street</i> , from Lawrence avenue	195	18
<i>Perkins street</i> , Centre street to Jamaica way	775	03
<i>Ritchie street</i> , Columbus avenue to Marcella street	2,506	80
<i>Rowe street</i> , Ashland to Seymour street	601	96
<i>Rutherford avenue</i> , Chapman to Devens street,	215	07
<i>Seymour street</i> , Canterbury street to Brown avenue	911	02
<i>South street</i> , Jamaica street to Arborway	11,044	13
<i>Stratford street</i> , Anawan to Clement avenue,	387	40
<i>Swett street</i> (now Southampton street), Massachusetts avenue to Dorchester avenue	1,947	50
<i>Templeton street</i> , Dorchester avenue to Adams street	174	63
<i>Thane street</i> , Athelwold to School street	2,489	21
<i>Washington street</i> , Talbot avenue to Euclid street	794	67
<i>Walk Hill street</i> , South to Washington street,	23	75
<i>Walter street</i> , Centre to South street	3,934	64
<i>Westbourne street</i> , Cornell to Beach street	716	69
<i>West Selden street</i> , Morton to Manchester street	23,228	91
<i>Worthington street</i> , Longwood avenue to the Fenway	1,711	09
<i>Between Marlboro street and Commonwealth avenue :</i>		
<i>Public alley 422</i> , Arlington to Berkeley street,	2,787	91
<i>Public alley 423</i> , Berkeley to Clarendon street	2,680	59
<i>Public alley 424</i> , Clarendon to Dartmouth street	2,148	67
<i>Public alley 428</i> , Gloucester to Hereford street	2	00
<i>Public alley 429</i> , Hereford street to Massachusetts avenue	2	00
<i>Carried forward</i>	\$194,479	03

<i>Brought forward</i>	\$194,479 03
<i>Between Commonwealth avenue and Newbury street :</i>	
<i>Public alley 436, Clarendon to Berkeley street</i>	2 00
<i>Between Newbury and Boylston streets :</i>	
<i>Public alley 441, Exeter to Fairfield street</i>	113 18
<i>Public alley 442, Fairfield to Gloucester street</i>	2 00
<i>Public alley 443, Gloucester to Hereford street</i>	2,064 44
<i>Public alley 444, Hereford street to Massachusetts avenue</i>	3,487 58
<i>Public alley 901, Hemenway street to Fenway,</i>	5,193 23
<i>Public alley 905, west from Massachusetts avenue, between Commonwealth avenue and Marlborough street, and to Marlborough street</i>	99 15
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	\$205,440 61

Amount included in cost for
Blue Hill and Other
Avenues \$37,267 30

Amount included in cost for
Laying Out and Construction
of Highways 69 55

Amount included in Cost of Con-
struction of Highways Al-
ready Laid Out 4 63

37,341 48

\$242,782 09

Less amount paid out of appropriation for
Laying Out and Construction of High-
ways

444 01

\$242,338 08

LAYING-OUT AND CONSTRUCTION OF HIGH- WAYS.

<i>Ainsley street, from Rosemont street</i>	\$95 17
<i>Ashland street, Mill to Everdean street</i>	680 29
<i>Bernard street, Harvard street to Talbot avenue,</i>	222 27
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<i>Carried forward</i>	\$997 73

<i>Brought forward</i>	\$997 73
<i>Blanche street</i> , Green Hill to Preston street .	195 09
<i>Bowen street</i> , E to F street	88 10
<i>Brackett street</i> , Washington to Faneuil street .	3,814 81
<i>Bynner street</i> , Day to Creighton street . . .	651 06
<i>Capen street</i> , Evans to Fairmount street . . .	2,032 04
<i>Carter street</i> , Cambridge to Roland street . .	1,222 50
<i>Dakota street</i> , Washington to Greenbrier street,	3,159 79
<i>Darling street</i> , Calumet to Hillside street . .	3,339 22
<i>Dilworth street</i> , Camden to Northampton street,	121 80
<i>E street</i> , Fargo to Summer street	2,873 96
<i>Everdean street</i> , Ashland to Greenbrier street,	1,578 41
<i>Execution of Court</i>	54 59
<i>Fairfax street</i> , Carruth to Beaumont street . .	1,023 22
<i>Fayston street</i> , Blue Hill avenue to Mascoma street	6,373 61
<i>Fisher avenue</i> , Hayden street to Parker Hill avenue	18 61
<i>Hamilton street</i> , Columbia road to Mt. Everett street	4,863 37
<i>Hinckley street</i> , Pleasant to Bakersfield street,	2,263 49
<i>Homes avenue</i> , Bowdoin to Topliff street . . .	197 70
<i>Lindsey street</i> , Greenbrier to Waldeck street,	32 80
<i>Morrill street</i> , Pleasant to Bakersfield street .	2,444 48
<i>Moultrie street</i> , Allston to Washington street .	6,044 56
<i>Oak-square avenue</i> , Washington to Faneuil street	5,628 36
<i>Oakwood street</i> , Norfolk to Torrey street . . .	3,415 39
<i>Roland street</i> , B. & M. R.R. to Somerville line,	9,051 73
<i>Rosemont street</i> , Adams to Gaston street . . .	64 74
<i>Snow street</i> , Washington to Union street . . .	4,379 73
<i>Torrey street</i> , Washington to Wentworth street,	6,689 83
<i>Tower street</i> , Hyde Park avenue to Forest Hills street	164 01
<i>Vinson street</i> , Park street to Geneva avenue . .	6,662 35
<i>Wayland street</i> , Howard avenue to Dacia street	3,763 27
<i>West Tremlett street</i> , Washington to Whitfield street	4,585 39
<i>Windermere road</i> , Stoughton street to Cushing avenue	4,650 71
<i>Winthrop street</i> , Dennis street to Brook avenue,	1,197 78
<i>Public alley 502</i> , from Rutland square to Concord square, between Columbus ave- nue and Tremont street	1,341 58
<i>Carried forward</i>	\$94,985 81

<i>Brought forward</i>	\$94,985 81
<i>Public alley 503</i> , from Rutland to Concord square, next east of Columbus avenue	8 81
<i>Public alley 706</i> , from Newland street, between West Concord and Worcester streets	2,120 90
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	\$97,115 52
Less amount paid out of appropriation for Laying Out and Construction of Highways, chapter 478 of the Acts of 1900	69 55
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	\$97,045 97
Amount included in cost for Laying Out and Construction of Highways, chapter 478 of the Acts of 1900	444 01
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	<u>\$97,489 98</u>

CONSTRUCTION OF HIGHWAYS ALREADY LAID OUT.

<i>Berkeley street</i> , Boylston street to Columbus avenue	\$13,904 14
<i>Boardman street</i> , Saratoga street to B. & M. R.R.	40 50
<i>Mead street</i> , Russell to Bunker Hill street	7,534 79
<i>Milk street</i> , India street to Atlantic avenue	934 55
<i>Newland street</i> , West Brookline to West Newton street	2,290 57
<i>South Huntington avenue</i> , Heath to Centre street	495 22
<i>Storer street</i> , India street to Atlantic avenue,	6 50
<i>Robinwood avenue</i> , Centre to Enfield street	5,599 39
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	\$30,805 66
Less amount paid out of appropriation for Laying Out and Construction of Highways, chapter 478 of the Acts of 1900	4 63
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	<u>\$30,801 03</u>

BLUE HILL AND OTHER AVENUES.

<i>Blue Hill avenue</i> , Walk Hill to River street .	\$61,025 12
<i>Commonwealth avenue</i>	10 00
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	\$61,035 12
Less amount paid out of appropriation for Laying Out and Construction of High- ways, chapter 478 of the Acts of 1900 .	37,267 30
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	<u>\$23,767 82</u>

New Edgestones. (Not including "323" streets.)

First setting. Linear feet.

YEAR.	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	City Proper.	Total.
1891.....	11,724	4,131	2,227	2,032	4,617	18,138	22,693	8,236	73,798
1892.....	9,631	11,238	2,804	9,001	9,970	36,859	25,506	9,222	114,231
1893.....	4,372	1,969	.....	3,981	4,795	10,587	14,979	1,118	41,801
1894.....	521	816	694	1,323	1,568	6,544	39,324	1,916	52,706
1895.....	2,097	1,146	668	4,191	8,319	15,205	17,053	2,990	51,669
1896.....	3,855	807	791	8,507	2,498	21,367	20,111	43,614	101,550
1897.....	2,311	1,691	.....	1,086	5,228	37,205	14,241	5,097	66,359
1898.....	1,259	918	.....	5,909	2,185	50,124	13,252	1,281	74,928
1899.....	308	2,715	111	439	2,265	6,818	8,134	1,410	22,200
1900.....	729	616	100	.....	614	9,633	8,882	1,544	22,118
1901.....	1,925	1,184	.....	4,627	7,936	22,574	13,942	2,480	54,668
1902.....	1,957	1,121	.....	688	990	10,428	3,842	2,082	21,108
Totals.....	40,689	28,352	7,395	41,784	50,985	245,482	201,959	80,990	697,636

New Brick Sidewalks. (Not including "333" streets.)

First laying. Square yards.

YEAR.	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	City Proper.	Total.
1891.....	3,628	2,176	120	377	967	1,478	9,098	3,881	21,725
1892.....	4,484	12,847	3,451	1,068	2,905	10,462	20,231	10,423	65,871
1893.....	751	2,197	175	.....	350	2,412	5,912	964	12,761
1894.....	2,706	2,115	437	.....	834	453	11,533	1,537	19,615
1895.....	1,946	1,151	408	2,908	1,734	2,146	6,246	4,103	20,642
1896.....	2,314	681	5,361	.....	542	2,616	15,897	1,044	28,455
1897.....	13,460	16,125	14,454	2,128	1,855	2,995	21,596	17,287	89,900
1898.....	4,487	6,453	4,653	216	1,225	4,723	13,783	10,121	45,661
1899.....	4,084	3,503	.....	.....	1,448	2,610	8,316	5,424	25,385
1900.....	1,069	1,476	477	873	1,583	4,033	4,999	2,858	17,368
1901.....	4,617	1,142	323	100	3,825	5,613	4,920	549	21,089
1902.....	1,319	1,425	.....	288	342	2,537	1,688	190	7,789
Totals ..	44,865	51,291	29,859	7,958	17,610	42,078	124,219	58,381	376,261

The amount of new edgestones set and new brick sidewalks paved during the year, not including "323" streets, is as follows:

	Edgestones Linear Feet.	Brick Square Yards.
South Boston, Paving District No. 1.....	1,957	1,319
East Boston, Paving District No. 2.....	1,121	1,425
Brighton, Paving District No. 4.....	688	288
West Roxbury, Paving District No. 5.....	990	342
Dorchester, Paving District No. 6.....	10,428	2,537
Roxbury, Paving District No. 7.....	3,842	1,688
City Proper, Paving Districts Nos. 8, 9, 10.....	2,082	190
Totals.....	21,108	7,789

SNOWFALL AND RAINFALL.

The following table, showing the snowfall and rainfall since the present organization of the department, is of interest:

Snowfall (inches).

MONTH.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.	1901-1902.	1902-1903.
November ..	.....	.....	3.0	.4	6.7	.....	2.2	8.1	17.8	.1	.1	1.2	.....
December ...	14.5	.....	2.0	18.5	13.5	5.2	8.6	7.8	7.7	.....	.8	12.6	22.8
January	14.7	12.0	14.6	15.0	13.9	9.5	18.2	16.3	6.1	8.3	7.8	12.0	4.2
February ...	13.7	11.5	35.3	21.6	8.8	9.5	10.9	11.5	30.7	.....	8.8	13.0	14.7
March	16.2	20.0	4.5	.....	3.8	14.5	3.3	6.0	9.3	.....	.....	7.5	.3
April .....	.....	.....	7.9	8.5	.5	.2	.....	2.2	.....	.....	.....	.....	.....
Totals...	59.1	43.5	67.3	64.0	47.2	38.9	43.2	51.9	71.6	8.4	17.5	45.3	42.0

Snow Account.

1893-94 . . .	\$151,943 33	1898-99 . . .	\$172,963 48
1894-95 . . .	78,381 71	1899-1900 . . .	154,625 18
1895-96 . . .	84,809 08	1900-1901 . . .	29,138 38
1896-97 . . .	68,741 07	1901-1902 . . .	93,518 45
1897-98 . . .	116,224 20	1902-1903 . . .	121,899 66

Average for 10 years, \$107,224.45.

Rainfall (inches).

MONTH.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
January	3.40	3.85	2.26	3.01	3.79	2.25	3.16	3.50	4.19	4.20	1.56	1.65
February	2.53	.36	4.82	3.15	1.11	3.94	2.12	4.81	3.03	6.83	.66	4.19
March	2.70	1.68	2.80	1.01	2.72	5.41	2.79	1.82	5.95	4.60	6.58	5.29
April	1.68	.93	3.13	3.78	3.65	1.56	3.17	6.31	1.29	1.90	7.43	2.87
May	1.56	5.15	5.23	4.12	2.71	1.68	4.00	4.33	.81	5.07	6.31	1.07
June	3.06	3.05	2.20	.80	1.73	2.71	4.46	1.60	2.86	1.85	1.31	1.77
July	3.73	2.56	1.72	3.01	2.98	2.90	4.22	4.42	2.52	2.69	5.20	2.88
August	3.87	4.87	6.46	3.03	3.24	2.15	3.95	6.38	2.52	2.46	3.25	2.20
September.....	2.29	1.90	1.59	2.14	1.53	6.40	2.38	1.93	5.09	4.62	2.50	2.18
October.....	5.56	2.31	2.94	5.11	6.19	3.15	.41	7.17	2.40	3.41	3.02	4.36
November.....	2.20	2.94	1.83	3.10	8.07	3.70	6.19	5.32	2.51	4.17	2.41	1.09
December.....	3.50	.87	5.16	4.28	2.45	1.70	3.92	2.19	1.52	2.25	8.49	4.48
Totals	36.08	30.47	40.14	36.54	40.17	37.55	40.77	49.78	34.69	44.05	48.72	33.93

In this rainfall is included the precipitation during the winter months, which equals .1 of an inch to 1 inch of snowfall.

Crushed Stone, Ballast, and Telford.*Output of Stone from City Crushers.*

	Crushed Stone. <i>Tons.</i>	Telford. <i>Tons.</i>
Centre-street crusher.....	19,688	—
Chestnut Hill avenue crusher.....	19,655	—
Codman-street crusher.....	32,437	13
Columbia-road crusher.....	50,627	3,770
Dimock-street crusher.....	22,668	—
Kenney-street crusher.....	25,021	—
Rosseter-street crusher.....	8,394	—
Totals.....	178,490	3,783

PROPERTY IN CHARGE OF THE DEPUTY SUPERINTENDENT OF PAVING DIVISION.

Buildings and wharf on Albany street, opposite Sharon street. The building is of brick and wood, and covers some 8,000 square feet of land, and is divided into a shed for storage, blacksmith's and carpenter's shops, tool-room, and stable. The total contents of the lot, including wharf and building, are 63,180 square feet.

Fort Hill Wharf, containing 21,054 square feet, placed in charge of the Paving Department May 18, 1874, to be used for the landing and storage of paving blocks and gravel until such time as said wharf shall be wanted for the extension of Oliver street. The greater part of said wharf is occupied by the Sanitary Division as a garbage dump, and the building thereon is leased to a tenant.

Ledge lot on Washington street, corner Dimock street, Roxbury, containing 134,671 square feet. Upon this lot are buildings containing a steam-engine and stone-crusher.

Highland street stable lot. Upon this lot is a large brick stable, erected in 1873, and occupied by the Sanitary and Paving Divisions; also a brick building used as a blacksmith's shop, and a shed for the storage of tools, etc.

Ledge lot on Codman street, Dorchester, containing 299,000 square feet, was purchased in 1870. Upon this lot is a shed

containing a steam-engine and stone-crusher, also a stable and tool-house.

On the Almshouse lot, Hancock street, Dorchester, there are two stables, also a shed and tool-house.

Ledge lot on Magnolia street and Bird place, Dorchester, containing 81,068 square feet. This lot was purchased by the town of Dorchester in 1867.

Downer avenue lot, Dorchester, containing 35,300 square feet.

On Child street, West Roxbury, a lot of land containing 43,024 square feet, upon which are a stable and shed, blacksmith's shop, and tool-house.

Gravel lot in the town of Milton, on Brush Hill road, containing 64,523 square feet, leased May 13, 1843, by the town of Dorchester for 999 years; also lot of land adjoining, containing about 30,000 square feet, owned by the City of Boston.

Gravel lot on Morton street, Ward 23, containing about one-third of an acre, purchased by the town of West Roxbury in 1870, used for storage purposes.

Ledge and gravel lot, rear of Union street, containing about 37,000 square feet, purchased by the town of Brighton. This lot is at present leased.

Ledge lot on Chestnut Hill avenue, Brighton, containing about thirteen acres, upon which are an office, engine-house, stable, and crusher plant.

On Medford street, Charlestown, a wharf lot, foot of Elm street, containing 8,000 feet, upon which are sheds, office, stable, etc.

In South Boston, corner of H and Ninth streets, stable, carriage-house, shed, tool-house, and office on leased land.

On Hereford street, a yard with shed, tool-house, and office.

Wharf known as Atkin's wharf, 521 Commercial street, purchased in 1887 for \$24,000, containing 22,553 square feet, having on it an office and stable.

On Centre street, West Roxbury, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Rosseter street, Dorchester, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Revere street, wharf for storing paving blocks, etc.

Wharf on Chelsea street, East Boston, containing 61,000 square feet, with buildings, purchased in 1897 for \$15,000.

Wharf on East Eagle street, East Boston, known as Glendon Wharf, used jointly with Sanitary, Sewer, and Street Cleaning Divisions. Upon this lot are sheds, stable, and offices on leased land.

On Montebello and Iffley roads, West Roxbury, buildings containing engines, tools, etc., on leased land.

On Kenney street, Roxbury, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Columbia road, Dorchester, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Hamlin street, South Boston, lot used for storage purposes.

On Mt. Vernon street, West Roxbury, yard lot belonging to the Schoolhouse Commission, used for storage purposes.

On Massachusetts avenue, South End, lot used for storage purposes.

On Savin Hill avenue, Dorchester, crushing plant on ledge of John McMorrow.

STREET OPENINGS.

Permits have been issued to make openings in the public streets as follows :

	Permits.	Feet.
American Telegraph and Telephone Company.	6	25
Auxiliary Fire Alarm Company.....	7	1,710
Boston Automatic Fire Alarm Company.....	3	235
Boston Fire Department.....	36	3,092
Boston Lamp Department.....	203	2,562
Boston Public Grounds Department.....	2	8
Boston Police Department.....	33	1,653
Boston Street Department (Sewer Division)..	465	29,880
Boston Water Department.....	2,747	130,833
Boston & Albany Railroad Company.....	2	63
Boston & Maine Railroad Company.....	19	643
Boston Electric Light Company.....	24	355
Boston Elevated Railway Company.....	235	91,048
Boston Low Tension Wire Association.....	23	4,032
Boston Gas Light Company.....	680	83,503
Boston Pneumatic Transit Company.....	30	1,903
Boston Transit Commission.....	7	564
Brookline Gas Light Company.....	429	114,706
Charlestown Gas and Electric Light Company.	116	3,470
Church Green Light and Power Company....	12	1,587
Dorchester Gas Light Company.....	416	41,174
Edison Electric Illuminating Company.....	1,244	62,844
Eastern Cold Storage Company.....	5	225
East Boston Gas Company.....	237	16,362
Jamaica Plain Gas Light Company.....	173	7,798
Lynn & Boston Railroad Company.....	5	1,265
Massachusetts Pipe Line Gas Company.....	6	137
Massachusetts Telegraph and Telephone Com- pany.....	3	59
Metropolitan Contracting Company.....	6	2,168
<i>Carried forward</i>	6,184	607,619

	Permits.	Feet.
<i>Brought forward</i>	6,184	607,619
New England Telegraph and Telephone Company.....	590	58,917
New York, New Haven & Hartford Railroad Company.....	5	1,490
Old Colony Street Railway Company.....	12	2,885
Postal Telegraph Cable Company.....	45	6,415
Quincy & Boston Street Railway Company...	3	55
Quincy Market Cold Storage Company.....	37	1,291
Roxbury Gas Light Company.....	303	78,664
South Boston Gas Light Company.....	229	9,370
Simpson Bros. Corporation.....	57	4,883
Standard Oil Company.....	6	408
Union Freight Railway Company.....	3	900
Western Union Telegraph Company.....	22	895
Miscellaneous.....	3,185	240,366
Emergency Permits, Class A.....	2,076	
Emergency Permits returned as used, 1,426, estimated length.....	....	8,832
Totals	13,757	1,022,990

Making a total length of openings, 190.6 miles.

Permits to occupy other than for street openings have been issued as follows:

	Permits.
Advertising by man wearing hat and coat lettered	2
Cleaning snow from roofs	184
Dumping snow in public alleys	181
Driving cattle	20
Erecting, removing and repairing awnings	4,455
Erecting and repairing buildings	7,800
Feeding horses on the street	530
Moving buildings	20
Loading and unloading goods	577
Pedlers (two classes)	672
Painting signs or notices on obstruction fences	22
Placing signs flat on buildings	2,728
Raising and lowering safes, machinery, etc.	648
Selling from areas	19
Selling from doors and windows	82
Selling from farmers' wagon stands	50
Special permits for June 17 and July 4	111
Special permits for various purposes	130
Extensions of permits already issued	518
Emergency permits, class B	405

Permits to Project Lamps and Signs.

Edison Electric Illuminating Company	83
Kecos Incandescent Company	6
Total	19,243

	Permits.
Total number of permits for street openings	13,757
Total number of permits for other purposes	19,243
Grand total of permits issued	<u>33,000</u>

One hundred and forty-two of the above-mentioned permits were granted for the construction of artificial stone sidewalks, and an inspector was specially assigned to this work.

All bonds, excepting those of corporations, are guaranteed by some one of the surety companies authorized to do business in the State of Massachusetts.

There are in force 1,118 such bonds, and there have been 692 bonds retired during the year.

There have been 19,742 notices sent to the various foremen during the year, directing them to repair defects in the public streets which had been reported by the police, inspectors and others; also, 4,808 notices to departments, corporations and private parties to repair the streets where they had received permits for excavations, and the work of resurfacing had been improperly done, and to owners of estates where coal-holes or sidewalk lights were defective.

By request of the Chief Engineer of the Paving Division there have been 603 notices sent to departments and corporations calling for various changes in their structures on account of street improvements. In each case permits have been granted allowing them to do the work.

Seven thousand three hundred and sixty-two notices have been sent to departments, corporations and owners of abutting estates on streets where improvements were about to be made.

INSPECTORS.

With the exception of those required at the office for emergency work, inspectors are located at the various yards, and report each day by mail to this office regarding defects in the streets on their routes. Notices are sent to the proper parties directing that these reports be made, and the inspector is notified to see that the repairs are properly attended to.

Inspectors have been detailed to serve with and at the expense of corporations excavating in the streets, and make daily and weekly reports on the progress of the work.

The change in emergency permits directed by the superintendent of streets — viz., the addition of a coupon to be mailed to this office at once when the permit is given out to the workmen — went into effect on November 17, and the

results are very satisfactory, as it enables us to have a better knowledge of emergency openings than we have had heretofore.

Permits have been granted to set 752 new telegraph and telephone poles during the year, and for the removal of 118.

STREET NUMBERING.

During the year five whole streets were numbered, 17 whole streets renumbered, 524 parts of streets numbered, 949 estates numbered, 332 estates on which numbers were changed, and 3,403 metallic figures were supplied. The appended table explains the work done by districts:

	Whole Streets Num- bered.	Whole Streets Re- Numbered.	Parts of Streets Numbered.	Number of Estates Numbered.	Estates on which Numbers were Changed.	Metallic Figures Supplied.
East Boston.....	.....	2	20	27	27	169
Charlestown.....	.....	2	12	28	59	208
City Proper.....	2	1	58	141	8	602
South Boston.....	.....	.....	44	100	5	300
Dorchester.....	2	7	178	287	130	1,052
Roxbury.....	.....	4	95	177	96	637
West Roxbury.....	.....	.....	70	97	1	220
Brighton.....	1	1	47	92	6	215
Totals.....	5	17	524	949	332	3,403

APPENDIX D.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE SANITARY DIVISION.

ROOMS 917-920 TREMONT BUILDING,
BOSTON, February 1, 1903.

JAMES DONOVAN, ESQ.,

Superintendent of Streets :

DEAR SIR, — I respectfully submit the annual report of the expenditures, income and operation of the Sanitary Division of the Street Department during the financial year ending January 31, 1903.

The Sanitary Division has charge of the removal of house offal, waste, rubbish, house dirt and ashes accumulated from burning of material for heating buildings and domestic purposes.

Yours respectfully,

DANIEL P. SULLIVAN,
Deputy Superintendent.

FINANCIAL STATEMENT.

Amount of appropriation	\$615,000 00
Transferred from Paving Division	23,000 00
Transferred from Surplus Revenue	37,319 64

Total amount of appropriation	\$675,319 64
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The total expenditure of Sanitary Division, including work done for other divisions and departments, and paid for by them	\$717,256 10
Less amounts paid by other divisions and departments	41,936 46

Net cost of maintenance, Sanitary Division	\$675,319 64
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TOTAL COST OF REMOVAL OF HOUSE DIRT, ASHES,
WASTE, RUBBISH AND HOUSE OFFAL.

Salaries: deputy superintendent, clerks and foremen	\$19,082 58
Office supplies and expenses	3,365 28
Ashes, waste and rubbish account	384,018 45
House offal account	218,271 15

Construction, Repair and Horseshoeing Account.

Foreman	1,423 05
Expended for labor	\$33,155 09
Expended for stock	17,414 65
	<hr/>
	50,569 74
Allowed time for holidays	\$38,024 60
Medical attendance and allowed time for injured men	2,501 25
	<hr/>
	40,525 85

Total expenditures of the Sanitary Division for year ending January 31, 1903 \$717,256 10

REVENUE RECEIVED FROM OUTSIDE DIVISIONS AND DEPARTMENTS FOR BOARD AND CARE OF HORSES, RENT, USE OF DUMPING BOATS, SHOEING, AND FOR REPAIRING VEHICLES, ETC.

Bridge Division	\$381 93
County of Suffolk	1,651 32
Lamp Department	137 50
Paving Division	13,300 79
Sewer Division	5,794 08
Street Cleaning Division	20,107 07
Street Watering Division	563 77
	<hr/>
	41,936 46
	<hr/>
	\$675,319 64
	<hr/> <hr/>

Income.

Amounts of moneys deposited and bills presented to the City Collector for material sold and work performed by the Sanitary Division of the Street Department during the year ending January 31, 1903.

MONEY DEPOSITED WITH CITY COLLECTOR.

From letting of scow privileges . . . \$1,805 83

BILLS DEPOSITED WITH CITY COLLECTOR.

For removal of engine ashes, manure, and rents, 11,315 43

\$13,121 26

Items of Expenditures and Revenue.

ITEMS.	Total Amount Expended.	Amount Paid by other Divisions.	Amount Charged to Sanitary Division.
Salaries of deputy and clerks...	\$10,101 58		\$10,101 58
Salaries of foremen	10,404 05		10,404 05
Labor, collection and disposition of house dirt and ashes.....	181,034 34	\$22,262 56	158,771 78
Labor, collection and disposition of waste and rubbish.....	46,040 25	5,337 72	40,700 53
Labor, collection and disposition of house offal	147,350 52	9,107 10	138,243 42
Labor and stock in stable and yards.....	47,737 74	2,256 40	45,481 34
Hired teams on ashes and offal..	52,789 50		52,789 50
Contracts on ashes, West Roxbury, North and South Dorchester	12,954 62		12,954 62
Contracts on offal, East Boston, Brighton, West Roxbury and Dorchester.....	17,890 45		17,890 45
Ash and offal stock.....	1,567 97		1,567 97
Allowed time and holidays.....	38,024 60	1,171 36	36,853 24
Grain	24,994 53	1,121 08	23,873 45
Hay and straw	16,675 23	530 24	16,144 99
Medical attendance and allowed time on account of injured men	2,501 25		2,501 25
Horses.....	3,910 00		3,910 00
Veterinary services.....	4,760 56		4,760 56
Use of hired horses	2,027 25		2,027 25
Outside board and care of horses.	2,499 82		2,499 82
Outside horseshoeing, blacksmith, wheelwright, harness and painting.....	3,063 09		3,063 09
Labor, stock, etc., wheelwright, blacksmith, paint, harness and horseshoeing shops.....	50,569 74		50,569 74
Dumping boats, labor, stock, etc..	4,300 95		4,300 95
Repairs on stables and sheds....	8,456 85	150 00	8,306 85
Fuel.....	384 40		384 40
Gas.....	963 78		963 78
Electric light and power.....	1,330 07		1,330 07
Printing, stationery and office items	3,257 97		3,257 97
Advertising	389 54		389 54
Rents.....	16,316 73		16,316 73
Tolls and fares	460 49		460 49
Telephone	789 94		789 94
Damages caused by city teams..	11 25		11 25
Taxes on Hecht's estate as per lease.....	3,697 04		3,697 04
Totals.....	\$717,256 10	\$41,936 46	\$675,319 64

Force Employed on House Dirt, Ashes, Waste and Rubbish.

CITY FORCE.	No.	Hired Teams.	CONTRACTORS' TEAMS.			
			North Dorchester.	South Dorchester.	West Roxbury.	Total.
Sub-foremen.....	11	.....	.....	.....	.....	11
Inspectors.....	16	.....	.....	.....	.....	16
Tallymen.....	10	.....	.....	.....	.....	10
Teamsters.....	137	28	6	4	2	177
Helpers.....	148	28	6	4	3	189
Dumpers.....	29	.....	.....	.....	.....	29
Totals.....	351	56	12	8	5	432

Amount of House Dirt and Ashes Removed.

YEAR.		No. of loads of 54 cu. ft.
1898	House dirt and ashes, including waste and rubbish	394,937
1899	“ “ “ “ excluding “ “ “	329,096
1900	“ “ “ “ “ “ “ “	344,682
1901	“ “ “ “ “ “ “ “	342,940
1902	“ “ “ “ “ “ “ “	313,844

Force Employed on House Offal.

CITY FORCE.	Number.	Hired Teams.	CONTRACTORS' TEAMS.				Total.
			East Boston.	Brighton.	Dorchester.	West Roxbury.	
Sub-foremen.....	5	.....	.....	.....	.....	.....	5
Inspectors.....	7	.....	.....	.....	.....	.....	7
Teamsters.....	70	2	6	3	8	2	91
Helpers.....	71	2	7	3	15	3	101
Dumpers.....	5	.....	.....	.....	.....	.....	5
Tallymen.....	3	.....	.....	.....	.....	.....	3
Totals.....	161	4	13	6	23	5	212

Amount of House Offal Removed.

YEAR.	No. of loads.
1898	57,764
1899	59,956
1900	62,975
1901	66,758
1902	66,287

Amount of Waste and Rubbish Removed.

YEAR.	NUMBER OF LOADS.	
	Paper Cart.	Market Wagon.
1899	14,903	3,020
1900	11,452	5,494
1901	11,534	7,791
1902	10,201	8,297

Material Collected by Districts.

	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	South End and Back Bay.	North and West Ends.	Totals.
House dirt and ashes,	24,370	16,572	17,006	12,733	12,247	27,151	64,875	71,345	67,545	313,844
Waste and rubbish...	364	.....	206	.....	.....	.....	592	9,350	7,986	18,498
House offal,	4,013	6,424	2,746	1,871	2,650	5,975	10,631	22,438	9,539	66,287
Totals...	28,747	22,996	19,958	14,604	14,897	33,126	76,098	103,133	85,070	398,629

Number of Loads of Material Collected from January 31, 1897, to February 1, 1903.

YEARS.	Waste and Rubbish.	Ashes.	Offal.	Total Loads.
1898 .....	.....	394,937	57,764	452,701
1899	19,815	329,096	59,956	408,867
1900	18,460	344,682	62,975	426,117
1901	19,325	342,940	66,758	429,023
1902	18,498	313,844	66,287	398,629

Collected by West Roxbury Contractor.....	7,190 loads of ashes.
“ “ North Dorchester “	16,747 “ “ “
“ “ South “ “	10,404 “ “ “
Total.....	34,341 “ “ “

Collected by East Boston Contractor.....	6,424 loads of offal.
“ “ Brighton “	1,871 “ “ “
“ “ West Roxbury “	1,678 “ “ “
“ “ Dorchester “	5,975 “ “ “
Total.....	15,948 “ “ “

**Final Disposition of all Waste Material by the Sanitary Division
Collected from February 1, 1902, to February 1, 1903,
for this and other Divisions.**

	Amount Collected.	Deposited Low Lands.	Towed to Sea.	Plant of N. E. Sanitary Product Co.	Collected by Contractors.	Plant of City Refuse Utilization Co.	Totals.
House dirt and ashes.....	303,844	100,988	82,236	.....	30,620	.....	313,844
Waste and rub- bish.....	18,498	1,410	404	.....	.....	16,684	18,498
House offal.....	66,287	.....	.....	50,339	15,948	.....	66,285
Street sweepings.	35,031	.....	35,031	.....	.....	.....	35,031
Cesspool dirt....	4,092	.....	4,092	.....	.....	.....	4,092
Totals.....	427,752	202,398	139,323	50,339	46,568	16,684	437,752

**Number of Carts and Wagons Collecting House Dirt and Ashes,
Waste, Rubbish and Offal.**

	Iron.	Wooden.	Total.
Offal wagons in use by the Sanitary Division.....	46	51	97
“ “ “ Thomas Mulligan, East Boston....	7	7
“ “ “ John Newbury, Brighton.....	8	8
“ “ “ Peter J. Allen & Co., Dorchester..	11	11
“ “ “ John Krug, West Roxbury.....	3	3
Ash carts in use by the Sanitary Division.....	191	.....
“ “ “ John J. Moore, West Roxbury.....	3	.....
“ “ “ Timothy Sullivan & Co., Dorchester..	5	.....
“ “ “ Denis D. Flynn, Dorchester.....	7	.....
Market wagons in use by the Sanitary Division.....	16	.....
Paper carts “ “ “	33	.....
Ash and offal sleds.....	49
Total.....	146
Total.....	527

Amount Expended for Collection of House Dirt, Ashes, Waste and Rubbish and House Offal, Labor, Hired Teams and Contracts, and disposition of same, deducting Foremen, Yard and Stable Labor, Stock, etc.

DISTRICTS.	Waste and Rubbish.	Ashes.	Offal.
1. South Boston.....	\$490 00	\$18,499 54	\$11,905 40
2. East Boston.....	.....	13,656 78	9,039 00
3. Charlestown.....	158 00	16,421 26	8,297 21
4. Brighton.....	.....	9,287 05	2,903 25
5. West Roxbury.....	.....	8,003 25	4,169 75
6. Dorchester.....	.....	14,186 67	8,279 22
7. Roxbury.....	1,683 00	53,245 86	31,933 99
8-9. South End and Back Bay	17,029 50	74,879 55	39,391 45
10. North and West Ends...	9,450 50	51,825 08	19,030 75
11. Dumping Boats.....	19,897 64	9,412 37	55,392 65
Totals	\$48,708 64	\$269,417 41	\$190,342 67

Contracts.

OBJECT.	Contractor.	Price per Month.	CONTRACTS.	
			Commence.	End.
Removal of house dirt and ashes:				
Part of West Roxbury.....	John J. Moore.....	\$191 66 $\frac{3}{4}$	April 10, 1901....	April 10, 1903
North Dorchester.....	Dennis D. Flynn.....	541 66	April 2, 1902....	April 2, 1904
South Dorchester.....	Timothy Sullivan & Co....	358 33	March 12, 1902....	March 12, 1904
Removal of house offal:				
East Boston.....	Thomas Mulligan.....	700 00	Feb, 23, 1902....	Feb. 23, 1904
Brighton.....	John Newbury.....	200 00	June 1, 1901....	June 1, 1903
Part of West Roxbury.....	John Krug.....	125 00	April 1, 1901....	April 1, 1903
Dorchester.....	Peter J. Allen & Co.....	399 16	May 19, 1902....	May 19, 1904
Lease of wharf, Atlantic avenue.....	Jacob H. Hecht.....	{ 833 33 $\frac{1}{4}$	March 1, 1898....	March 1, 1903
Lease of wharf, Atlantic avenue.....	Heirs of Henry C. Snow..	{ 958 33 $\frac{1}{2}$	March 1, 1903....	March 1, 1908
Disposal of house offal.....	New England Sanitary Product Co.....	333 33	July 1, 1900....	July 1, 1905
Disposal of waste and rubbish.....	City Refuse Utilization Co.	4,367 00	Nov. 7, 1901....	Jan. 1, 1912
Removal of dead animals.....	N. Ward Co.....	458 33	Dec. 1, 1898....	Dec. 1, 1908
		No charge	Nov. 9, 1901....	Jan. 1, 1912

Material Sold by Contract.

OBJECT.	Contractor.	Price per year.	Bills submitted to City Collector.
Manure of horses at South and South Boston Yards.....	J. N. Smith.....	\$1.00 a horse.	\$116 83
Manure of horses at West and Charlestown Yards.....	Geo. P. Winn.....	1.00 a horse.	116 00
Manure of horses at Highland Yard.....	J. A. Budlong & Son.....	1.00 a horse.	152 24
	Joseph A. Kelley.....		\$285 07

MAINTENANCE OF FORT HILL WHARF AND DUMPING
BOATS.*Amount Expended.*

For towing by department tow-boat,	\$9,031 26	
For towing by hired tow-boats	1,225 00	
	<hr/>	\$10,256 26
For repairs on wharves and boats	.	3,898 07
For rents	\$4,000 00	
For dumping-boat stock and supplies	639 71	
For labor, messengers, crew and dumpers	10,844 70	
For holidays and allowed time, injured men	639 32	
	<hr/>	16,123 73
		<hr/> <hr/>
		\$30,278 06

Number of trips to sea by department tow-boats	275
Number of trips to sea by hired boats	13
	<hr/>
	<u>288</u>

COST PER LOAD, INCLUDING RENTS, ETC., OF TOWING
TO SEA WASTE MATERIAL, BELONGING TO THIS AND
OTHER DIVISIONS.

The number of loads waste material carried to sea	121,359
The cost per cart load	24.94 cents.
The cost per boat load	\$105 00

DIVISION CONSTRUCTION, REPAIR AND HORSESHOEING
SHOPS.

An extensive plant is located at the South yard, 650 Albany street, opposite East Newton street, where the construction of and repairs on street and other department carriages, carts, wagons, etc., are made, together with the painting of the same. Harnesses are repaired and many are manufactured, horseshoeing done, and all street signs are painted for the Paving Division.

For work done and materials furnished for outside divisions and departments, the different shops received as follows :

Wheelwright shop	\$4,736 84	
Blacksmith shop, South End	6,285 57	
Blacksmith shop, West End	559 86	
Paint shop	4,218 30	
Harness shop	1,970 27	
Horseshoeing shop, South End	1,696 38	
Horseshoeing shop, West End	1,500 50	
	<hr/>	\$20,967 72

For work done and material furnished for the Sanitary Division, the following amounts were expended by the different shops :

Wheelwright shop	\$8,148 73	
Blacksmith shop, South End	6,226 14	
Blacksmith shop, West End	947 64	
Paint shop	4,926 63	
Harness shop	7,123 67	
Horseshoeing shop, South End	2,307 06	
Horseshoeing shop, West End	913 57	
	<hr/>	30,593 44
Total amount paid out, stock and labor, all divisions and departments		\$51,561 16
Foremen in charge	\$1,423 05	
Allowed time	3,519 68	
	<hr/>	4,942 73
		<hr/> <hr/>
		\$56,503 89

Cost of Horseshoeing.

	Division Shops.	Outside Shops.
Stock	\$2,069 45	\$2,874 60
Labor	4,875 59	
	<hr/>	<hr/>
	\$6,945 04	\$2,874 60

Horseshoeing for Divisions.

KIND AND STYLE.	Sanitary Division.	Street Cleaning Division.	Sewer Division.	Paving Division.	Bridge Division.	County of Suffolk.	Lamp Department.	Total.
New shoes	7,627	2,915	1,180	373	6	187	24	12,312
Bar shoes.....	54	12	35	14	.....	.....	.....	115
Resets.....	893	545	136	25	2	31	2	1,634
Leathers.....	3,623	1,225	566	138	2	86	8	5,648
Pads.....	351	59	6	42	.....	.....	2	460
Springs.....	3	2	1	.....	.....	.....	.....	6

Average cost per shoe, 41 cents.

DETAILED ACCOUNT OF AMOUNT PAID FOR WORK DONE
BY THE SANITARY DIVISION FOR OTHER DIVISIONS OF
THE STREET DEPARTMENT AND OTHER DEPARTMENTS.

For repair and construction work	\$17,818 09
For horseshoeing	3,196 88
For use of dumping-boats	9,071 05
For hay, grain, straw, board, and care of horses,	3,987 26
For feeders, watchmen, and stablemen	965 32
For fuel, light, and telephone	622 86
For board and care of sick horses at Veterinary hospital	1,075 00
For rent for use of Litchfield's Wharf	5,200 00
	<hr/>
	\$41,936 46

Land and Buildings in Charge of the Sanitary Division.*South Boston Stable. (Leased.)*

Stables and sheds, with accommodations for nineteen horses, located at 317 and 319 First street, South Boston.

East Boston Stable. (Leased.)

Stables and shed, with accommodations for fifteen horses, located at 324 East Eagle street, and occupied jointly by Paving, Sewer, Street Cleaning, and Sanitary Divisions.

Charlestown Stable.

With accommodations for twenty-five horses, situated on Rutherford avenue; lot contains 17,300 square feet of land; stable built in 1875, cost \$5,083.07; sheds and outbuildings built in 1879.

Brighton.

Accommodation is provided by the Sewer Division at its stable on Western avenue for five horses of the Sanitary Division.

Highland Stable.

With accommodations for seventy-two horses on the old Almshouse lot, Highland street, containing 81,082 square feet. A part of this stable and adjoining lot is used by the Paving Division. There is on this lot a brick stable, built in 1878, which cost \$88,594.13. On this lot is an offal-shed, erected in 1875, at a cost of \$1,160.12. This offal-shed, was abandoned on April 1, 1897, and in 1900 part of it was remodelled, and is now used as a carriage-house and wash-room.

South City Stables, Shops and Sheds.

Situated on Albany street, opposite Newton street. The lot belonged to the city before being used for this purpose, and contains 90,780 square feet of land.

The stables and buildings connected therewith are of brick. There are also on the premises five wooden sheds, used for storing wagons, etc. The stable is two stories high, with French roof, and has accommodations for one hundred horses. Twenty-three horses are kept in sheds. Total original cost, exclusive of land, \$79,089.23. In 1899 a Veterinary hospital was built and equipped for the purpose of caring for sick and disabled horses.

Connected with stables are blacksmith, wheelwright, paint and harnessmakers' shops, in which wagons, carts, harnesses, etc., used by this and other departments, are constructed and kept in repair, also a horseshoeing shop for shoeing the horses of the department located in this section of the city.

West Stables and Sheds.

The stable is a brick building, a story and a half high, 128 feet by 50 feet, located on North Grove street; built in 1860 without buildings attached to same. It has accommodations for 90 horses in stables and sheds. The lot contains about

45,152 square feet. On May 11, 1896, a horseshoeing shop was established for the purpose of shoeing the horses of the department stabled in this section of the city.

Fort Hill Wharf.

Containing 21,054 square feet, placed in charge of the Sanitary Division; used as a dumping station for the city's garbage and refuse, and as a mooring place for dumping boats and scows, which convey this material to sea and to the plant of the New England Sanitary Product Company. Cost of constructing platform and dredging dock, \$6,219.33. There are three Barney dumping boats which are in continual use, and are towed to sea by the department tugboat "Cormorant."

A portion of this wharf is used by the Street Cleaning Division as a locker for patrol push-carts, etc., and a part is in use by the Paving Division.

Packard's Wharf. (Leased.)

Situated at 464 Atlantic avenue; used as a berth for dumping boats in connection with Fort Hill Wharf. Leased from the heirs of Henry C. Snow.

Litchfield's Wharf. (Leased.)

Situated at 466 to 470 Atlantic avenue, containing about 35,460 square feet. Leased from Jacob H. Hecht, March 1, 1898, for a period of ten years. This wharf adjoins Fort Hill Wharf, and is occupied in part by the New England Sanitary Product Company as a berth for their scows, and also by the buildings of the City Refuse Utilization Company for the disposal of waste and rubbish. This property is now owned by the Middlesex Trust.

APPENDIX E.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE SEWER DIVISION.

30 TREMONT STREET, BOSTON, February 1, 1903.

MR. JAMES DONOVAN,

Superintendent of Streets :

DEAR SIR, — I respectfully submit report of the expenditures, income and operation of the Sewer Division for the financial year ending January 31, 1903, together with recommendations as to the future development of the sewer system.

The work of the Sewer Division is as follows :

The preparation of plans for sewerage works, the construction and maintenance of all drainage works, including the investigation of complaints in regard to defective drainage, the granting of permits for sewer connections and the preparation of plans for the assessment of the cost of construction ; also the examination of the plans of other corporations, proposing to construct works in public streets, with reference to their probable interference with sewerage works, and approval of lines and grades of private streets with reference to the requirements of this division.

In the last annual report the changes in the Boston sewer system which will be necessitated by the creation of the South Metropolitan District, and the building by the State of the high level sewer, were fully discussed.

These changes involve large additional expenses to the City of Boston in the building of branch intercepting sewers, and the conversion of the existing combined system into a separate system throughout the twenty-one square miles of the city's territory which is now included in the South Metropolitan District.

To meet these expenses the following bill has been introduced by His Honor the Mayor :

(Chap. 383.)

AN ACT RELATIVE TO SEPARATE SYSTEMS OF DRAINAGE.

Be it enacted, etc., as follows :

SECTION 1. The owner of every estate abutting on a public way in which a drain, namely, a conduit for surface or storm water and such waters as shall be specified by the state board of health; and a sewer, namely, a conduit for all other waters and for sewage, all such other waters to be considered sewage, shall have been provided by a city or town, and the owner of any other estate, using any such drain or sewer, shall make or change the plumbing of his estate so that the waters shall be kept separate from the sewage; and shall, as directed by the officer having charge of the maintenance of sewers in such city or town, make connections for, and conduct, the waters into the drain and the sewage into the sewer.

SECT. 2. The owner of every estate whose sewage is to be taken into any metropolitan sewer shall hereafter, in plumbing his estate, so arrange the plumbing as to keep the waters separate from the sewage, and shall, as directed by said officer, make connections for, and conduct, the waters into the drain and the sewage into the sewer; but where only one conduit shall have been provided in the street by the city or town, such owner shall, as directed by said officer, construct said connections into the street and connect them with the conduit so provided, and the city or town shall provide the other conduit and all necessary connections with either conduit.

SECT. 3. Any city or town using any metropolitan sewer may, in any year, and shall in any year specified by the officer or board having charge of said sewers, expend one-twentieth of one per cent. of its taxable valuation, to be met by loan outside the debt limit, in the construction, in connection with said sewers, of branch intercepting sewers, connections of existing sewers with intercepting sewers, branch drains, sewers or drains in any street where one thereof only shall have been built, and the necessary connections aforesaid.

SECT. 4. The supreme judicial court and the superior court shall have jurisdiction in equity to enforce the provisions of this act.

SECT. 5. This act shall take effect upon its passage.

This department will proceed during the coming year to carry out the provisions of this act, if passed, plans having already been made for that purpose. The first work which will be done, in all probability, will be to build the high level branch interceptor, which will afford relief to the long-suffering Talbot avenue district, and also to separate storm water from the sewage in this same district.

These two measures should effect a complete remedy for the evils which have so long existed in this district.

A general statement of the most important work done by the division during the year, accompanied by recommendations as to the work required in the immediate future, is given in the succeeding pages, and is classified according to districts.

SOUTH BOSTON.

There have been built in this district during the past year 556.75 linear feet of brick sewer, 277 linear feet of wooden sewer, 4,264.25 linear feet of pipe sewer, 495.75 linear feet of brick surface drain, 2,443.36 linear feet of pipe surface drain, and 579 linear feet of house drain, making a total of 8,616.11 linear feet, or 1.63 miles.

The principal works completed are:

Columbia road, between Vale and G streets. Work was carried on throughout the entire year, and this portion, with the exception of the Vale-street outlet, can be said to be completed and ready for street surfacing.

L-street outlet. This outlet takes the storm water from about forty acres in the vicinity of Broadway, K street, L street, and East First street, and when finished will abate the flooding of cellars, which was of such frequent occurrence in this district. The old overflow which this replaces had become entirely blocked up, and had to be extended to the L-street bridge for an outlet. A departure was made here in building a 5-foot sewer in soft ground by using square timbers, cut in suchwise that when laid to line they formed a true circle 5 feet in diameter, thus forming a flexible and substantial sewer at comparatively small cost.

West Seventh street, between B and D streets. This sewer was built to take the place of an old wooden sewer constructed here many years ago. The old sewer was found to be broken down and filled with gravel and other refuse to such an extent that it cut off the flow from about thirty-five acres of well built up territory, and left the street in dangerous condition for travel.

East First street, between P and Q streets. This 5-foot overflow was built to take the storm water from the system of common sewers in the vicinity of P street, Second street, and Third street, and has provided a means of overcoming the flooding of cellars which often occurred in this locality.

Sewers have also been built in East First street, between H and Vicksburg streets; Old Harbor street, between Eighth and Ninth streets; East Ninth street, between L and K

streets; Foundry street; Mitchell street; East Ninth and Dunham streets, between Mercer and Old Harbor streets.

Private parties have built a sewer in Midway street; and Bowen street, between E and F streets, and E street, between Fargo street and Summer street extension, have been built "under the Act."

Considerable dredging has been done in South Boston during the year at the mouths of the B and Seventh streets overflow, the Kemp-street outlet, the N-street outlet, and the I-street outlet.

RECOMMENDATIONS.

D street, from Dorchester avenue to Seventh street. This sewer is too small, is very badly settled out of line and grade and greatly overcharged in time of storm, resulting in the flooding of many cellars in the immediate vicinity. It should be rebuilt at once, at a greater depth, of large size, and on pile foundations.

F street, between West First and West Second streets. This is a very old single ring brick sewer, and has had to be repaired many times recently, owing to breaks having been found after the falling in of the street surface.

A street, between West First and Congress streets. This is an old wooden and brick sewer, which has broken down in several places during the past year, cutting off the flow from the large warehouse district in the vicinity of A and Congress streets, resulting in considerable damage. Temporary repairs have been made from time to time, but an extensive system of new sewers and drains is essential before the sanitary conditions here can be called satisfactory.

Vale-street outlet. This outlet is a small wooden conduit, badly broken and filled up and should be replaced by a 6-foot circular brick conduit from Columbia road to tide-water.

H-street outlet. This should be carried out to deeper water, and stone wing walls built to protect the same.

K-street outlet. This should be extended out to deep water, and a system of wing walls constructed, as proposed for H street.

N-street outlet. This outlet should be cleaned out from its mouth to the northerly line of Columbia road, as it rapidly fills up with sand from the adjoining beach.

Athens street, between D and F streets. This is a small wood and slate affair, about half filled with sludge, which is not easily accessible and emits a very bad odor.

Columbia road. There still remains to be constructed in the portion of Columbia road in South Boston a large amount of sewerage works. The part between I and Q streets has not been touched, with the exception of a small sewer between K and M streets. In the portion along Old Colony avenue, from Mount Vernon street to Vale street, nothing has been done, and work should be started here in the immediate future, as there is considerable sewerage and drainage work to be done before the road can be surfaced. The outlets for this portion of Columbia road can be built within the boundaries of the old location of the Old Colony railroad, and this work can be deferred until some future time, thus turning the road over to the Paving Division at the earliest practicable moment.

EAST BOSTON.

There have been built in this district during the past year 2,001.03 linear feet pipe sewer, 534.23 linear feet brick sewer, 172.76 linear feet 6-inch pipe house drain, and 2,171.94 linear feet pipe surface drain, making a total of 4,879.96 linear feet, or 0.92 miles.

The most of this was building house sewers and surface drains in Bennington-street boulevard, between Moore and Trumbull streets, building surface water drain in Saratoga street, from old culvert to Wordsworth street, to relieve flooding of cellars on Wordsworth street, and building sewer in Walley street and Farrington avenue.

RECOMMENDATIONS.

East Boston low level sewer. This will be an outlet for part of Bennington-street boulevard, and will provide for the drainage of the low lying part of Breed's Island. It will also provide an outlet for Moore street interceptor when built. It will extend from the Metropolitan pumping station at Addison and Chelsea streets to Belle Isle inlet.

Moore street interceptor. This will intercept the sewage now emptying into Boston harbor at Moore and Coleridge streets and a part of Bennington street, and will connect with East Boston low level sewer at Trumbull and Kneeler streets.

The building of the low level sewer and Bennington-street boulevard on the separate system will prevent the sewage from the whole of Breed's Island from flowing into Boston harbor, and will necessitate the building of surface drains in Leyden, Gladstone, Walley, Farrington, Ford and Breed

streets, and outlet for house sewer in that part of Leyden street lying between Breed and Boardman streets.

Chelsea and Bennington streets, between Eagle square and Putnam streets. Many complaints have been received during the past four or five years regarding the flooding of cellars on these and adjacent streets in time of storm. The sewer here is inadequate in size and a supplementary sewer, of 24-inch pipe laid in the street and intercepting the catch-basins and house drains on one side between the outlet and Putnam street is very desirable.

Curtis street, between Chelsea and Bremen streets. This sewer is in a leaky condition and the ground through which it runs is saturated with petroleum from the oil work in the vicinity. This passes into the sewer and thence into the outlet in Chelsea street. The outlet is connected with the Metropolitan sewer in Chelsea street, near the Metropolitan pumping station. Owing to the danger of an explosion from the gas coming from the oil, the Metropolitan Sewer Commission has ordered this connection with their sewer to be sealed off, and the sewage runs out into Chelsea creek. Until the sewer in Curtis street is rebuilt the sewage will not be allowed to flow into the Metropolitan sewer.

Montgomery avenue. This is a side hill street, and to put a sewer in the street low enough to drain cellars which may be built on the low side would require the sewer to be at a depth of about 17 feet. A cheaper method, if there are no land damages, would be to put the sewer along the back line of the lots on the down-hill side of the street, and build a shallow sewer in the street for the houses on the high side. Neither of these sewers need to be more than 7 feet deep, and the one on the back line of the lots would not average more than 6.5 feet deep. The house of the petitioner, and all other houses at present on the street, are, with one exception, on the down-hill side. If the owners are willing to release a right of way from the sewer, a sewer on the down-hill side to accommodate all existing houses on this side should be built.

East Boston Parkway, from Bennington street to Boston, Revere Beach & Lynn Railroad. This has been petitioned for, and when built must be on the separate system. There will be a house sewer on each side of the Parkway, with outlet down Frankfort and Prescott streets to Metropolitan sewer.

Porter street overflow outlet, from Bremen street to Boston, Revere Beach & Lynn Railroad. This was an old wooden sewer originally built on piles. The wooden structure has

now almost disappeared, having been broken out by ice. There have been numerous complaints from time to time regarding sewage being deposited on the flats from this overflow, but the only sewage coming from it is in time of storm, when the Metropolitan sewer is filled and the sewage from the Porter street sewer overflows. The sewage is then so diluted by storm-water that it can cause but little nuisance. There seems to be no necessity for rebuilding this at present, nor until the flats through which it passes are filled in.

In addition to the Moore street outlet for which there is at present no interceptor, there are two outlets on the north side of East Boston, viz., Glendon and Putnam streets outlets, for which there is also no interceptor. The sewage from these two outlets empties into Chelsea creek. To intercept these outlets and connect them with the Metropolitan sewer at its nearest available point will require about 2,700 linear feet of intercepting sewer, at an estimated cost of \$20,000. This should be built.

CHARLESTOWN.

There have been built in this district 1,680.51 linear feet pipe sewers, 253.99 linear feet 6-inch pipe house drain, 1,599.64 linear feet pipe surface drain, making a total of 3,534.14 linear feet, or 0.67 miles.

The most important of this was in the Beecham street district, so called, where the building of the new sewers for house sewage, and retaining as far as possible the old sewers for surface drains, turn the sewage into the Metropolitan sewer and keeps it from flowing into the Mystic river as heretofore.

The sewer in Hamblin street in this district is in process of construction, and will be finished early in the year 1903. When this is completed all the sewage from the Beecham street district will be connected with the Metropolitan sewer.

RECOMMENDATIONS.

Warren avenue connection with Metropolitan sewer. All other sewers in Charlestown have been connected with the Metropolitan sewer except the one emptying at Warren-avenue bridge, and one which outlets at foot of Hamblen street into Mystic river. These two should be connected as soon as possible. The one at Warren avenue has been delayed in order not to interfere with traffic along the avenue. Some interference, however, is inevitable when the connection is made, and it is best to make it as soon as possible.

Hamblen street, between Arlington avenue and George street. This and Warren avenue are the only two remaining outlets in Charlestown to be connected with the Metropolitan sewer. The existing sewers in the vicinity of Hamblen street will be as far as possible preserved as storm water sewers and new house sewers built to carry the house sewage.

BRIGHTON.

During the past year there have been built in this district 8,620.05 linear feet pipe sewers, 315.32 linear feet 6-inch pipe house drain, 1,096.66 linear feet pipe surface drain, and 1,828.27 linear feet brick surface drain, making a total of 11,860.30 linear feet, or 2.25 miles.

The most important of this was about 450 linear feet of 6 feet by 7 feet brick conduit to carry Salt Creek brook. This brook is the outlet for all surface water in Commonwealth avenue, between Pleasant and Warren streets, and for a large territory in Brookline.

About 350 linear feet of 11 feet by 9 feet brick conduit for Faneuil Valley brook, between Faneuil and Parsons streets; and also about 1,000 linear feet of 4-feet 6-inch circular brick conduit for the upper reaches of Faneuil Valley brook, between Lake street and Rogers park. This completes the Faneuil Valley brook conduit, between Parsons street and upper Lake-street culvert at Chandler's pond, except a gap across Rogers park, which will probably be built by the Park Commission; a gap across Lake street at the lower culvert, opposite Rogers park, and a gap of about 800 feet between Oakland and Faneuil streets.

The cost of completing this work, except across Rogers park, will be about \$15,000.

RECOMMENDATIONS.

Nonantum street, Washington street to Newton line, surface drain. This is needed, as the street is in poor condition every spring when the snow melts and frost comes out of the ground. The surface drain will connect with the existing conduit for Oak square branch of Faneuil Valley brook.

Wallingford road, between Chestnut Hill avenue and existing sewer. This street is in a tract of land cut up by the Westminster Land Company. The land company built sewers in several of the streets in this tract in 1901, and some three thousand feet of these sewers have no outlet. The outlet will be provided by building between the limits mentioned.

Aberdeen district, so called. The streets in this district are practically all sewerred on the separate system, and the sewage passes into the Brookline system which is also designed to receive nothing but house sewage. Catch-basins are constantly called for in these streets, but, in order to provide outlets for them it will be necessary to build a system of surface drains emptying into Brookline surface drains. This is a matter of considerable importance.

Faneuil Valley brook conduit. This conduit is practically completed from Lake street, at Chandler's pond, to Parsons street, with the exception of the gaps previously mentioned. This conduit when completed will furnish outlets for surface drains in a large territory now being rapidly built up, and in which the sewerage system must at an early date be changed from the combined to the separate systems.

Shepard brook. This brook has its head-waters near Shannon and Union streets, and has at various places been taken into sewers, and the original brook channel has been obliterated. The catch-basins in this drainage area also connect with the sewers instead of draining into the brook by surface drains, as would have been the case if the brook channel had not been filled in and destroyed. The consequence is that sewers in this territory are overcharged at every rain-storm, and frequent complaints of flooding of cellars and streets are received. The course of this conduit will be from its connection with the Faneuil Valley conduit at North Beacon street, near Boston & Albany Railroad, across private land to Market street, in Market, Henshaw, Menlo, Washington and Shepard streets, and private land to Shannon street.

Conduit for easterly branch of Shepard brook from Murdock street down North Beacon street, Arthur, and Hichborn streets, and private land to Everett street, in Everett street, Lincoln, Erickson and Adams streets, to and across Franklin street, in Alcott and Mansfield streets, and Coolidge road, across North Harwood street, and in private land and across Western avenue to Charles river. This brook has been taken into sewers at various points, and the channel obliterated for practically the entire distance to North Harvard street. For part of the distance there are small pipe surface drains, but they are utterly inadequate in size. In other places the catch-basins connect with the sewers, which become surcharged at every rainfall of any magnitude. A petition signed by one hundred and eleven residents of this territory was sent in the latter part of 1901 and has been reported upon.

Everett street overflow. This overflow formerly connected directly with an arm of the Charles river, which was filled in, and the overflow almost entirely cut off by building the speedway on Charles river reservation by the Metropolitan Park Commission.

WEST ROXBURY.

There have been built in this district 19,099.29 linear feet of pipe sewers, 1,509.53 linear feet 6-inch pipe house drains, 5,177.30 linear feet pipe surface drains, 1,264.18 linear feet brick surface drains, 68 linear feet brick and concrete surface drains, 299.16 linear feet wood surface drains, 30 linear feet brick culvert, and 72.00 linear feet brick and stone culvert, making a total of 27,519.46 linear feet, or 5.21 miles.

The principal works completed are :

A 6-foot by 5-foot 9-inch culvert under South street at Bussey brook. This takes the place of the old stone culvert of utterly inadequate size, and will prevent the flooding of South street, which occurred at this point at every rain-storm of any magnitude.

Brick and pipe surface drains, about 2,000 feet long, in Boylston and Lamartine streets, between Stony brook and Cedar avenue. This relieves the overcrowded condition of the sewers in this vicinity in time of storm, and was a relief long desired by residents of the neighborhood.

Completing sewerage works in Walter street and beginning the improvement of Roslindale branch of Stony brook. This improvement is begun between Washington and Cohasset streets, and consists of an 8-foot circular concrete structure, which, it is to be hoped, will be extended in the near future up to the vicinity of Highland station.

RECOMMENDATIONS.

Spring street, between Charles river and Gardner streets. A surface drain is needed in this street and has been petitioned for. The surface water is at present turned on to private land by chutes, and causes considerable trouble and damage.

Intercepting sewer between end of Metropolitan sewer in Weld street and Arthur street. This is really a part of the Metropolitan system which will at some time be extended to the Brookline territory. Until it is built there will be no outlet for those parts of Westover, Maple, Willow and

Arthur streets lying between Weld street and this interceptor. Petitions have been received for these streets, but the Metropolitan Sewerage Commission has no intention at present of building the outlet. It should be built by the city, and when the time comes turned over to the Metropolitan sewer at its cost to the city, with interest added.

Hemlock street, Washington street to Bellevue street. This will be the outlet for Washington street, between Hemlock and Beech streets, and for the territory south of Washington street to Kittridge street, Kittridge street, between Metropolitan avenue and Mayo street. This will outlet down Kittridge street to Hemman-street extension, thence to Washington street, and down Hemlock street.

Beech street, near Washington street, culvert. This has been requested several times, as the old culvert under the street is stopped up by the widening of Beech street.

Linnet street surface drain, with outlet in La Grange and Maxfield streets to Spring-street brook. The building of this will relieve the property on Linnet and Landseer streets from flooding, which occurs at nearly every storm.

Lee and Child streets, and private land to Carolina avenue. This is an old brook channel, which was taken, walled in and covered over many years ago, before West Roxbury was annexed to Boston. It is now too small in size to care for the water brought to it in time of storm, and is in poor condition. It frequently floods adjoining property in time of storm, and relief has been requested by the property owners.

Roslindale branch of Stony brook improvement, from Cohasset street to Central station and from Central station to Highland station. This improvement is absolutely necessary, in order to prevent the flooding which occurs every spring on Belgrade avenue and in the vicinity of Highland station. As the streets in the neighborhood are built and the territory developed the floods are of more frequent occurrence; and during the spring of 1901 Belgrade avenue was impassable for even electric cars for a period of one or two hours on at least two occasions. Streets in the vicinity of Highland station are also flooded in heavy rains. It will be impossible to provide any outlet for surface water coming from the adjacent territory until this improvement takes place. Surface drains in Belgrade avenue cannot be built, nor the building of Railroad street, already ordered under chapter 323, etc., carried on for the same reason.

William-street surface drain and brook conduit, between Stony brook and Forest Hills street. This conduit is neces-

sary, as the present outlet for the brook is a small pipe entirely inadequate in size, and frequent floodings occur along the line of the brook.

Boylston street, between Stony brook and Washington street, surface drain. This drain is necessary to take surface water and a brook which formerly flowed through this territory. The sewers in this area are overcrowded at every storm, and should be changed to the separate system as soon as possible.

Chestnut avenue surfacé drain. This is very necessary in order to relieve the congested condition of the sewer in Boylston street.

Arborway and Pond street, from culvert in Arborway to May street. This will relieve the flooding several times complained of in the vicinity of Pond and May streets.

Surface drain in private land — Heathcote, Poplar and Hillside streets — to take brook now flowing into sewer in Poplar street, and relieve overcrowded condition of Poplar and Washington street sewers.

Glen road and Washington street, between Forest Hills street and Stony brook. There is a culvert running across Glen road and to Forest Hills street. This was built before West Roxbury was annexed to Boston, and is now broken down and should be rebuilt, with outlet down Washington street to Stony brook.

Improvement of Spring street brook, from Charles river to Baker street, including rebuilding of culvert under Baker street, which is necessary in order to provide an outlet for surface drainage in Baker street, between the brook and Spring street.

DORCHESTER.

During the past year there have been built in this district 26,159.45 linear feet of pipe sewer, 5,834.07 linear feet brick surface drain, 13,362.28 linear feet pipe surface drain, 4,375.40 linear feet 6-inch house drain — making a total of 49,731.20 linear feet, or 9.42 miles.

The principal works completed in North Dorchester are:

Hancock street, from Columbia road to Winter street. Work progressed steadily during the year 1901 in this street and was finished this year.

Freeport street brook, between Hancock and Trull streets, including the tributary streets — Howe, Rill and Trull streets — was finished during the present year.

Freeport street brook, between tide-water and High street.

Work was begun at Dorchester avenue and finished as far as Pleasant street.

Crescent avenue brook, between Shoreham street and Carson street. This work was carried on throughout the year and is practically finished, with the exception of the connection at the Old Colony Railroad, and when completed will provide an adequate outlet for the Crescent avenue district, which has been troubled in time of storm for many years.

Columbia road, between Dorchester avenue and the railroad bridge. Sewerage works in this portion of the road have been completed and the road turned over to the Paving Division for surfacing.

Franklin field brook, between Franklin field and Harvard street. This (Franklin-field brook) conduit has been built to take the storm-water from the Harvard-street district and the brook which crosses Blue Hill avenue and private land to Harvard street, where it formerly flowed under the brick building at the corner of Talbot avenue and Harvard street.

Harvard street surface drainage. A start has been made on this system by the lowering of the sewer in Harvard street, from Blue Hill avenue to Vaughan street, and work should be resumed on this system in the immediate future, as complaints are constantly coming in from abutters on Harvard and adjoining streets.

Tenean creek, between Geneva avenue and Marlowe street. This conduit was extended to Marlowe street to take the water from the brook at this location and drain the low land bounded by Geneva avenue, Park, Marlowe and Vinson streets.

Marshfield street. This sewer was badly settled and the sewage backed up in the houses after nearly every storm.

Cottage terrace. Same as Marshfield street.

Sewers have also been constructed in Bullard street, Cornell street, Fox street, Geneva avenue, Ingleside street, Kineo street, Mascoma, Millett, Normandy, Stanwood and Spring streets, and in Wales place and Clapp street.

Private parties have built sewers in Sumner terrace and Sudan street.

Charlotte street, Dakota street, Fayston street, Wayland street, Hinckley street, Morrill street, Lindsey street, Vinson street, St. Margaret street, and Hamilton street have been built "under the Act."

The work of the Sewer Division in South Dorchester, for the past year, has been centred in the construction of pipe sewers, which have been repeatedly called for in petitions and by requests from the Board of Health. Some of the most important of these are as follows:

River street, between Washington and Idaho streets, thereby removing the cause of much pollution of the Neponset river, and giving sewerage facilities to a thickly settled area.

The completion of the sewerage works in Avondale place, thereby doing away with a great number of cesspools which are a menace to the health of the community.

The outlet in private land, between Highland avenue and Sheridan street, which will allow the building of sewers in Washington court, Minot place, and Sheridan court, has been completed, thereby abating a long standing nuisance.

The completion of sewerage works in quite a number of streets under chapter 323 of the Acts of 1891, etc., the most important of which was in Blue Hill avenue, from Neponset river to Walk Hill street, thereby allowing the avenue to be graded, and providing an outlet for a number of adjoining streets.

In regard to the building of surface drains, the most important work completed during the past year was the Canterbury branch of Stony brook in Franklin field, between Talbot avenue and Lyons street, also a part of the Oakland Garden fork. This channel varies in size from 4 feet 6 inches to a 10 feet circular brick conduit, and, although started under the previous administration the most of the work was done during the past year. This improvement provides an ample outlet for all surface drains in this area, and allows of the removal of the unsightly open ditch in Franklin field.

The improvement of the Davenport brook channel, between Van Winkle and Bailey streets, has been started, and is fast nearing completion, as far as the present order for the same will permit. This channel will greatly relieve the sewers in the vicinity, and the flooding of cellars during and after every rainstorm will be abated.

On the Oakland brook, at Mattapan, a conduit has been built across River street, to take the place of an old stone affair, from which we were constantly receiving complaints, and a contract let for the extension of the same.

RECOMMENDATIONS.

For North Dorchester, Freeport street brook from tide-water to Dorchester avenue. Work should be begun on this outlet during the coming year, to afford an overflow for the system of storm drains already built in the upper regions of this territory. Many of the surface drains in this area have not been connected with the main conduit, owing to this outlet not having been constructed. A large amount of

work is necessary here on account of the crossing of the Dorchester intercepting sewer and cutting off of the main trunk sewer in Dorchester avenue.

Franklin field conduit. This should be extended from Harvard street up to the line of Blue Hill avenue to take the flow of this old watercourse, which now meanders through private land and is a source of much annoyance to the abutters, as considerable sewage finds its way into this brook owing to the overcrowded condition of the sewers in Blue Hill avenue.

Harvard street district. Considerable surface drainage will have to be undertaken here, and work should be started immediately to relieve the Talbot avenue main trunk sewer, which has caused so much trouble by flooding and been the cause of numerous suits against the city for large amounts in recent years. This work includes the building of brick drains in Harvard street, from Blue Hill avenue to Wales street, and small pipe surface drains in Vaughan street, Abbott street, Wales street, and Esmond street.

The above streets are the ones which might affect the Harvard street sewer and cause flooding, but it will be necessary to construct a system of surface drains in the entire Talbot avenue drainage area before permanent relief can be afforded.

Tenean creek, between Westville street and Holmes avenue. This is made necessary by a large amount of surface water that is brought down from Hamilton street, Draper street, and other streets in this vicinity, which have no storm water outlet, overflowing private land and causing considerable damage to private estates.

Normandy street. Surface drains should be extended from Devon street to the brook in private land beyond Geneva avenue to abate the nuisance which exists here nearly all the time.

Tonawanda street surface drain. This drain should be lowered from a point in Tonawanda street across private land, Lindsey street and Stratford street to Park street. This drain was built by private parties, and takes the storm water from a considerable area, but was laid with poor joints and has become nearly filled with sand. When rebuilt it should be laid at a lower grade.

Faxon street surface drain. A drain should be built from the Oakland Garden fork of Canterbury branch of Stony brook along the New England Railroad, through Faxon street to Washington street, to take the storm water from Kilton street, Millett street, and other streets in this low territory which are flooded after nearly every heavy rain.

Dorchester brook sewer. A start should be made during the coming year on the separation of the system in the area drained by the Dorchester brook sewer, as the district through which this sewer flows has been built up so rapidly in the past few years that the old main trunk sewer is entirely unfit to take the drainage properly.

Sewers should also be constructed in Roseclaire street, Greenhalge street, Bowdoin street, between Cottage Park and Olney street, Harvard street at Kilton street, Geneva avenue, between Willow and Normandy streets, Elder street extension, Buttonwood court and private land between Moseley street and Columbia road; and a sewer should also be built in Willow court, between Boston court and the Dorchester brook overflow, with an outlet across private land into the common sewer in Massachusetts avenue.

For South Dorchester. The most important work contemplated in this district is the building of the Dorchester interceptors to connect with the Metropolitan high level sewer, which is fast nearing completion.

The largest and longest of these interceptors is the one starting at Hyde Park line and running through Mattapan, Dorchester Lower Mills, Ashmont, Meeting House Hill, and terminating at the crossing of Blue Hill avenue and Moreland street, in Roxbury. A start should be made on this the coming year.

The next largest interceptor is the one starting from the Metropolitan high level sewer, near the corner of Ashland and Canterbury streets, crossing Walk Hall street, Morton street and Blue Hill avenue, and terminating at the corner of Norfolk street and Talbot avenue. This is in some respects more important than the first mentioned interceptor, as it will afford a sewer outlet for Morton street, will do away with the Callender and Lyons streets pumping station, and afford a new outlet for the rebuilding of the Talbot avenue sewer at a lower and more satisfactory grade.

The next important work in this district should be the improvement of the several brook courses, from which we are constantly receiving complaints. The first one to receive our attention should be the Davenport brook channel, especially the part below Adams street and the portions in private land and Armandine street. This work has been repeatedly petitioned for, and is a much-needed improvement.

The Oakland brook channel should be improved during the coming year between River street and the New York, New Haven & Hartford Railroad.

On the Canterbury branch of Stony brook, between Cal-

lender and Harvard streets, a covered channel should be built, as the improvements we have already made on the upper part of this brook will have no satisfactory outlet until this channel is built.

A system of surface drains to empty into Tenean creek conduit should be built in Adams, Ashmont and Wrentham streets, as this will do away with takings through private land in this vicinity.

Sewers should also be built in Wells avenue, Samoset street, Sampson street and Everdean street and the outlet therefor. Petitions have also been received for sewers in numerous streets, the total cost of which will be about \$50,000, many of these petitions being dated five or six years ago.

ROXBURY.

There have been built in this district during the past year 1,594.24 linear feet brick sewer, 9,382.05 linear feet pipe sewer, 1,058.20 linear feet brick surface drain, 2,631.76 linear feet pipe surface drain, 49.53 linear feet wooden surface drain and 1,498.32 linear feet 8 and 6-inch pipe house drains, making a total of 16,214.10 linear feet, or 3.07 miles.

The principal sewerage works completed in the district are:

Massachusetts avenue, between Magazine street and the railroad bridge. It became necessary to build here a long line of surface drain to take the surface water from this and adjoining streets, owing to the building operations in the vicinity requiring the use of land which was formerly used as an outlet for this storm water.

Burnham, Southampton and Atkinson streets. This system of sewers, designed to drain the so-called Swett-street district, provides drainage for the smallpox hospital, the Veterinary hospital and other buildings on Atkinson street, and was completed this year.

Smith street. Surface drain in Smith, Whitney and Tremont streets.

Heath street, surface drain. This drain will relieve the Heath-street sewer, which has made trouble between South Huntington avenue and Huntington avenue, where the sewer has little pitch, and, being at the foot of the hill, got more water from up the hill than it would carry.

Halleck street and Caldwell street. This sewer was built to relieve the Ira Allen School, at the same time to carry on the work of rebuilding the Halleck-street sewer, which is in very poor condition.

Parker street, between Heath street and Fisher avenue.

This sewer was very much needed to furnish an outlet for new catch-basins at Fisher avenue. It has been impossible to build catch-basins on this side of the hill, as there were no sewers to drain into. The rain falling on that side of the hill, not being intercepted by catch-basins, found its way down Parker street, washing out the streets and backing up sewers at the foot of the hill. This sewer will be the outlet for the Fisher-avenue sewer when the latter is built.

Queensberry street sewer and Jersey-street sewer are being built.

Sewers have also been built in Atherton street, Copley street, Farnham street, Proctor street, Renfrew street and Seaver street, and the sewer in Humboldt avenue, all in ledge between Waumbeck and Harrishoff streets, has also been finished.

RECOMMENDATIONS.

Ruggles street district. Ruggles street sewer, being the main outlet for the entire Bower and Sherman streets drainage area, is overtaxed in time of storm to such an extent that the flooding of cellars is a common occurrence along the whole line of the street and adjacent streets, such as Warwick street, Haskins street, Westminster street, Auburn street, and Shawmut avenue. The "Separate System" should be established in this district during the coming year to furnish relief to a long list of suffering residents.

Hammond street district. Sanitary (or unsanitary) conditions here have reached a stage where it is useless to provide any half way measures of relief, and the "Separate System" is earnestly recommended for Hammond street, Sussex street, Greenwich street, Winsor street, Arnold street, Ball street, and the portion of Shawmut avenue tributary to Hammond street.

Elmwood street overflow. This is needed as a relief for the overcrowded trunk sewer which flows through this street and overflows into Stony brook.

Fenner street surface drain. This is badly needed as a continuation of the Ruthven street drainage system. This system is completed between Humboldt avenue and Walnut avenue, at the corner of Cobden street, and should be carried down through private land and Fenner street to Washington street to relieve the flooding of cellars on Cobden street, which occurs after every heavy rain-storm.

Willow park, between Westminster street and Shawmut avenue. This sewer, having been built on soft ground, has

settled so badly that the house drains are nearly all disconnected from the main sewer, and the cellars are flooded to such an extent that many of these buildings are rendered untenable. Nothing can be done in this street, however, until a satisfactory sewer is constructed in Ruggles street, as before indicated.

Bower and Sherman street districts. This district has long been the source of a great deal of trouble and complaint, owing to the old dilapidated and utterly inadequate system of sewers. Numerous complaints reach this office after every heavy rain-storm, but we are powerless to offer the residents any relief until an entirely new system of sewers is constructed. Work can and should be started in this district during the coming year.

Warren street, between Brunswick and Intervale street. This is a small 15-inch pipe sewer on the line of the Dorchester trunk sewer, and connects a 2-foot by 3-foot brick sewer near Intervale street with a 24-inch by 30-inch sewer near Brunswick street. It is the cause, in time of storm, of backing up the entire system of sewers in the vicinity of Waumbeck, Crawford, and Howland streets.

Warren street, between Moreland street and Rockville park. This sewer should be built of larger size and greater depth to accommodate the houses in this neighborhood, the sewage from which now has to be raised by pumps in the possession of private parties.

Cedar street, between Columbus avenue and Centre street. A surface drain should be built in this street to relieve the flooding which occurs after every heavy rain-storm, and take the water from the partial system of surface drains in the vicinity and deliver it to Stony brook channel in Columbus avenue.

A system of surface drains must also be provided for the district around Quincy street, Holborn, Gaston, Gannett, and Otisfield streets.

Vila street district. This matter was mentioned in last year's report, and although nothing has been done as yet there is a probability that sewers will be built in this district the coming year.

Fenway lands. Surface drains are still discharging on to the private land, as mentioned in last year's report, but as sewers and drains in Jersey street are under consideration this may soon be remedied.

Muddy river conduit. Nothing has been done to the old conduit. This matter was discussed in previous reports.

Sewers should be built in the following streets: Fisher avenue, Halleck street (rebuilding).

CITY PROPER.

There have been built in this district during the past year 3,722.01 linear feet of pipe sewer, 3,158.30 linear feet of brick sewer, 538.76 linear feet of pipe surface drain, 172 linear feet of 8-inch pipe, and 28 linear feet of 6-inch pipe house drains, making a total of 7,619.07 linear feet, or 1.44 miles.

The principal works completed are :

Traverse street, between Canal and Portland streets. The old wooden sewer was removed and a deeper brick sewer built, which connects the sewer in Portland street with the Canal street relief sewer.

Kneeland street, between Atlantic avenue and South street. This sewer will drain out the low sewer between South street and Utica street.

Cotting and Wall streets. This sewer has been needed for a long time, the old sewer causing much trouble.

Sewers have been rebuilt in —

Pleasant street, between Tremont and Carver streets.

Thacher street, between Washington street north and Endicott street.

Endicott street, between Thacher and Cooper streets.

Elm street, between Washington street and Hanover street.

Fleet street, between Commercial street and North street.

North street, between Fleet street and Clark street, and

Brighton street, between Chambers street and Milton street.

State street. Sewers have been rebuilt by the Transit Commission between India street and Washington street. The old sewer between Commercial and India streets has been rebuilt by this division.

Hanover street. A sewer has been built between the Canal street relief sewer in Cross street and the siphon at Washington street. The siphon was built under the Washington street subway by the Transit Commission and discharged into the Friend street sewer. On account of the grade of the Friend street sewer there was always seven feet of water in the down-stream manhole of the siphon. Hotels and restaurants connected with this system deliver large quantities of grease which collected in the siphon and made it necessary for this division to clean the siphon once each week. This has now been done away with, freeing the division from a constant expense and the danger of suits

which would surely be instituted against the city if the grease were allowed to collect and plug the sewer.

RECOMMENDATIONS.

Church street district. This subject was discussed in last year's report, but nothing has been done.

State street. The Canal street relief sewer in Commercial street, where it crosses State street, has been settled and broken by the operation of driving the tunnel in State street. This should be repaired by the Transit Commission as soon as settlement has ceased.

Norman street. The sewer is in the same condition as last year, but should be extended down the street until it will drain into the Norman street sewer.

Beverly street overflow. An overflow is needed on this system, as mentioned in previous reports.

Buckingham street. As mentioned in last year's report the sewer in this street is badly settled. It can be rebuilt to drain cellars at grade 12, but to drain cellars on the street that are at grade 8.5 will make it necessary to spend more money than is desirable.

Sewers should be rebuilt in Salem street, North street, and Hale street.

In the City Proper and Roxbury during the past year there have been approved 115 plans for private corporations.

MAIN DRAINAGE WORKS.

This branch of the Sewer Division consists of the system of main and intercepting sewers which convey the sewage of the city to the discharge outlet at tide-water. Included under this heading are all the regulators, overflows, and tide-gates throughout the city, the pumping station, deposit and outfall sewers, and reservoirs at Moon island, also the care of the channels of Stony brook.

Main and intercepting sewers. A list of the number of tide-gates, regulators, sumps, and overflows in different sections of the city that are inspected and cleaned after every storm or excessive rise of sewage is appended. Also a statement of additions, renewals and repairs to same.

Number and location of gates, regulators, sumps, and overflows :

	Gates.	Regulators.	Sumps.	Overflows.
Brighton.....	45	16	17	25
Charlestown.....	24	9	11	11
East Boston.....	34	15	16	19
City Proper.....	114	14	36	61
Dorchester.....	35	2	9	14
South Boston.....	37	4	14	16
Roxbury.....	27	1	8	10
	316	61	111	156

The length of main and intercepting sewers in the city is twenty-one miles.

The following is an account of work done during the past year :

Sewers cleaned	2 $\frac{3}{4}$ miles.
Number of new tide-gates built	6
“ “ vapor gates built	4
“ “ regulators repaired	51
“ “ tide-gates repaired	243
“ “ flushing-gates repaired	11
“ “ manholes repaired	207
“ “ sumps repaired	46
“ “ old tide-gates replaced by new	31
“ “ manhole steps put in	437
“ “ loads of sewage matter removed from tide-gates, sumps, and regulators	3,744
Total length of Stony brook water-course to be cared for and inspected after each storm is	6 $\frac{1}{4}$ miles.
The number of loads of material removed from channels last year	2,500

PUMPING STATION, CALF PASTURE.

The following repairs and alterations were made the past year :

No. 1 and 2 pumps — Two new composition-faced valve frames were put in.

Two new Bulkely condensers.

New main steam pipe from old boilers.

No. 3 and 4 pumps — Four new and improved slip joints have been put between horse-power cylinder and reheaters. Two mechanical lubricators have been put on this engine.

The injection piping of No. 1 and 2 pumps is in course

of construction, and all wrought-iron pipe will soon be replaced by cast iron.

In the old gate-house four new cages or screens have been installed, also the main gate on the north side has been replaced by a new gate.

Three new return tubular boilers, built by Kendall & Sons, have been set up and are now in operation. They are installed in a new boiler-house, built of concrete and expanded metal, which was constructed for the purpose. The boilers are now operating the Leavitt engines and all the auxiliary machinery at the plant.

These are the boilers that in last year's report it was suggested should be set up for the purpose of running the plant, while the old battery in the boiler-house was being replaced by a new one. A battery of six boilers, carrying a working pressure of 185 pounds, has been contracted for to replace the old ones, and are about ready for delivery.

It having been decided to extend the main building on account of the installation of the new pump, a substantial foundation of piles, concrete, and stone has been put in on lines that will admit of completing the building as originally designed. The machine-shop has been removed from the engine-house to a temporary building erected for the purpose. This was necessary, as it occupied the place where the new pump is to be set up. All the foundations for the new pump are ready to receive it. The foundation for the outboard bearing is of stone and concrete on piles.

A new iron railing has been built on the coal run to replace the wooden guards.

All the outbuildings and fence have been painted, and a new tar and gravel roof put on the coal-sheds. A new drain pipe has been laid, connecting the stable with the sewer. A new automatic sewer gauge has been set up in the gate-house. New shaft, sprocket chains and gears have been put on sludge-carrying machine in the deposit sewer.

The alterations and repairs necessary to receive the new boilers and new engine are now under way, and will have to be carried on until everything is completed and the boilers and engines are running. It will be necessary to put new well gates in this year and new gates on the discharge from the pumps.

Mt. Vernon street, from Buttonwood street to the pumping station, should be macadamized and a substantial fence erected from the railroad to the station. The street is in a deplorable condition, and will continue to be so until it is ballasted.

LYONS STREET PUMPING STATION.

The pumping station at Lyons street was thoroughly overhauled the past season. The two belts have been renewed. Complete repairs have been made on the engine, including one new crank shaft, and all the pump bearings have been rebabbitted. The roof has been repaired around the smoke-stack, and the whole painted with fireproof paint.

MOON ISLAND.

The general working of the system here has been very satisfactory. The contract for sea-wall, wharf extension, boat-house and grading was finished in the Spring. The gate-houses in general are in good condition, minor repairs having been made. The stable is not only in bad condition, but dangerous. A new stable and storehouse was asked for in last year's report, but nothing has been done towards constructing it. The large barn in Squantum is also in an unsafe condition, although a large number of the post supports have been renewed. The public have been kept out of the structure for fear of an accident.

A sanitary for the use of the public has been built at Squantum.

Repairs, such as the renewals of parts, changes from iron to composition, new stems, cross-heads, flanges, and bolts have been made to one-third of the gates in the long gate-house. The repairs on the remaining two-thirds of these gates should be completed the coming year.

A new line of water pipes, with hydrants, should be installed at the reservoir for washing the side walls. The old pipes have become useless, and the cleaning of the side walls cannot be done until the new pipes are laid. The gates at the outlet gate-house, together with gearing, pinions, and regular gears, must be repaired and a number of parts renewed, and it would be advisable to change the present method of operating the gates and work them by compressed air. Immediate attention should be given to this matter, as the working parts are in a very bad condition.

A connection from the Boston water main should be made at the connection chamber for flushing and cleaning purposes.

The rip-rap on the west side of the embankment for one thousand feet should be relaid as the ballast has washed out and there is danger to some parts of the embankment.

The roadway from Squantum to Moon Island is low, caused by settlement, washing from heavy rains, high winds,

etc., and should be raised. During the winter months this road is in bad condition, and it should be surfaced with ballast, crushed stone, or a good depth of gravel and rolled.

The sea-wall or rip-rap should be extended around the Moon Head at the top of the beach for protection to the hill which is gradually wearing away.

The outlet gate-house needs pointing and some minor repairs.

The average daily amount of sewage received at the reservoir, Moon Island, from the Pumping station from January 31, 1902, to February 1, 1903, was 88,480,680 gallons.

STONY BROOK.

The work for this year commenced in Brookside avenue and in private land, and extends to a point forty-five feet south of Green street in private land.

The size of the conduit is $15\frac{1}{2}$ feet by 17 feet to the northerly line of Green street, and from this point it enlarges to $15\frac{3}{4}$ feet by 20 feet, this latter size to be carried to Forest Hills. The dimensions have been increased owing to a flatter gradient. The Brookside avenue quicksand was encountered, which considerably increased the cost of construction and made the progress necessarily slow. This material was handled by driving 5-inch tongued and grooved sheeting with a pile driver. The trench was bulkheaded in 40-foot sections to make a water-tight compartment, the sheeting was driven from 8 to 10 feet below grade and the quicksand excavated about 3 feet below the grade of the invert. A 6-inch underdrain was laid on the centre line, and lateral drains of gravel were put in from the sheeting to the centre. From 6 to 8 inches of gravel was spread over the whole bottom, and from 18 to 20 inches of concrete laid on top of this. The side walls of rubble masonry were carried up to within 2 feet of the crown of the arch. Though the use of 5-inch sheeting was an expensive item, it was conclusively proven that this method of confining the quicksand more than compensated for the outlay. In using this larger size sheeting a trench was carried within 10 feet of a 4-story brick building without the slightest damage whatever. Following the old method it would have been necessary to support these buildings, and estimates from those competent to do this work were so high that the method adopted has proven the most economical under the conditions.

The first interruption of work occurred in February, and was caused by a heavy snow-storm, the men being put on the

street-cleaning force. The second delay was caused by the severe rain-storm of March 1. The flood was so great this day that it broke through a bulkhead into the trench, undermined and damaged several buildings, and broke down the gas and water pipes; this was the most serious damage done in many years on this work.

The next delay occurred, from May 8, until June 23, to determine the line ahead.

The $15\frac{1}{2}$ foot by 17 foot, the 9 foot by 9 foot 6 inches, and $15\frac{3}{4}$ foot by 20-foot conduits meet in Green street, forming a bell-mouth. In building the bell-mouth across Green street, this street, which is a main thoroughfare, had to be closed. It was necessary here to overcome a great many obstacles, — all traffic had to be conducted through private land and over a bridge thrown across the brook to Bartlett place. The 36-inch by 38-inch brick sewer had to be flumed around on the north-erly side of the street, and the water and gas pipes and the telephone conduits had to be carried on the same side.

Several routes south of Green street have been investigated, but the most feasible is that which follows the line of the old brook, enters Keyes place, and thence to Washington street. Beyond Washington street to Forest Hills it now seems advisable to follow the old line of the brook, this line offering fewer chances for suits for damages than the route which follows Washington street.

An appropriation sufficient to carry this work to Forest Hills should be immediately obtained. The foul odors arising from the brook bed, the demands of the district, and the increased cost of construction by small yearly appropriations, offer the best reasons why this channel should be completed at once. If part of this work could be let out by contract it would be possible to finish it in one and one-half years.

The amount of construction for the year is as follows :

297	linear feet,	$15\frac{1}{2}$ by 17 feet,	brick conduit.
40	“	“ Reducer,	“ “
40	“	“ $15\frac{3}{4}$ by 20 “	“ “
65	“	“ 9 by 9 “ 6 in.	“ “
377	“	“ 2 by $3\frac{1}{2}$ “	brick sewer.

ENTRANCE FEES, PERMITS AND ASSESSMENTS.

Entrance fees to the amount of \$5,515.62 have been collected from estates upon which no sewer assessment was ever paid, in accordance with chapter 38, section 10, of the Revised Ordinances of 1898.

Bills for sewer assessments, amounting to \$2,417.03, have been deposited for collection, representing those estates assessed under chapter 456 of the Acts of 1889, and amendments thereto, which have been connected during the year with the sewers for which they were assessed.

One thousand seven hundred and seventy (1,770) permits have been issued to licensed drain-layers to make connections with the public sewers, and the work done under these permits has been inspected, and a record of the same made on the plans of this division, in accordance with the provisions of chapter 38, sections 6 and 10, of the Revised Ordinances of 1898.

Eight hundred and eighty-two (882) permits have been issued to district foremen and contractors for construction and repairs of sewers and catch-basins.

Plans for the assessment of estates benefited by sewer construction have been furnished the Street Commissioners, representing 31,286 feet of sewers, costing \$182,537.07.

Respectfully,

GEORGE PHILLIPS,

Deputy Superintendent.

Financial Statement.

APPROPRIATIONS.	Balances on Hand Feb. 1, 1962.	Appropriations During the Year.	Revenue Received During the Year.	Total Credits.	Expenditures During the Year.	Transfers to Other Departments.	Balance on Hand Jan. 31, 1963.
Street Department, Sewer Division.....		\$300,000 00	\$1,743 69	\$301,743 69	\$301,743 69		
Sewerage Works	\$152,461 56	1,000,000 00		1,152,461 56	1,145,141 25		\$7,320 31
Laying Out and Construction of Highways, Chap. 47S, Acts 1900..					139,408 83		
Construction of Highways Already Laid Out, \$400,000.....					7,232 10		
Laying out and Construction of Highways					55,706 63		
Totals	\$152,461 56	\$1,300,000 00	\$1,743 69	\$1,454,205 25	\$1,649,232 50		\$7,320 31

OBJECTS OF EXPENDITURES.

STREET DEPARTMENT — SEWER DIVISION.

Pumping station and Moon Island,	\$113,061	41	
Tow-boats	\$13,898	83	
Less paid by Sani- tary Division	9,031	26	
			4,867 57
Main and intercepting sewers	28,498	62	
			<u>\$146,427 60</u>

Pumping Station, Lyons street, Dorchester.

Maintenance			10,036 73
-----------------------	--	--	-----------

Stony Brook.

Maintenance			7,918 71
-----------------------	--	--	----------

Miscellaneous Maintenance Charges.

Office and engineering force, salaries and ex- penses			10,613 08
Current expenses of yards, lock- ers, stables, etc.	\$62,535	95	
Less amount earned by depart- ment teams and engines	22,467	41	
			40,068 54
Repairing and cleaning catch-basins, sewers and general repairs			70,831 98
House connections, work for other departments, incidental expenses, etc.			12,502 54
Hardware, tools, rubber goods, etc.			4,516 78
Telephones not included elsewhere			1,046 72
			<u>\$303,962 68</u>
Less decrease of stock in yards			2,218 99
			<u><u>\$301,743 69</u></u>

SEWERAGE WORKS.

Pumping station and Moon Island			\$75,976 73
---	--	--	-------------

Sewer Construction.

South Boston	\$107,603	90	
East Boston	28,156	79	
			<u>\$75,976 73</u>
<i>Brought forward</i>	\$135,760	69	\$75,976 73

<i>Carried forward</i>	\$135,760 69	\$75,976 73
Charlestown	13,179 54	
Brighton	85,475 30	
West Roxbury	108,897 43	
Dorchester	237,249 52	
Roxbury	97,000 95	
City Proper	92,515 20	
	<hr/>	770,078 63

Miscellaneous Construction Charges.

Office and engineering force, salaries and expenses		120,796 55
Hardware, tools, rubber goods and damages		4,968 02
New manholes		7,201 61
Sundries		5,287 25
Stony brook improvement (construction and engineering)		160,832 46
		<hr/>
		<u>\$1,145,141 25</u>

LAYING-OUT AND CONSTRUCTION OF HIGHWAYS.

Chapter 478, Acts of 1900.

Sewer Construction.

East Boston	\$20,263 85
Charlestown	6,290 91
West Roxbury	12,385 55
Dorchester	43,185 05
Roxbury	48,990 15
City Proper	8,293 32
	<hr/>
	<u>\$139,408 83</u>

Construction of highways already laid out . . . \$400,000 00

Sewer Construction.

West Roxbury	\$943 28
Roxbury	3,301 30
City Proper	2,987 52
	<hr/>
	<u>\$7,232 10</u>

LAYING OUT AND CONSTRUCTION OF HIGHWAYS.

Sewer Construction.

South Boston	\$3,784 55
Charlestown	4,401 17
Brighton	1,987 63
West Roxbury	3,509 96
Dorchester	35,672 32
Roxbury	5,852 22
City Proper	498 78
	\$55,706 63

Recapitulation.

Street Department, Sewer Division	\$301,743 69
Sewerage works	1,145,141 25
Laying Out and Construction of Highways, chapter 478 of the Acts of 1900	139,408 83
Construction of Highways Already Laid Out, \$400,000	7,232 10
Laying Out and Construction of Highways	55,706 63
	\$1,649,232 50

**Summary of Sewer Construction for the Twelve Months ending
January 31, 1903.**

DISTRICT.	Built by the City by Contract or Day Labor.	Built by Private Parties.	Total length built during the 12 months ending Jan. 31, 1903.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
City Proper.....	5,483.07	2,136.00	7,619.07
East Boston.....	4,879.96	.....	4,879.96
Charlestown.....	3,534.14	.....	3,534.14
South Boston.....	8,281.56	334.55	8,616.11
Roxbury.....	15,587.96	626.14	16,214.10
West Roxbury.....	25,769.78	2,568.68	28,338.46
Dorchester.....	48,608.29	1,122.91	49,731.20
Brighton.....	8,726.56	3,133.74	11,860.30
Total.....	120,871.32	9,922.02	130,793.34

**Summary of Sewer Construction for five years previous to
February 1, 1903.**

	1898	1899	1900	1901	1902
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Built by the City by contract or day labor.....	203,139.68	99,772.15	78,255.92	122,092.52	120,871.32
Built by private parties...	9,325.99	17,955.05	15,438.28	14,004.67	9,922.02
Total number of feet built	212,465.67	117,727.20	93,694.20	136,097.19	130,793.34

**Schedule of Sewers Built to Date in the City of Boston, February
1, 1903.**

DISTRICT.	Total length built during 12 months ending Jan. 31, 1903.	Length rebuilt and abandoned during the 12 months ending Jan. 31, 1903.	Additional length for 12 months ending Jan. 31, 1903.	
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Miles.</i>
City Proper.....	7,619.07	4,388.00	3,231.07	0.61
East Boston.....	4,879.96	272.10	4,607.86	0.87
Charlestown.....	3,534.14	50.00	3,484.14	0.66
South Boston.....	8,616.11	1,125.43	7,490.68	1.42
Roxbury.....	16,214.10	1,004.10	15,210.00	2.88
West Roxbury.....	28,338.46	102.00	28,236.46	5.35
Dorchester.....	49,731.20	2,530.92	47,200.28	8.94
Brighton.....	11,860.30	242.00	11,618.30	2.20
Totals.....	130,793.34	9,714.55	121,078.79	22.93
Length built previous to January 31, 1902.....				551.06
Total.....				573.99
Length of intercepting sewer.....				24.12
Total.....				598.11
Total mileage of streets containing sewerage works.....				428.50

Catch-basins Built February 1, 1902, to January 31, 1903.

	Number.	
City Proper.....	37	1,495,739 linear feet of sewers flushed, 1,046 cubic yards material removed from sewers.
Roxbury.....	66	
Dorchester.....	178	6,797 catch-basins cleaned; 25,997 cubic yards removed.
West Roxbury.....	50	
Brighton.....	79	
Charlestown.....	57	
East Boston.....	52	
South Boston.....	74	
Total.....	593	

**Report of Sludge Received in and Removed from Deposit Sewers
for Twelve Months ending January 31, 1903.**

1902.	Received.	Removed.	
February.....	463 cubic yards	513 cubic yards	
March.....	1,071 " "	583 " "	
April.....	846 " "	676 " "	
May.....	829 " "	749 " "	
June.....	888 " "	675 " "	Sludge in sewers Feb.
July.....	1,089 " "	1,152 " "	1, 1902, 1,314 cubic
August.....	718 " "	1,007 " "	yards.
September.....	832 " "	1,038 " "	Sludge in sewers Feb.
October.....	843 " "	849 " "	1, 1903, 1,192 cubic
November.....	504 " "	862 " "	yards.
December.....	797 " "	902 " "	
1903.			
January.....	838 " "	834 " "	
Totals.....	9,718 cubic yards	9,840 cubic yards	

Real Estate in Charge of the Sewer Division.

OWNED BY CITY.	ASSESSED VALUATION.	
	Land.	Buildings.
Sewer yard, 678 Albany street, South End.....	\$56,400	\$3,000
Gate-house, Columbus avenue, Roxbury.....	13,000	4,000
Sewer yard, Rutherford avenue, Charlestown.....	56,400	3,000
Sewer yard, Massachusetts avenue near Albany street, South End.....	8,600	5,500
Sewer yard, Western avenue, Brighton.....	98,000	300,000
Pumping station, Old Harbor Point, Dorchester... Land, buildings and reservoirs at Moon Island and Squantum.....	19,500	4,300
Sewer yard, North Grove street, West End. (Oc- cupied in common with other divisions of the Street Department).....	66,720	28,000
Sewer yard, Child and South streets, West Rox- bury. (Occupied in common with Paving Divi- sion).....	19,300	3,000
LEASED.		
Sewer yard, Revere street, West End. (Occupied in common with Paving Division. Leased from J. J. Costello).....	76,500	3,500
Sewer yard, Eagle street, East Boston. (Occupied in common with other divisions. Leased from trustees of Glendon Company.....		
Sewer yard, Old Harbor street and Columbia road, South Boston. (Office building owned by Sewer Division. Leased from estate of Choate Burn- ham).....	4,800	3,200
Sewer yard, Gibson street, Dorchester. (Build- ings erected by Sewer Division. Leased from trustees of Gibson School Fund).....	7,000	5,000

APPENDIX F.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE STREET CLEANING DIVISION.

921, 922, 923 TREMONT BUILDING,
BOSTON, February 1, 1903.

HON. JAMES DONOVAN,

Superintendent of Streets :

DEAR SIR, — Following is the report of the Street Cleaning Division of the Street Department for the year ending January 31, 1903 :

EXPENSE.

The expenditures of the year show an increase over those of any previous year in the history of this division. This increase is not attributable, solely, to extraordinary expenses, but is almost the direct result of the natural expansion of the sweeping district this division is obliged to cover. To quote from the message of his Honor the Mayor, accompanying the current year's appropriation bill, these expenses are "in the nature of fixed charges and do not permit of reductions without detriment to the public service"; and, again, these "fixed charges increase each year by a small percentage in proportion to the growth of the city."

Hence the annual appeal made by this division for a more liberal appropriation.

EXTRAORDINARY EXPENSES.

If there have been any unusual or unlooked for expenses during the year, prominent mention must be made of the stable in South Boston, which had been leased, about a month previous to the incoming of the present administration, for a term of five years at a rental of \$900 per year. This stable was found to be in a most dilapidated condition — unsafe,

unfit, unsanitary — and, although over \$3,000 have been spent upon it to make it serve its purpose, it is still and will continue to be a source of much expense to this division. What may also be classed as an extraordinary expense is the high price we had to pay during the year for hay and grain. For this item alone it cost this division over \$6,000 more than for the previous year.

The coal strike, whose resultant distressful features are still an occasion for calls upon our service, was an additional and unprovided for expenditure. Over \$1,200 have been spent carting coal to relieve the public distress; and this was done, of course, to the prejudice of the regular work of the division. This distress continues and the streets are neglected that we may relieve it, yet the public complains. In connection with the subject of extraordinary expenditure, it must be stated that the cost of the

SNOW WORK

of this division is out of all proportion to the provisions made for it. In fact, there has been no provision made for it; and it is earnestly recommended that, when the Committee on Appropriations is considering the needs of this division, a certain sum for snow work be appropriated or the amount allowed for general maintenance be materially increased.

STABLES.

Attention has been called in previous years to the cramped quarters allotted this division for its live and its rolling stock. Provision was made in the last loan bill for the improvement of the West End and Charlestown stables. Some arrangement must soon be made to care for the horses, carts, and sweeping machines in Roxbury, where there is hardly room for an extra horse, and where the rolling stock is often exposed to rain and snow for lack of space to shelter it.

STOCK.

Many of the horses of this division are no longer able to do the work required of them, being old, diseased, or crippled. As a matter of record, about twenty of them have been officially condemned and ordered to be shot, and, although the order for good reasons has not yet been carried into effect, it is only a question of a short time when it must be done. The carts might be characterized in the same way, very many of

them not being worth the cost of repairing. A recommendation was made last year to purchase a number of carts, but not a cart has been added to the stock. They have been repaired over and over again, but it would be in the line of economy to replace them with new ones. The sweeping machines are in fair condition.

PAPER LITTER.

This continues to be the most vexing problem confronting this division, and it is simply repeating the experience and recommendation of previous years to state, that the remedy is outside the Street Department. There is certainly law enough to prevent this littering of the streets by store-keepers, tenants, and the general public. If the earnest and practical co-operation of the Police Department could be secured, this nuisance could and would be, at least, minimized, if not entirely prevented.

PUSH-CART WORK.

In line with this subject of paper litter must be recognized the work of the patrol system or push-cart force. If this service were discontinued the work of our machine sweeping gangs would never satisfy the public. When the weather permits (nine months in the year or more) all the down-town districts, and much of the up-town sections of the city are machine-swept during the night; but, if this work were not followed up during the day by the push-cart men, these same streets, which were swept the night before, would present a very unsightly appearance, even in the early hours of the day.

Too much credit cannot be given to this branch of the division; it has expanded from year to year, and it should continue to do so. Every deputy, recognizing its service, has recommended its extension, and it is herein advocated that it should be added to in proportion to the growth of at least the paved area of the city.

SLIPPERY PAVEMENTS.

The work of sanding asphalt streets has been done under the supervision of the patrol system. The one sanding machine in use is not capable of sanding all the asphalt streets of the city, and, if it is the intention of this depart-

ment to furnish adequate service in this respect, the equipment should be added to and the force increased.

DUMPS.

Provision must soon be made for more dumping places. The low lands in most of the suburban districts are rapidly filling up. Back Bay will soon be without a single dumping lot. The single scow at Fort Hill Wharf, to which all of the down-town sweepings are carted, is inadequate.

A suitable and available place for another scow would be at the city wharf on Albany street, and another at Charles River avenue bridge — a very convenient place for the North End, West End and Charlestown gangs.

SIDEWALKS AROUND PUBLIC SQUARES.

An attempt was made during the present winter to transfer the care of the sidewalks around public squares, particularly those of the Common and Public Gardens, to the Public Grounds Department. For some years this division had been burdened with the care and cost of keeping these sidewalks clear of snow and ice. Custom, or rather it seems because the other department had not the money to pay for the work, was the reason alleged for putting these sidewalks under the care of the Street Department. If the custom is to be preserved, a special appropriation should be made to warrant it. The streets in the vicinity of these public grounds are neglected in consequence of the time spent on the sidewalks.

In any event it may be intimated that an arrangement might be made between the Public Grounds Department and this division that would be mutually satisfactory. It is not so under existing conditions.

PUBLIC ALLEYS.

It is no exaggeration to state that, relatively, more complaints have come from the public alleys, particularly those in the Back Bay, than are heard or received from the abutters of our main thoroughfares and ordinary business or residential streets. The people who complain are often blamable in the matter, but they do, nevertheless, insist upon better service. These alleys are cleaned once a week. To do them oftener will necessitate either a special gang of men or a considerable addition to the force of the Back Bay District.

NEW DISTRICTS.

It was expected that there would be a sweeping gang of this division established early in the year in Dorchester, but the hope is still unrealized. The Paving Division, which does the street cleaning of this territory, has called upon our South End and South Boston gangs to go out there and sweep its main thoroughfares, as it has neither the men nor the equipment to do the work. Of course, South End and South Boston are meantime neglected. The same may be said of Brighton. The Back Bay gang gives it a spring and fall cleaning, but always at the expense of its own district.

Provision should be made at the earliest possible moment for the establishment of a permanent street cleaning force in the suburban districts, to the end that the residents may have the same service as those of the Back Bay district.

Respectfully submitted,

JOSEPH J. NORTON,

Deputy Superintendent.

FINANCIAL STATEMENT.

Appropriation, 1902-1903	\$340,000 00
Transferred from Paving Division	27,800 00
Transferred from surplus revenue	25,002 09
	<hr/>
Total expenditures	\$392,802 09
	<hr/> <hr/>

OBJECTS OF EXPENDITURES.

Superintendence.

Salary of Superintendent	\$2,825 00
Office pay-rolls	4,480 57
Stationery	316 15
Printing	887 58
Board of horses, not mentioned elsewhere	623 86
Telephone service	308 36
	<hr/>
	\$9,441 52
	<hr/> <hr/>

Machine Sweeping of Paved Streets.

This includes cost of sweeping, loading, and removal of street dirt.

District 1, South Boston	\$13,096 46
District 2, East Boston	6,144 73
District 3, Charlestown	11,178 19
District 7, Roxbury	14,667 12
	<hr/>
<i>Carried forward</i>	\$45,086 50

<i>Brought forward</i>	\$45,086 50
District 8, South End :	
Up-town gang	13,057 48
Down-town gang	34,635 22
District 9, Back Bay	6,133 42
District 10, West End	14,336 68
District 10, North End	14,491 57
	<u>\$127,740 87</u>
Total length of miles cleaned, 12,976.	

Cleaning Gutters.

This includes cost of sweeping, loading, and removal of street dirt.

District 1, South Boston	\$2,155 04
District 2, East Boston	2,707 82
District 3, Charlestown	2,947 69
District 7, Roxbury	3,280 30
District 8, South End :	
Up-town gang	3,354 69
Down-town gang	29 22
District 9, Back Bay	5,170 53
	<u>\$19,645 29</u>
Total length of gutters cleaned, 2,529 miles.	

Cost of Maintaining Dumps.

District 1, South Boston	\$445 20
District 2, East Boston	157 00
District 3, Charlestown	476 70
District 7, Roxbury	465 80
District 8, South End :	
Up-town gang	467 25
Down-town gang	539 05
District 9, Back Bay	462 00
District 10, West End	257 10
District 10, North End	260 60
	<u>\$3,530 70</u>

Removing Snow.

This includes labor on crossings, in streets, carting of snow, etc.

District 1, South Boston	\$3,012 15
District 2, East Boston	1,742 60
District 3, Charlestown	2,704 69
District 7, Roxbury	2,995 36
<i>Carried forward</i>	<u>\$10,454 80</u>

<i>Brought forward</i>	\$10,454 80
District 8, South End:	
Up-town gang	2,566 39
Down-town gang	14,573 58
District 9, Back Bay	2,296 90
District 10, West End	3,303 41
District 10, North End	3,935 92
	<hr/>
	\$37,091 00
	<hr/> <hr/>

See Patrol System.

Miscellaneous.

This shows the cost of such work as may not be characterized the same in all districts.

District 1, South Boston	\$788 07
District 2, East Boston	103 50
District 3, Charlestown	414 25
District 7, Roxbury	973 77
District 8, South End:	
Up-town gang	400 80
Down-town gang	986 70
District 9, Back Bay	81 90
District 10, West End	371 60
District 10, North End	452 16
	<hr/>
	\$4,572 75
	<hr/> <hr/>

Patrolling by Districts.

This includes the cost of picking up and the removal of refuse papers, etc., from the streets.

District 1, South Boston	\$1,223 54
District 2, East Boston	66 80
District 3, Charlestown	19 45
District 7, Roxbury	119 77
District 8, South End:	
Up-town gang	14 70
Down-town gang	123 07
District 9, Back Bay	15 00
	<hr/>
	\$1,582 33
	<hr/> <hr/>

Carting Coal.

Labor and teaming	\$1,206 23
	<hr/> <hr/>

Public Alleys.

Labor and teaming	\$281 36
	<hr/> <hr/>

Push-cart Patrol System.

Superintendence, inspection, etc.	\$6,318 84
Push-carts, labor, teaming, etc.	50,756 99
Paper patrolling	3,091 11
Stock	1,630 54
Snow work	6,243 81
Holidays	5,549 89
Repairs at station, 95 Columbus avenue	234 81
Sundries, repairs, etc.	3,772 08
	<hr/>
	\$77,598 07

Stable and Yard Expenses.

In the following statement is included the cost of the South End, West End, Roxbury, South Boston, Charlestown and East Boston stables :

Superintendence of stables	\$1,423 05
Labor, including the cost of feeders, hostlers, broom-makers, watchmen, yardmen, messen- ger, hay, grain, etc.	47,008 83
Cart and carriage repairs	3,764 35
Horseshoeing	3,797 67
Harness repairs	1,779 20
Sweeping machine repairs	1,956 92
Stable and shed repairs	5,591 88
Street car tickets	600 00
Tool repairs	196 65
Veterinary services and medicine	1,779 92
Board and care of horses not mentioned elsewhere,	404 00
	<hr/>
	\$68,302 47

See Patrol System.

Stock Account.

Broom stock purchased	\$5,514 26
Harnesses and horse furnishings purchased	1,884 20
Horses purchased	1,450 00
Tools purchased	780 01
Bag carriers, push-carts, etc.	857 55
Carts, carriages, etc.	565 00
	<hr/>
	\$11,051 02

Miscellaneous.

Holidays	\$19,355 56
Scow (cost of disposal at sea of 35,031 loads of street dirt)	8,124 04
Sundries	2,978 88
Annuity	300 00
	<hr/>
	\$30,758 48

GENERAL RECAPITULATION OF EXPENSES.

Superintendence	\$9,441 52
Machine sweeping of paved streets	127,740 87
Cleaning gutters	19,645 29
Maintaining dumps	3,530 70
Removal of snow and ice	37,091 00
Miscellaneous work	4,572 75
Paper patrolling	1,582 33
Carting coal	1,206 23
Cleaning public alleys	281 36
Patrol system, push-carts	77,598 07
Stable and yard expenses	68,302 47
Stock account	11,051 02
Miscellaneous	30,758 48
	<u>\$392,802 09</u>

INCOME.

Amount of bills deposited with the City Collector during the financial year ending January 31, 1903, \$1,744.90.

Table showing the Number of Loads of Street Dirt Removed.

DISTRICTS.	Number of loads of dirt removed.	Cost per load of cleaning streets and removing to dumps, including foreman's superintendence.
1.....	19,476	\$0 78
2.....	5,742	1 54
3.....	8,499	1 66
7.....	11,156	1 60
8 { Up-town gang.....	9,335	1 75
{ Down-town gang.....	17,662	1 96
9.....	5,513	2 05
10 { West End.....	7,809	1 83
{ North End.....	8,618	1 68
	93,810	
		Barrels and Bag Loads.
Removed by push-cart patrol system.....	7,431	114,080
Removed by district push-carts.....	.....	36,583
Removed by paper patrol.....	2,313	.....
Total.....	103,554	150,663

Total number of cart loads removed 103,554
 Total number of barrel and bag loads removed 150,663

Thirty-five thousand and thirty-one (35,031) loads of these street sweepings (or 33 per cent.) were delivered at the dumping scow at Fort Hill Wharf, the towing of which to sea cost twenty-five (25) cents per load.

Public Waste Barrels.

Total number of waste barrels emptied . . .	10,696
Total number of subway barrels emptied . . .	3,134
	<hr/>
	13,830
	<hr/> <hr/>

SUMMARY.

Miles of paved streets cleaned	12,976
Miles of gutters cleaned	2,529
Loads of dirt removed	101,241
Loads of paper and refuse removed	2,313
Push-cart barrels emptied	150,663
Waste barrels emptied	10,696
Subway barrels emptied	3,134

PROPERTY OCCUPIED BY THE STREET CLEANING DIVISION.

South Boston.	Lease of stable, corner of H and Second streets.
East Boston.	Part of stable, on East Eagle street. Leased.
Charlestown.	“ “ “ “ Rutherford avenue. City stable.
Roxbury.	“ “ “ “ Highland street. “
South End.	“ “ “ “ 650 Albany street. “
West End.	“ “ “ “ North Grove street. “
Back Bay.	Lease of building, 95 Columbus avenue.

APPENDIX G.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE STREET WATERING DIVISION.

904-905 TREMONT BUILDING,
BOSTON, February 1, 1903.

HON. JAMES DONOVAN,

Superintendent of Streets:

DEAR SIR,— I respectfully submit the annual report of the Street Watering Division of the Street Department for the financial year ending January 31, 1903.

All public streets were watered at an expense of \$160,147.25, paid for from the general tax levy.

The season opened March 24, and continued until November 30, but watering was done on February 12, 15 and 16. It was in the main a wet season, although there were many dry, windy days, difficult periods to keep dust down.

The service gave general satisfaction to the citizens of every section of the city. The number of wettings given the streets daily were as follows: Four to six in the Back Bay District, four in the South End and City Proper, three and four on the main thoroughfares of the outlying sections and two on all others. The street mileage was increased five miles by new streets, and two additional carts were employed.

Attention is directed to the figures which show the tremendous amount of fresh water used by the division. Taken with the amount used by the Park, Fire and other departments, it seems proper at this time to suggest the use of salt water for street watering purposes, as its superiority over fresh water for this work is well known.

The sum of \$160,000 is inadequate for a service which contemplates watering in the open weather of the winter months as well as in the strict watering season. Such a sum provides for no extension of the service beyond the present

limits, nor is it enough to properly water our streets under ordinary conditions. In fact, it is only possible under favorable weather conditions to water 465 miles of streets in the manner of the past for the sum appropriated. It may seem unnecessary to urge the matter so often, but interest in a service which has been specialized and improved until it has no equal of its kind anywhere compels the reiteration. An increase in the appropriation should be made to meet the requirements of the weather conditions during the entire year.

The force employed was one deputy superintendent, one chief clerk, one clerk, one driver, and twenty-one bicycle tallymen.

The division is indebted to Mr. J. W. Smith, local forecast official, for daily weather reports.

Respectfully submitted,

AMBROSE WOODS,
Deputy Superintendent.

FINANCIAL STATEMENT.

Amount of appropriation	\$160,000 00
Transferred from "Surplus Revenue"	147 25
	<hr/>
	\$160,147 25
	<hr/> <hr/>
Amount of expenditures	\$160,147 25
	<hr/> <hr/>

OBJECT OF EXPENDITURES.

Salaries and labor	\$16,052 29
Teaming	135,743 75
Water-posts, repairs, etc.	4,922 17
Board of horses	627 67
Shoeing and clipping	141 75
Veterinary services and medicine	43 00
Harness and supplies	308 00
Vehicles, repairs, etc.	939 77
Printing	136 59
Stationery and postage	159 68
Bicycles, repairs, etc.	606 90
Telephone service	134 53
General supplies	331 15
	<hr/>
Total	\$160,147 25
	<hr/> <hr/>

STREET DEPARTMENT — STREET WATERING DIVISION. 145

Objects of Expenditures, Classified by Districts, from February 1, 1902, to January 31, 1903.

DISTRICTS.	Teaming.	Labor.	Maintenance.	Totals.
South Boston.....	\$10,518 50	\$1,019 82	\$1,080 78	\$12,619 10
East Boston.....	7,545 00	1,019 82	756 54	9,321 36
Charlestown.....	5,847 50	509 91	594 43	6,951 84
Brighton.....	11,185 00	1,019 81	1,134 82	13,339 63
West Roxbury.....	16,550 00	1,019 82	1,729 24	19,299 06
Dorchester.....	19,025 00	1,529 73	2,053 48	22,608 21
Roxbury.....	25,464 50	1,529 72	2,107 52	29,101 74
Back Bay.....	14,209 50	1,019 82	1,134 82	16,364 14
South End.....	11,686 25	1,019 82	1,080 78	13,786 85
City Proper.....	13,712 50	1,529 73	1,513 09	16,755 32
Totals.....	\$135,743 75	\$11,218 00	\$13,185 50	\$160,147 25

Expenditures since 1899.

The expenditures since 1899, when the city assumed, for the first time, the watering of paved streets, are as follows:

1899	\$174,625 97
1900	174,742 45
1901	164,259 36
1902	160,147 25

Amount of Water used in 1902.

Capacity of two-horse cart (gallons)	600
Average loads thrown per day, per cart	26
Total gallons thrown per day, per cart	15,600
Number of cart days worked	27,157
Total gallons of water used	423,649,200

Distribution of Carts, showing Entire Amount of Work done.

DISTRICT.	Hired Carts.	Number Miles Covered.	Average per Cart.
South Boston.....	20	40	2.00
East Boston.....	14	25	1.78
Charlestown.....	11	22	2.00
Brighton.....	21	41	1.95
West Roxbury.....	32	76	2.38
Dorchester.....	38	92	2.40
Roxbury.....	39	86	2.21
Back Bay.....	21	83	1.20
South End.....	20		
City Proper.....	28		
Totals.....	244	465	1.99

Location of Water Posts by Districts.

DISTRICT.	YEAR.							Electric Hydrants.
	1891	1897	1898	1899	1900	1901	1902	
South Boston	23	28	35	38	39	39	39	5
East Boston .	16	34	41	42	42	42	43	
Charlestown.	19	20	20	21	22	22	22	
Brighton . . .	25	44	47	50	48	50	50	
W. Roxbury.	50	67	75	86	81	84	85	
Dorchester . .	61	83	88	99	100	101	101	
Roxbury	53	68	76	80	73	75	75	
City Proper..	24	53	69	74	68	73	73	
Totals	271	397	451	490	473	486	488	

NOTE.— During the past year 3 posts were relocated, 1 post abandoned, and 3 new posts erected.

APPENDIX H.

REPORT OF THE COMMISSIONERS FOR THE BOSTON
AND CAMBRIDGE BRIDGES.

CAMBRIDGE-STREET BRIDGE.

The deck of bridge was repaired by putting down four-inch plank, and the bridge and draw sheathed with two-inch spruce plank. The fences on the bridge and draw, the draw-posts and the houses on the draw-piers have been painted.

This work was done by the drawtenders. They also sweep bridge and piers and keep them free from snow and ice and do ordinary repairs.

The drawtenders on this bridge also do the work on Western-avenue bridge.

CANAL OR CRAIGIE BRIDGE.

On the Cambridge end of the bridge the sidewalk was repaired by putting in two-inch spruce plank and replacing the brick; the house was shingled and repaired, and the paving on the roadway was repaired from the draw to the Cambridge end of the bridge.

On the Boston side, down-stream, a new sidewalk was built for the whole length; the old timbers and planking that were very much decayed were taken out and replaced by new hard-pine timber and hard-pine flooring; the edgestones were reset and the walks paved with new brick. The roadway was repaired for the whole length.

The guard on the Cambridge side to protect the bridge from damage by vessels colliding with it had to be rebuilt. Oak piles were driven and capped with hard-pine timbers and braced securely to piles connected with the bridge. The draw-piers were repaired and the small house on the pier shingled.

The draw is in very bad condition; it has been repaired as required with new hard-pine timbers and planking. The draw is old, and it should be thoroughly overhauled. There is more teaming over this bridge than over any other bridge in Boston, and it has to be watched very closely. A new

and wider bridge should be built to take the place of this old structure.

The drawtenders employed sweep the sidewalks and keep them free from snow and ice in winter time, and do all ordinary repairs.

ESSEX-STREET BRIDGE.

Almost the entire surface of the roadway was sheathed, and four-inch spruce plank put in where necessary. The draw and sidewalk were repaired.

The fences for the entire length of the bridge, and the houses on the draw-pier have been painted. This work was done by the drawtenders. They also sweep the bridge once a week in summer and keep the sidewalks free from snow and ice in winter, and do other ordinary repairs.

A petition has been sent to the City Council by citizens living in the vicinity of this bridge asking that permission be granted the Boston Elevated Railway Company to put two tracks over the bridge to connect with the tracks on Commonwealth avenue in Boston, and no doubt it would be a great convenience to the public. To make the bridge safe for that purpose would require a large outlay, and whether it would be advisable at the present time to do this work or wait till the two cities are in condition to build an overhead bridge, wider than the present structure, is a question. It seems to me the time will soon come when the new overhead bridge will have to be built. The repairs necessary to make the present bridge safe for the cars to go over would cost in the vicinity of \$17,000, and after making the repairs the bridge would be narrow, and not suitable for the traffic going over it.

HARVARD BRIDGE.

At the date of the last year's report the paving of the roadway with wooden blocks had not been completed on account of the stormy weather and the lateness of the season, which made it necessary to wait till this year before completing the work. This spring the work was finished, and the pavement has proved to be a great improvement over the old plank surface. It is even, and the yearly renewal and constant patching of the surface is avoided.

The deck of the draw should be reconstructed, as it is getting out of shape.

The sidewalks for the entire length of the bridge should be replaced with hard-pine plank. The present asphalt sidewalk is in very bad condition, it is badly broken and the

planking under it is decayed. It was patched last year to make it safe.

The surface of the draw-pier is in poor condition, and ought to be replanked at once. We have repaired the capping this year and made some repairs to piers to make them safe.

The drawtenders' house was painted outside and inside with two coats of paint, the work being done by the drawtenders. The men have also made quite a lot of other repairs.

The iron fence should be painted this next year.

The incandescent lights are satisfactory, and the effect of the illumination at night is far better than that of any of the bridges in the vicinity of Boston and Cambridge. The drawtenders clean the electric light globes, see to keeping the sidewalks free from snow and ice in winter, and do all ordinary repairs.

The traffic over the bridge is increasing every year.

The expenditures by the City of Boston on account of wood block paving, etc., were as follows :

United States Wood Preserving Company,	
wood block paving	\$25,550 67
Geo. McQuesten & Co., lumber	1,011 64
A. A. Libbey & Co., labor	471 08
	<hr/>
	\$26,933 39
	<hr/>

On account of the paving and repairs to its track location the Boston Elevated Railway Company paid to the City of Boston the sum of \$3,131.26.

NORTH HARVARD BRIDGE.

The fence on the draw was repaired by putting on new rails; the bridge and draw were sheathed with two-inch spruce plank, and other repairs made.

The fences for the entire length, the draw, draw-posts, and the houses on the piers were painted. This work was done by the drawtenders. They also do all ordinary repairs, sweeping bridge and draw, and cleaning snow and ice from bridge and piers.

PRISON POINT BRIDGE.

The iron girders under the draw were in bad condition, broken and twisted in such a way that it was impossible to repair them, and to put in new ones would have cost a large sum of money. It was not thought wise to expend much for repairs at the present time, as it is soon to be replaced.

To relieve the draw and to limit the weight going over it, the roadway was narrowed by building sidewalks two feet six inches wide. If this had not been done we should have had to close the bridge to travel.

Some of the timbers under the bridge supporting the roadway were so much decayed at the ends they had to be pieced out with new hard-pine timber, and other timbers had to be blocked up. Iron rods were put through the girders to keep them in place. This work was done from float staging under the bridge. Four-inch plank were put on the bridge and draw, and all sheathed with two-inch spruce plank.

The Boston & Maine Railroad Company are now driving piles to support a temporary bridge across the river and will build a draw to take the place of the old one. After crossing the river they will build a temporary overhead street to Bridge street in Cambridge. The railroad company are doing this so as not to stop travel while building the permanent overhead structure on the line of the present street leading from Cambridge to Charlestown, which, when completed, will be a great benefit to the public and do away with a most dangerous place, and prevent the present great delay while the street is closed by trains passing over it.

In addition to the repairs mentioned above there has been a number of other repairs made to make the bridge and draw safe for travel.

The drawtenders sweep the bridge and clean off snow and ice.

WESTERN-AVENUE BRIDGE.

On the Boston side, the deck of the bridge and draw was repaired with four-inch spruce plank and sheathed with two-inch spruce plank; new flaps to draw were built, and the fence on the draw was repaired by putting in new rails. The capping and surface of the down-stream pier was so much decayed that it was deemed best to put in new timber and plank to protect it and make it secure.

The fences, the draw-posts and the houses on the pier were painted. This work was done by the drawtenders.

The drawtenders also do the cleaning and ordinary repair work.

WEST BOSTON TEMPORARY BRIDGE.

The traffic on this bridge is increasing, making it necessary to replank it every year. The flaps of the draw were repaired and new hinges placed on them.

The drawtenders sweep the sidewalk in summer and keep it free from snow and ice in winter, and do all ordinary repairs.

The new Cambridge bridge will be completed in about three years. When completed it will be the finest structure in the United States.

IN GENERAL.

The usual statement is appended showing the number of draw openings, and the number of vessels which passed through.

The amount of revenue for rents, dockage, etc., during the year has been \$805, one-half of which has been paid to each city.

The following is a statement of the payments made by the City of Boston on account of the Boston and Cambridge bridges from February 1, 1902, to January 31, 1903:

Appropriation for financial year 1902-03	\$18,000 00
Expended to January 31, 1903	16,400 04
	\$1,599 96

Revenue, February 1, 1902, to January 31, 1903.

DATE.	L.B. 5 pages.	Items.	Totals.	One-half Boston, City Collector.	One-half Cambridge, W. J. Marvin.
1902.					
February 24....	250	Boston Elevated Railway Co., rent cable-house location....	\$200 00	\$100 00	\$100 00
April 10.....	259	Rent of buildings and fences, and sale of old boiler, Craigie's bridge.....	160 00	80 00	80 00
August 4.....	303	Rents and wharfage, Craigie's bridge.....	305 00	152 50	152 50
November 18..	340	Rent of building and fence, Craigie's bridge.....	140 00	70 00	70 00
		Total	\$805 00	\$402 50	\$402 50

Classification of Expenses.

OBJECT OF EXPENDITURES.	Canal or Craige.	Harvard.	Prison Point.	West Boston.	Cambridge Street.	Essex Street.	North Harvard Street.	Western Avenue.	General Account.	Totals.
Pay-rolls and extra help.....	\$2,071 82	\$1,805 34	\$1,189 04	\$1,675 88	\$537 04	\$670 00	\$499 92	\$566 92	\$250 00	\$9,265 96
Electric light.....	312 06	1,140 00	.....	622 33	50 01	177 73	.....	50 01	.....	2,352 14
General repairs.....	477 17	129 57	193 19	.....	92 82	89 38	20 66	185 88	.....	1,188 62
Lumber.....	332 56	91 22	243 06	.....	112 92	209 50	33 54	124 37	.....	1,147 17
Inspection, 1902.....	120 00	82 50	102 50	.....	70 00	47 50	50 00	90 00	.....	562 50
Cleaning bridge roadways.....	117 81	85 56	2 00	212 50	.....	.....	.....	.....	.....	417 87
Iron work.....	155 99	25 05	82 14	.....	34 14	4 17	47 03	58 63	.....	407 15
Fuel.....	208 46	19 45	12 40	12 92	.....	.....	.....	.....	.....	253 23
Sundries.....	46 92	75 21	15 92	17 01	3 80	4 60	14 21	.....	.....	177 67
Electric current for draw.....	.....	150 00	.....	.....	.....	.....	.....	.....	.....	150 00
Tools and hardware.....	26 86	13 51	10 72	30 33	1 69	-10 30	17 89	9 76	.....	120 56
Paint and painting.....	9 09	18 40	.....	.....	19 30	10 80	10 47	6 40	.....	74 46
Paving.....	63 06	.....	6 73	.....	.....	.....	.....	.....	.....	69 79
Electric repairs.....	.....	44 55	.....	.....	.....	.....	.....	.....	.....	44 55
Watering bridge roadways.....	31 00	.....	.....	.....	.....	.....	.....	.....	.....	31 00
Water rates.....	10 59	.....	.....	.....	.....	.....	.....	.....	.....	10 59
Travelling expenses.....	.....	.....	.....	.....	.....	.....	.....	.....	62 50	62 50
Telephone.....	.....	.....	.....	.....	.....	.....	.....	.....	30 90	30 90
Printing.....	.....	.....	.....	.....	.....	.....	.....	.....	20 88	20 88
Stationery.....	.....	.....	.....	.....	.....	.....	.....	.....	12 50	12 50
Totals.....	\$8,962 89	\$3,680 36	\$1,857 70	\$2,570 97	\$921 72	\$1,223 98	\$693 72	\$1,091 92	\$376 78	\$16,400 04

Number of Times the Draws in the Boston and Cambridge Bridges have been Opened, and the Number of Vessels which have Passed through for the Year beginning February 1, 1902, and ending January 31, 1903.

DATE.	CANAL OR CRAIGIE'S.		HARVARD.		PRISON POINT.		WEST BOSTON.		CAMBRIDGE STREET.		ESSEX STREET.		NORTH HARVARD STREET.		WESTERN AVENUE.	
	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.	No. of draw openings.	No. of vessels passing through.
1902.																
February.....	135	179	14	19	33	50	12	19	6	11	6	11	6	6	5	7
March.....	185	283	18	26	39	67	84	214	12	18	14	23	6	8	5	7
April.....	284	587	63	97	37	64	100	223	34	54	36	56	22	35	23	36
May.....	275	567	63	92	50	82	64	106	48	73	45	73	19	29	26	41
June.....	204	335	43	58	40	53	76	132	34	75	40	85	7	11	29	65
July.....	234	377	35	51	26	40	34	58	27	68	29	66	12	22	21	59
August.....	252	363	34	49	30	48	57	76	23	34	25	37	12	18	14	21
September.....	233	351	21	33	32	49	28	40	21	31	23	35	15	22	21	30
October.....	231	351	49	73	53	96	51	79	20	32	28	44	10	15	8	13
November.....	203	307	57	88	33	168	55	93	36	58	59	95	18	26	18	26
December.....	220	352	35	41	76	129	48	77	14	20	29	44	10	14	10	14
January, 1903.....	178	300	40	62	78	136	36	68	20	30	30	55	.....	.....	.....	.....
Totals.....	2,634	4,352	472	689	587	982	645	1,185	295	504	364	624	131	200	175	312

APPENDIX I.

CITY OF BOSTON, ENGINEERING DEPARTMENT,
50 CITY HALL, February 1, 1903.

HON. JAMES DONOVAN,

Superintendent of Streets:

SIR,—I herewith submit the following report of the work done for the Street Department during the year ending January 1, 1903:

BROOKS STREET, WARD 25.

The work of building the retaining walls on each side of the depressed portion of the street, under the contract with John F. McBride and Jesse Moulton, dated July 2, 1901, was completed on May 20, 1902, at a cost of \$24,444.17.

The American Bridge Company, under its contract dated November 22, 1901, completed the steel work for the bridge over the depressed roadway at the ends of the side roadways in April, for which it was paid \$2,800.

The concrete and asphalt floor of this bridge was laid by the Boston Asphalt Company, under a contract dated April 28, 1902, at a cost of \$750. The work was completed on May 13.

Railings were built on the bridge and retaining walls by W. A. Snow & Co., under a contract dated April 5, 1902, at a cost of \$1,277. The work was finished on August 2.

CARLETON STREET, RETAINING WALL.

The work of building a retaining wall along the westerly side line of Carleton street, adjoining the tracks of the Providence Division of the New York, New Haven & Hartford Railroad, between Yarmouth and West Newton streets, has been prosecuted during the year, and the entire wall was completed about October 10, 1902.

The work was done under a contract with John Cashman, dated October 19, 1901.

The portion of the wall as built between Yarmouth street and Berwick park has a pile and concrete foundation, the

exposed face of the foundation towards the railroad tracks being of granite. Above the foundation the wall is of brick masonry 12 inches thick, with pilasters 16 inches square every six feet. Where this wall supports any portion of the street it is backed up with Portland cement concrete. The foundation for the whole wall was designed and built of such dimensions that it will support a wall of sufficient thickness to maintain the street if it should ever be filled to the grade of the adjoining streets. The brick wall is capped with an artificial stone coping, and an artificial stone curb is built for the entire length of the wall.

The portion of the wall between Berwick park and West Newton street is built of granite, and rests on a pile and concrete foundation. The wall has a granite coping, the back of which serves for the street curb. The wall for its entire length has a wooden fence supported by iron standards set in the granite or artificial stone coping.

COLUMBIA ROAD BRIDGES OVER SHOREHAM STREET AND N. Y., N. H. & H. R.R.

The flooring and surfaces of the bridges have been built with the exception of the asphalt sidewalk on the bridge over the railroad; this is under contract and will be laid early in the summer.

The flooring of the bridge over Shoreham street consists of brick and concrete arches turned between steel beams. This work was done by W. H. Ellis under a contract dated August 13, 1902, and cost, including the artificial stone sidewalks, \$2,700. The roadway of this bridge is paved with brick, and was done under a contract with W. H. Ellis at a cost of \$2.45 per square yard.

The flooring of the bridge over the railroad is of hard pine, and was laid by the Cahill Construction Company under a contract dated July 23, 1902, for the sum of \$3,906. This bridge was paved with brick by W. H. Ellis.

The iron fences for both bridges were built by P. J. Dinn & Co. under a contract dated July 9, 1902, at a cost of \$848.

COLUMBIA ROAD.

The filling done under the contract with Simon J. Donovan dated October 25, 1898, was completed May 27. The total amount of filling deposited was 136,348 cubic yards at 46½ cents per cubic yard.

MEAD STREET, CHARLESTOWN, ARTIFICIAL STONE STEPS, ETC.

A flight of artificial stone steps was built in Mead street, between Russell street and Bunker Hill street. These steps start at a point about 67 feet east of Russell street at elevation 57.50, and extend 94.5 feet to elevation 102.00 (a total rise of 44.5 feet) to a point about 115 feet west of Bunker Hill street. There are 7 flights of 10 steps each and 6 platforms 5 feet wide. The steps are 12 feet wide in the clear with buttresses 1.5 feet wide. An iron fence was built on each buttress with a hand rail in the centre of the steps. A wing wall was built on the northerly street line extending 32.5 feet from the top; two end walls were built from the sides of the steps to the street lines, each 7.5 feet long. The contract for building these steps was awarded to the W. A. Murtfeldt Co. on June 7, 1902. Work under this contract was begun June 18, 1902, and completed October 22, 1902, at the contract price of \$4,975.

SOUTHAMPTON-STREET BRIDGE.

All work in connection with this bridge, including the erection of the steel superstructure and the alteration of the parapet walls to conform to the surface of the street after it was widened, was finished early in July.

PAVING WHARF NO. 2, ALBANY STREET.

Plans and specifications have been begun for the reconstruction of this wharf.

EAST BOSTON FERRIES.

Examinations and reports were made on the condition of the piers and drops, and a plan and specifications were made for the reconstruction of the middle pier at the East Boston landing of the North Ferry; no work has yet been done on the pier.

A survey was also made of the property at the Boston landing of the South Ferry.

ASSESSMENT STREETS.

Working plans, specifications and forms of contract were prepared and forwarded for the following assessment streets and public alleys:

Adams street, Charlestown, Common street to Chestnut street.

Ainsley street, Rosemont street southerly about 220 feet.

Alford street, Mystic river to Everett line.

* *B street*, West Fourth street to Congress street.

Bennington street, Moore street to Saratoga street.

Bennington street, Saratoga street to the Revere town line.

Berkeley street, Boylston street to St. James avenue.

Bird street, Columbia road to Hancock street.

Blanche street, Greenhill street to Preston street.

Bowen street, E street to F street.

Brackett street, Washington street to Faneuil street.

Bynner street, Day street to Creighton street.

Capen street, Evans street to Fairmount street.

Carter street, Charlestown, Cambridge street to Roland street.

Charlotte street, Blue Hill avenue to Bradshaw street.

Columbia road, I street to Marine park.

Columbia road, Buttonwood street to N. Y., N. H. & H. R.R. bridge.

Dakota street, Washington street to Greenbrier street.

Darling street, Calumet street to Hillside street.

Dilworth street, Camden street to Northampton street.

E street, Fargo street to Summer street.

* *Fayston street*, Blue Hill avenue to Mascoma street.

Hamblen street, Charlestown, Arlington avenue across George street.

Haverford street, from Cornwall street 309 feet southeasterly.

* *Hinckley street*, Pleasant street to Bakersfield street.

Lindsey street, Greenbrier street to Waldeck street.

Louder's lane, at Centre street, artificial stone steps, etc.

Mead street, Russell street to Bunker Hill street.

Milton avenue, Lauriat avenue to Norfolk street.

* *Morrill street*, Pleasant street to Bakersfield street.

Moultrie street, Allston street to Washington street.

* *Oak Square avenue*, Washington street to Faneuil street.

Oakwood street, Norfolk street to Torrey street.

Roland street, B. & M. R.R. to the Somerville line.

Rosemont street, Adams street to Gustine avenue.

† *St. Botolph street*, Irvington street to B. & A. R.R.

* *Snow street*, Washington street to Union street.

South Huntington avenue, Heath street to Centre street.

Vicksburg street, East First street to East Second street.

* *Vinson street*, Park street to Geneva avenue.

Walter street, Jones street to entrance to Arnold Arboretum
“Rough Grading.”

Washington street, Dorchester, Talbot avenue to Euclid street.

Wayland street, Howard avenue to Dacia street.

Windermere road, Stoughton street to Cushing avenue.

Winthrop street, Dennis street to Brook avenue.

Public Alley 12, Poplar street to Public Alley 14.

Public Alley 13, Poplar street to Public Alley 14.

Public Alley 14, south of Poplar street, from Public Alley 12 to Public Alley 15.

Public Alley 15, Poplar street to Public Alley 14.

* Plans only were forwarded; specifications were forwarded the previous season.

† Built by private parties under the supervision of the Street Department.

PLANS AND SPECIFICATIONS FOR REPAVING STREETS.

Preliminary surveys were made, and the working plans, specifications, and forms of contract were prepared and forwarded for repaving the following streets :

- Bath street*, Post Office square to Post Office square.
- Bedford street*, Washington street to Chauncy street.
- Bedford street*, Kingston street to Summer street.
- Belvidere street*, Massachusetts avenue to Dalton street.
- Belvidere street*, Dalton street to West Newton street.
- Bowdoin street*, Ashburton place to Cambridge street.
- Broad street*, State street to Central street.
- Carson street*, Crescent avenue to Shoreham street.
- Chambers street*, Green street across Poplar street.
- Cornhill*, Washington street to Court street.
- Court street*, Sudbury street to Green street.
- Devonshire street*, Summer street to Winthrop square.
- Dillon street*, Lenox street to Sawyer street.
- Dorchester avenue*, at B street and West Seventh street.
- Dudley street* (easterly side), Dunmore street to Magazine street.
- Eastern avenue*, Commercial street to South Ferry.
- Elm street*, Hanover street to Dock square.
- Essex street*, Washington street to Harrison avenue.
- Essex street*, South street to Lincoln street.
- Essex street*, South street to Atlantic avenue.
- Franklin avenue*, Court street to Cornhill.
- Friend street*, Causeway street to Merrimac street.
- Hancock street*, Derne street to Cambridge street.
- Hanover street*, Washington street across Union street.
- Hawley street*, Milk street to Franklin street.
- Harrison avenue*, Union Park street to Malden street.
- Harrison avenue*, Northampton street to East Lenox street.
- Lincoln street*, Summer street to Essex street.
- Malden street*, Washington street to Harrison avenue.
- Massachusetts avenue*, Beacon street to Harvard bridge.
- Massachusetts avenue*, Columbus avenue to Huntington avenue.
- Maverick street*, London street to Havre street.
- Maverick street*, Border street to London street and Havre street to Meridian street.
- Merrimac street*, Haymarket square to Causeway street.
- Parnell street*, Lenox street to Sawyer street.
- Purchase street*, Federal street to Broad street.
- South street*, Summer street to Essex street.
- Traverse street*, Merrimac street to Canal street.
- Tremont street*, Huntington avenue to St. Alphonsus street.
- Tremont street*, Phillips street to Roxbury Crossing.
- Union Park street*, Washington street to Harrison avenue.

Washington street, Charlestown, Devens street to Chapman street.

Water street, Congress street to Kilby street.

West Newton street, Belvidere street to Huntington avenue.

MISCELLANEOUS.

Plans have been prepared of the following assessment streets preliminary to construction :

Ashland street, Mill street to another part of Ashland street.

Boardman street, Saratoga street to B. & M. R.R.

Caldor street, Blue Hill Avenue to Canterbury street.

Davenport street, Tremont street to Columbus avenue.

Dunreath street, extended to Aspen street.

Elmont street, Waterlow street to Faxon street.

Everdean street, Ashland street to Greenhill street.

Florida street, Templeton street to Ashmont street.

Hale street, extended to South Margin street.

Millet street, Talbot avenue to Southern avenue.

Oswald street, Calumet street to Hillside street.

Roseclair street, Dorchester avenue to Boston street.

St. Margaret street, Boston street to Roseclair street.

Spalding street, South street to O. C. R.R.

Swallow street, N street to O street.

Walk Hill street, South street to Washington street.

Washington street, Spring lane southerly 154 feet.

Columbia road, N. Y., N. H. & H. R.R. bridge to Covington street.

Columbia road, Covington street to I street.

Public Alley 804, between Northampton street and Camden street, from Shawmut avenue to Tremont street.

Preliminary surveys have been made and plans are being prepared for repaving the following streets :

Alden street, Sudbury street to Court street.

Battery street, Hanover street to North Ferry.

Beach street, Harrison avenue to Atlantic avenue.

Beverly street, Washington street to Warren bridge.

Broad street, Central street to Atlantic avenue.

Bromfield street, Tremont street to Washington street.

Dover street, Washington street to Dover-street bridge.

Franklin street, Oliver street to Broad street.

Gainsborough street, Huntington avenue to O. C. R.R.

Harrison avenue, Bedford street to Essex street.

Harrison avenue, Beach street to Kneeland street.

North street, Blackstone street to Commercial street.

Roxbury street, Perkins place across Kent street.

Shawmut avenue, Camden street to Roxbury street.
South street, Essex street to Kneeland street.
Sudbury street, Court street to Haymarket square.

GRADING STREET RAILWAY TRACKS.

Grades for tracks in the following streets have been determined and the necessary surveys made for determining the same:

BOSTON ELEVATED RAILWAY COMPANY.

Alford street, Malden bridge to Everett line.
Arlington avenue, Beacham street to Hamblen street.
Berkeley street, Boylston street to Columbus avenue.
Blue Hill avenue, Walk Hill street to River street.
Commonwealth avenue (Brighton), at Lake street.
Cornhill, Washington street to Court street.
Court street, Sudbury street to Green street.
Dorchester avenue, Federal-street bridge across West First street.
Dorchester avenue, at intersection of B street and West Seventh street.
Dorchester avenue, Mt. Vernon street to Crescent avenue.
Dorchester avenue, Freeport street to Roach street.
Dorchester avenue, Adams street to Ellet street.
East Broadway, G street to H street.
East Fourth street, K street to L street.
Hamblen street, Arlington avenue across George street.
Hanover street, Washington street across Union street.
Harrison avenue, Way street to Dover street.
Harrison avenue, Perry street to Savoy street.
Harrison avenue, Union Park street to Malden street.
Harrison avenue, Northampton street to East Lenox street.
Hawley street, Milk street to Franklin street.
L street, East Broadway to East Fourth street.
Liverpool street, Summer street to Central square.
Massachusetts avenue, Beacon street to Harvard bridge.
Merrimac street, Haymarket square to Causeway street.
South street, Summer street to Essex street.
South street, Essex street to Kneeland street.
South Huntington avenue, Heath street to Centre street.
Tremont street, Huntington avenue to Roxbury Crossing.
Washington street (Roxbury), Dudley street to Bartlett street.
Washington street (Dorchester), Talbot avenue to Euclid street.
Washington street (Brighton), Cambridge street to Parsons street.
West Broadway, A street to B street.
West Fourth street, Dorchester avenue to B street.

West Ninth street, E street to Dorchester street.

West Sixth street, Dorchester avenue to B street.

BOSTON AND NORTHERN RAILROAD COMPANY.

Bennington street, Saratoga street to Walley street.

UNION FREIGHT RAILROAD.

Eastern avenue, Commercial street to South Ferry.

OLD COLONY STREET RAILWAY COMPANY.

Oakland street, Rockville street to Favre street.

Total length of single track grades, 12.4 miles.

MISCELLANEOUS PLANS, SPECIFICATIONS, ETC.

Battery street, at North Ferry. Sketch of proposed island platform.

Commonwealth avenue, at Lake street. Plan of proposed changes in northerly roadway and sidewalks on account of additional tracks.

Doane street, near Fisher building. Plan of revised line and grade for edgestones.

Louder's lane, at Center street. Plan and specifications for artificial stone steps and walls and fences, hand rails, and castings for same.

Oakland street. Plan showing locations of proposed catch-basins.

Saratoga street. Plan of entrance to engine-house, Chemical, No. 7.

Walter street. Plan showing proposed connection with Arnold Arboretum.

Washington street (easterly side), Spring lane, southerly. Sketch showing proposed line and grade of edgestone on account of widening.

Plans showing details of construction of streets and other structures have been made from time to time as required.

The Street Book, giving lengths and areas of pavements in accepted streets and public alleys, has been corrected to February 1, 1902, and is now being corrected to February 1, 1903.

Plans and estimates have been made for the following work :

Widening of Ferdinand-street bridge.

Tunnel for Van Winkle street under the Shawmut branch of the N. Y., N. H. & H. R.R.

Extension of subway at Franklin street, Allston.

Bulkhead for city lot, Chelsea street, East Boston.

Respectfully submitted,

WILLIAM JACKSON,

City Engineer.

APPENDIX J.

REPORT OF THE CHIEF SMOKE INSPECTOR.

64 PEMBERTON SQUARE,
BOSTON, February 1, 1903.

HON. JAMES DONOVAN,

Superintendent of Streets :

DEAR SIR, — I herewith submit a report of the work performed by the office under my charge for your consideration. During the first half of the year, under normal conditions, the results of the labors of the employees of the office were satisfactory to the public. I arrive at this conclusion owing to the small number of complaints made. Absolute freedom from the smoke nuisance is, of course, an impossibility, under the present law. From the constant observations of this office I can state that the laws under which we work are being observed generally. Wherever by observation or complaint, reason to find fault with the conditions in any plant obtained, a personal interview with the owner, always resulted in a desire on his part to co-operate in the abatement of the nuisance.

During the latter part of the year conditions arose in the coal supply which made it impossible to secure results as satisfactory as formerly prevailed. Complaints were numerous and a strict enforcement of the laws would be an impossibility, or an attempt in that direction a hardship or injustice. Efforts were accordingly directed to securing the best results under these conditions. We were constantly on the move, observing conditions, conferring with engineers and firemen, or offering suggestions, that the best results might be obtained. We are now entering upon another year with the conditions approaching the normal. The period over which we have just passed has been the means of informing the

public more fully as to the requirements and purposes of the law. The results clearly show the desirability of their enforcement.

Nova Scotia Coal.

Importations of Coal from Nova Scotia at this Port during the Year ending January 31, 1903.

MONTHS.	Tons.	Value.
February, 1902.....	56,876	\$108,694
March.....	80,645	150,079
April.....	60,571	102,581
May.....	40,795	60,988
June.....	40,730	50,913
July.....	67,725	94,144
August.....	48,508	62,105
September.....	45,000	56,251
October.....	67,775	136,689
November.....	53,888	85,695
December.....	65,014	123,504
January, 1903.....	65,479	136,301
Total.....	693,006	\$1,167,944

Nova Scotia coal recorded at the Collector's office (Boston Custom House) for the year ending January 31, 1903, shows 693,006 tons as against 563,143 tons for the year ending January 31, 1902.

BOILER APPLICATIONS.

During the past year 414 applications have been received from the Building Department for boiler permits, and were disposed of as follows :

Signed to use hard coal	320
New consumers adopted	15
Gas and other engines	73
Applications withdrawn	—
Duplicates	5
Unsigned	1

414

SPECIAL REPORTS.

March 19. Report on complaint of plant of the Bowdoin Square Hotel.

May 22. Report on complaint of the plants of the Pumping Station, Cow Pasture.

May 22. Report on complaint of the plant Freeport-street Power-house of the Boston Elevated Railway Company.

May 22. Report on order offered by Alderman Tinkham, February 3.

July 23. Report on complaint of the Electric Company, Summer street.

August 2. Report on complaint of Spitz Bros., Summer street.

August 5. Report on complaint against plant of Jordan, Marsh & Co.

August 7. Report on complaint against plant of Hotel Essex.

August 15. Report on complaint against plant of Mr. McDonald, Winter street.

August 16. Report on complaint against plant of Mr. Haynes, 12 High street.

September 22. Report on request for names and addresses of smoke devices in operation in this city.

December 1. Report with observation on smoke preventer in operation in City Hospital.

SUMMARY.

I submit a brief summary of work for the year ending January 31, 1903:

Number of applications for boiler permits received	414
Number of smoke preventers adopted	15
Number of objection notices sent out	6
Number agreeing to burn hard coal	320
Number of short observations taken	143
Number of special reports	12
Number of special requests for observations received	4

Respectfully submitted,

JOHN J. O'NEIL,

Chief Smoke Inspector.

APPENDIX K.

REPORT OF THE CIVIL SERVICE CLERK.

BOSTON, February 1, 1903.

HON. JAMES DONOVAN,
Superintendent of Streets :

DEAR SIR,—I submit herewith a report of the work performed in connection with the Civil Service Commission, together with a statement of the force employed and eligible for employment for the year ending January 31, 1903:

Requisitions made	287
Requisitions cancelled	4
Certifications returned without any selection being made,	107
Number of men called for	491
Number of men certified	921
Number of men selected, including veterans	296
Number of veterans appointed	23
Number of men appointed provisionally under civil service rule No. 36	13
Applications made for promotion	11
Promotions allowed	9
Promotions allowed provisionally	2
	—
	11
Requests for the cancellation of discharges forwarded to Civil Service Commission	7
Cancellation of discharges allowed	7
Requests for permission to reinstate	2
Requests for permission to reinstate allowed	2

Transfers made from other city and state departments to the Street Department, with the approval of the Civil Service Commission, are as follows:

From Bath Department	12
“ City Engineer’s Department	2
“ Health Department	1
“ Lamp Department	1
“ Park Department	4
“ Pauper Institutions Department	3
“ Public Grounds Department	4
	—
<i>Carried forward</i>	27

<i>Brought forward</i>	27
From Street Laying Out Department	1
“ Boston Transit Commission	1
“ Metropolitan Water and Sewerage Board	2
Total	31

Transfers from the Street Department to other city and state departments, with the approval of the Civil Service Commission, as follows:

To Bath Department	1
“ City Engineer’s Department	1
“ Public Grounds Department	1
“ Boston Transit Commission	1
“ Metropolitan Water and Sewerage Board	3
Total	7

Number of discharges forwarded to Civil Service Commission 487

The records of the department show that there are now 3,681 persons eligible for employment in the several divisions, and of that number 3,159 were upon the January, 1903, pay-rolls.

Table showing Transfers made from Various City and State Departments to the Several Divisions of the Street Department.

DIVISION.	Bath.	City Engineer's.	Health.	Lamp.	Park.	Pauper Institutions.	Public Grounds.	Street Commissioners.	Boston Transit Commission.	Metropolitan Water and Sewerage Board.	Totals.
Bridge	3										3
Ferry	1					1					2
Paving	5	2	1		2	1	2	1		2	16
Sanitary				1	1		1				3
Sewer	3					1			1		5
Street Cleaning					1		1				2
Street Watering											
Totals	12	2	1	1	4	3	4	1	1	2	31

Table showing Transfers made from the Several Divisions of the Street Department to other City and State Departments.

DIVISION.	Bath.	City Engineer's.	Public Grounds.	Boston Transit Commission.	Metropolitan Water and Sewerage Board.	Totals.
Bridge						0
Ferry.....						0
Paving	1	1				2
Sanitary.....						0
Sewers				1	3	4
Street Cleaning.....			1			1
Street Watering.....						0
Totals	1	1	1	1	3	7

Grade and Number of Employees.

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
Superintendent	1								1
Deputies		1	1	1	1	1	1	1	7
Purchasing agent's assistant.....	1								1
Chief clerks.....	1	1	1	1	1	1	1	1	8
Clerks	2	14	7	1	2	1	1		28
Chief inspector.....				1					1
Messengers.....	1	10	8	4	3		2	1	29
Chief engineers.....		1							2
Executive engineer				1					1
Assistant engineers.....		5	6						11
Assistant engineers, junior grade.....		2	8						10
Draughtsmen		2	28						30
<i>Carried forward.....</i>	<i>6</i>	<i>36</i>	<i>62</i>	<i>7</i>	<i>7</i>	<i>3</i>	<i>5</i>	<i>3</i>	<i>129</i>

Grade and Number of Employees. — *Continued.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	6	36	62	7	7	3	5	3	129
Instrument-men.....		5	12						17
Rodmen.....		8	34						42
Tallymen.....		16	10	5	2			3	36
Smoke inspector.....			1						1
Assistant smoke inspectors.....			2						2
Inspectors.....	1	47	49	25	5				127
Foremen.....		10	11	7	11	3			42
Foremen carpenters.....		9	5		3				17
Foreman blacksmith.....			1						1
Supervisor of permits.....		1							1
Supervisor of construction.....							1		1
Supervisor of bridges.....							1		1
Superintendent of street patrol service.....					1				1
Axeman.....			1						1
Aid.....		1							1
Auto-driver.....		1							1
Boys.....		9	7	1	2				19
Boatmen.....		2					1		3
Boilermakers and assistants.....		2	1			3			6
Blacksmiths and assistants.....		18	3	11					32
Bicycle tallymen.....		5		3	1				9
Bracers and assistants.....		1	24	1	4				30
Brick sorters.....		2							2
Brick-slingers.....			4		1				5
Blue printers.....			2						2
Boat watchmen.....						3			3
Broommakers.....					3				3
Cashier.....						1			1
Carpenters and assistants.....		24	8	3	1	1	8		45
Carrriage trimmers.....			2						2
Sub-foremen.....		32	12	14	14		3		75
<i>Carried forward</i>	7	231	249	77	55	14	19	6	658

Grade and Number of Employees. — *Continued.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	7	231	249	77	55	14	19	6	658
Carriage-washers.....				1	1				2
Coachmen.....		3	2		1			1	7
Concreters.....		1		1					2
Concrete-mixers.....		1	2	1	2				6
Concrete-washer.....			2						2
Custodians.....		2							2
Cement-testers.....			4						4
Cement mixers.....			2						2
Coal-passers.....			2						2
Captains.....			1	1		9			11
Coopers.....				1	1				2
Drivers of sweeping-machines.....		1	1		4		1		7
Derrick-men.....		1	1						2
Dynamo-tender.....			1						1
Dumpers.....				17					17
Deck-hands.....						16			16
Drawtenders.....							19		19
Drawtenders' assistants.....							94		94
Electricians.....		3	8	4	2	2			21
Engineer (chief, steam).....			1			1			2
Engineer (steam).....		18	28			8	6		60
Electrical engineer.....						3	1		4
Edgestone-setters.....		1	2		1				4
Farmer.....		1							1
Feeders.....		1		5					6
Flremen.....		2	9			15			26
Gaugemaker.....		1							1
Granolithic-worker.....		1							1
Gatemen.....			4			12			16
Gilders.....				2					2
Grader.....						1			1
<i>Carried forward</i>	7	268	319	110	67	81	142	7	1,001

Grade and Number of Employees. — *Continued.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	7	268	319	110	67	81	142	7	1,001
Helpers.....				161	4				165
Horse-clippers.....		7		4					11
Harness-makers and assistants.....		2		8					10
Horseshoers.....		1		3					4
Hostlers.....			2	1	5		2		10
Horseman.....				1					1
Hose-repairers.....				1					1
Iron-plater.....				1		1			2
Iron-worker.....		1	1						2
Janitors.....		11	11	7	4	13	2		48
Janitresses.....						5			5
Joiners.....						2			2
Laborers.....		467	423	18	222	1			1,131
Ledgemen.....		5	65	2	4				76
Locksmen.....		6	10		6				22
Lantern-maker.....				1					1
Lamp-lighters.....						2			2
Millwright.....		1							1
Masons.....		1	50	1					52
Mason's tender.....			1		1				2
Measurers.....		1	1						2
Machinists and assistants.....		1	2			1			4
Mate.....			1						1
Map-mounter.....				1					1
Oilers.....			5			3			8
Oil tester.....			1						1
Post setter.....		1							1
Patch-pavers and assistants.....		40			1				41
Pavers and assistants.....		15			2				17
Plumbers and helpers.....		1	1						2
Pebble-heater.....		1							1
<i>Carried forward</i>	7	830	893	320	316	109	146	7	2,628

Grade and Number of Employees. — *Continued.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	7	830	893	320	316	109	146	7	2,628
Powderman.....		9							9
Painters.....		2		7	1	1	3		14
Pilot.....			1						1
Pipe-layer.....		1	2						3
Panmen.....			1		2				3
Pile-plugger.....			1						1
Patternmaker.....			1						1
Prison wagon drivers.....				2					2
Quartermasters.....						9			9
Rammers.....		2							2
Rockmen.....		1	27						28
Riggers.....			1			1			2
Rubber goods repairer.....			1						1
Stablemen.....		11	1	15	7		1		35
Sash and doormaker.....		1							1
Steam-drillers.....		6	1						7
Steamfitters and assistants.....		1		1					2
Stenographers.....	1	1	1	1					4
Saw-filers.....			2				1		3
Stonecutters.....		28	5						33
Sheet plank driver.....			1						1
Seamen.....			2						2
Storekeepers.....			1			1			2
Sorter of old metal.....				1					1
Scavengers.....				4					4
Scowmen.....				2					2
Teamsters.....		58	8	155	14		2		237
Tagmen.....		3							3
Tankmen.....					1				1
Tar-boiler.....		1							1
Tollmen.....						11			11
<i>Carried forward</i>	8	955	950	508	341	132	153	7	3,054

Grade and Number of Employees. — *Concluded.*

TITLE.	DIVISION.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	8	955	950	508	341	132	153	7	3,054
Veterinary and assistants		2	3	1	3				9
Valve-makers			2						2
Watchmen		15	9	8	1	3	8		44
Wharfingers		10	5		2	2	1		20
Weighers and assistants		11	2	1					14
Water-cock makers			2						2
Washer				1					1
Yardmen		4	1	5			1		11
Wheelwrights				2					2
Totals	8	997	974	526	347	137	163	7	3,159

Comparative Table showing the Number of Employees
February 1, 1902, and February 1, 1903.

DATE.	DIVISIONS.								Totals.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
February 1, 1902	7	950	911	534	352	166	160	6	3,056
February 1, 1903	8	997	974	526	347	137	163	7	3,159

Respectfully submitted,

JOHN J. QUINN,
Civil Service Clerk.

APPENDIX L.

FORMER SUPERINTENDENTS AND DOCUMENT NUMBERS OF ANNUAL REPORTS.

Bridge Department before 1891.

Previous to 1886, under charge of City Engineer.

NAME.	Year.
Bartholomew M. Young	1886 to 1889
James H. Nugent.....	1889 to 1891

Bridge Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1886	1887	29
“ “	1887	1888	26
“ “	1888	1889	29
“ “	1889	1890	22
“ “	1890	1891	*

*Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Paving Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent Streets and Drains.....	1825 to 1831
Zephaniah Sampson, “ “ “ “	1831 to 1846
Thomas Hunting, Superintendent.....	1846 to 1853
Alfred T. Turner, “	1853 to 1864
Charles Harris, “	1864 to 1883
Nehemiah T. Merritt, “	1883
James J. Flynn, “	1883
Charles Harris, “	1884
Michael Meehan, “	1884 to 1886
John W. McDonald, “	1886 to 1889
J. Edwin Jones, “	1889 to 1891

Paving Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Quarterly report.....		1851	6
“ “.....		1851	29
Annual report.....	1851	1852	2
“ “.....	1852	1853	6
“ “.....	1853	1854	6
“ “.....	1854	1855	5
“ “.....	1855	1856	3
“ “.....	1856	1857	3
“ “.....	1857	1858	3
“ “.....	1858	1859	5
“ “.....	1859	1860	6
“ “.....	1860	1861	5
“ “.....	1861	1862	4
“ “.....	1862	1863	3
“ “.....	1863	1864	3
“ “.....	1864	1865	7
“ “.....	1865	1866	3
“ “.....	1866	1867	6
“ “.....	1867	1868	9
“ “.....	1868	1869	14
“ “.....	1869	1870	13
“ “.....	1870	1871	12
“ “.....	1871	1872	16
“ “.....	1872	1873	21
“ “.....	1873	1874	25
“ “.....	1874	1875	27
“ “.....	1875	1876	30
“ “.....	1876	1877	38
“ “.....	1877	1878	29
“ “.....	1878	1879	24
“ “.....	1879	1880	24
“ “.....	1880	1881	48
“ “.....	1881	1882	51
“ “.....	1882	1883	47
“ “.....	1883	1884	46
“ “.....	1884	1885	97
“ “.....	1885	1886	30
“ “.....	1886	1887	16
“ “.....	1887	1888	23
“ “.....	1888	1889	30
“ “.....	1889	1890	19
“ “.....	1890	1891	*

*Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Sewer Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent.....	1825 to 1831
Zephaniah Sampson, ".....	1831 to 1837
Charles B. Wells, ".....	1837 to 1856
Simeon B. Smith, ".....	1856 to 1863
William H. Bradley, ".....	1863 to 1883
Horace A. Moses, ".....	1883 to 1885
Thomas J. Young, ".....	1885 to 1887
Seth Perkins, ".....	1887 to 1889
Charles Morton, ".....	1889 to 1891

Sewer Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. Doc.
Annual report.....	1859	1861	11
" ".....	1860	1861	12-
" ".....	1861	1862	12
" ".....	1862	1863	13
" ".....	1863	1864	11
" ".....	1864	1865	5
" ".....	1865	1866	6
" ".....	1866	1867	8
" ".....	1867	1868	13
" ".....	1868	1869	11
" ".....	1869	1870	3
" ".....	1870	1871	11
" ".....	1871	1872	10
" ".....	1872	1873	13
" ".....	1873	1874	12
" ".....	1874	1875	17
" ".....	1875	1876	11
" ".....	1876	1877	13
" ".....	1877	1878	15
" ".....	1878	1879	11
" ".....	1879	1880	16
" ".....	1880	1881	19
" ".....	1881	1882	18
" ".....	1882	1883	16
" ".....	1883	1884	43
" ".....	1884	1885	
" ".....	1885	1886	58
" ".....	1886	1887	69
" ".....	1887	1888	81
" ".....	1888	1889	129
" ".....	1889	1890	14
" ".....	1890	1891	*

*Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Health Department before 1891.

Sanitary.

NAME.	Year.
Ezra Forristall, Superintendent.....	1853 to 1854
Joseph W. Coburn, ".....	1854 to 1855
Ezra Forristall, ".....	1855 to 1869
George W. Forristall, ".....	1869 to 1890

Health Department before 1891.

Sanitary.

NAME OF DOCUMENT.	Year.	Pub. Year.	No. of Doc.
Annual report.....	1853	1854	7
" ".....	1854	1855	6
" ".....	1855	1856	4
" ".....	1856	1857	4
" ".....	1857	1858	4
" ".....	1858	1859	4
" ".....	1859	1860	5
" ".....	1860	1861	6
" ".....	1861	1862	5
" ".....	1862	1863	5
" ".....	1863	1864	4
" ".....	1864	1865	4
" ".....	1865	1866	8
" ".....	1866	1867	7
" ".....	1867	1868	8
" ".....	1868	1869	12
" ".....	1869	1870	4
" ".....	1870	1871	10
" ".....	1871	1872	17
" ".....	1872	1873	40
Annual report from 1873 to 1884, inclusive ; the Superintendent's report was embodied in the report of the Board of Health.....	1885	1886	45
Annual report.....	1886	1887	22
" ".....	1887	1888	16
" ".....	1888	1889	23
" ".....	1889	1890	21
" ".....	1890	1891	*

* Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Commissioners of Cambridge Bridges before 1891.
(West Boston, Canal, and Prison Point.)

NAME.	Year.	
Frederick W. Lincoln, Commissioner for Boston..	} May 22, 1871, to March, 1901.	
Ezra Parmenter, Commissioner for Cambridge...		} June 14, 1871, to Jan. 31, 1883.
William J. Marvin, Commissioner for Cambridge..		} March 28, 1883, to present time.

NOTE.—Harvard bridge added in 1892. Essex street, Cambridge street, North Harvard street, and Western avenue bridges to Cambridge were transferred from Street Department, July 1, 1898.

Commissioners of Cambridge Bridges before 1891.
(West Boston, Canal, and Prison Point.)

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1871	1872	19
" "	1872	1873	12
" "	1873	1874	16
" "	1874	1875	23
" "	1875	1876	20
" "	1876	1877	12
" "	1877	1878	10
" "	1878	1879	8
" "	1879	1880	12
" "	1880	1881	8
" "	1881	1882	15
" "	1882	1883	15
" "	1883	1884	19
" "	1884	1885	8
" "	1885	1886	12
" "	1886	1887	19
" "	1887	1888	25
" "	1888	1889	22
" "	1889	1890	20
" "	1890	1891	*

* Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Ferry Department before 1895.

NAME.	Year.	
Board of Ferry Directors.....	1870	1891
William J. Burke, Superintendent.....	1891	May 1, 1895
Thomas Kellough.....	May 1, 1895	July 1, 1895

Ferry Department before 1895.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report.....	1870	1871	41
“ “	1871	1872	55
“ “	1872	1873	81
“ “	1873	1874	42
“ “	1874	1875	65
“ “	1875	1876	51
“ “	1876	1877	53
“ “	1877	1878	49
“ “	1878	1879	60
“ “	1879	1880	74
“ “	1880	1881	77
“ “	1881	1882	72
“ “	1882	1883	93
“ “	1883	1884	76
“ “	1884	1885	72
“ “	1885	1886	28
“ “	1886	1887	12
“ “	1887	1888	10
“ “	1888	1889	3
“ “	1889	1890	4
“ “	1890	1891	*
“ “	1891	1892	12
“ “	1892	1893	11
“ “	1893	1894	11
“ “	1894	1895	11

* Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Street Department since 1891.

Superintendent.

Henry H. Carter, Member of American Society Civil Engineers.

Resigned December 8, 1894.

Charles R. Cutter, *Acting Superintendent from December 8, 1894, to January 14, 1895.*
Member of the Boston Society Civil Engineers.

Bertrand T. Wheeler, *Superintendent from January 14, 1895, to February 4, 1896.*
Member of the Boston Society Civil Engineers.

Benjamin W. Wells, *Superintendent from February 4, 1896, to February 1, 1900.*

Bertrand T. Wheeler, *Superintendent from February 2, 1900, to November 25, 1901.*
Member of the Boston Society Civil Engineers.
Resigned November 25, 1901.

William Jackson, *Acting Superintendent from November 25, 1901, to January 14, 1902.*
Member of American Society Civil Engineers.

Guy C. Emerson, *Deputy Superintendent in charge of the Department, from November 25, 1901, to January 14, 1902.*

Member of the Boston Society Civil Engineers.

James Donovan, *Superintendent from January 14, 1902, to the present time.*

BRIDGE DIVISION.—John A. McLaughlin, *Deputy Superintendent until June 1, 1895.*

BRIDGE DIVISION.—John P. Wise, *Deputy Superintendent from June 1, 1895, to February 14, 1896.*

- BRIDGE DIVISION. — William H. Carberry, *Deputy Superintendent from February 14, 1896, to February 3, 1900.*
- BRIDGE DIVISION. — Walter Reed, *Deputy Superintendent from February 5, 1900, to January 22, 1902.*
- BRIDGE DIVISION. — Joseph P. Lomasney, *Deputy Superintendent from January 22, to the present time.*
- FERRY DIVISION. — Thomas Kellough, *Deputy Superintendent from July 1, 1895, to February 14, 1896.*
- FERRY DIVISION. — William F. McClellan, *Deputy Superintendent from February 14, 1896, to February 3, 1900.*
- FERRY DIVISION. — Joseph J. Dennison, *Deputy Superintendent from February 5, 1900, to January 22, 1902.*
- FERRY DIVISION. — William J. Donovan, *Deputy Superintendent from January 22, 1902, to the present time.*
- PAVING DIVISION. — Charles R. Cutter, *Deputy Superintendent until January 24, 1895.*
- PAVING DIVISION. — Darius N. Payson, *Deputy Superintendent from January 24, 1895, to March 1, 1896.*
- PAVING DIVISION. — John L. Kelly, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*
- PAVING DIVISION. — Darius N. Payson, *Deputy Superintendent from February 5, 1900, to January 24, 1902.*
- PAVING DIVISION. — Joshua Atwood, 3d, *Acting Deputy Superintendent from January 24, 1902, to March 26, 1902.*
- PAVING DIVISION. — Henry V. Macksey, *Deputy Superintendent from March 26, 1902, to the present time.*
- SANITARY DIVISION. — George W. Forristall, * *Deputy Superintendent.*
- SANITARY DIVISION. — Philip A. Jackson, *Acting Deputy Superintendent from January 16, 1894, to February 1, 1895.*
- SANITARY DIVISION. — Charles A. Young, *Deputy Superintendent from February 1, 1895, to March 1, 1896.*
- SANITARY DIVISION. — Patrick O'Shea, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*
- SANITARY DIVISION. — Charles A. Young, *Deputy Superintendent from February 5, 1900, to January 22, 1902.*
- SANITARY DIVISION. — Daniel P. Sullivan, *Deputy Superintendent from January 22, 1902, to the present time.*
- SEWER DIVISION. — Henry W. Sanborn, *Deputy Superintendent until July 10, 1896, Member Philadelphia Society Civil Engineers.*
- SEWER DIVISION. — Charles R. Cutter, *Deputy Superintendent from July 10, 1896, to February 3, 1900.*
Member of the Boston Society Civil Engineers.
- SEWER DIVISION. — Guy C. Emerson, *Deputy Superintendent from February 5, 1900, to November 25, 1901, and from January 14 to January 22, 1902.*
Member of the Boston Society of Civil Engineers.
- SEWER DIVISION. — Henry W. Sanborn, *Acting Deputy Superintendent from November 25, 1901, to January 14, 1902.*
Member Philadelphia Society Civil Engineers.
- SEWER DIVISION. — George Phillips, *Deputy Superintendent from January 22, 1902, to the present time.*

* Died January 12, 1894.

- STREET CLEANING DIVISION.—Philip A. Jackson, *Deputy Superintendent until March 22, 1895.*
- STREET CLEANING DIVISION.—Benjamin M. Cram, *Deputy Superintendent from March 22, 1895, to March 1, 1896.*
- STREET CLEANING DIVISION.—Joshua Atwood, 3d, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*
Member of the Boston Society Civil Engineers.
- STREET CLEANING DIVISION.—Frank H. Haynes, *Deputy Superintendent from February 5, 1900, to April 16, 1901.*
Resigned April 16, 1901.
- STREET CLEANING DIVISION.—Frank C. Shepard, *Deputy Superintendent from April 16, 1901, to January 22, 1902.*
- STREET CLEANING DIVISION.—Joseph J. Norton, *Deputy Superintendent from January 22, 1902, to the present time.*
- STREET WATERING DIVISION.—M. Edward Libby, *Deputy Superintendent from March 6, 1895, to March 1, 1896.*
- STREET WATERING DIVISION.—Thomas J. Finneran, *Deputy Superintendent from March 1, 1896, to February 3, 1900.*
- STREET WATERING DIVISION.—Frederick Hammond, *Deputy Superintendent from February 5, 1900, to January 22, 1902.*
- STREET WATERING DIVISION.—Ambrose Woods, *Deputy Superintendent from January 22, 1902, to the present time.*
- BOSTON AND CAMBRIDGE BRIDGES.—Henry H. Carter, *ex-officio, Commissioner for Boston, until December 8, 1894.*
Charles R. Cutter, *ex-officio, Acting from December 8, 1894, to January 14, 1895.*
Bertrand T. Wheeler, *ex-officio, from January 14, 1895, to February 4, 1896.*
Benjamin W. Wells, *from February 4, 1896, to February 1, 1900; ex-officio, to May 26, 1898.**
Bertrand T. Wheeler, *from February 2, 1900, to November 25, 1901.*
Guy C. Emerson, *from November 25, 1901, to January 14, 1902.*
James Donovan, *from January 14, 1902, to the present time.*
William J. Marvin, *Commissioner for Cambridge.*

* See Chap. 467, Acts of 1898.

Street Department.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report, Executive Dept. Part II.	1891	1892	36
“ “ “ “ “	1892	1893	34
“ “ “ “ “	1893	1894	34
“ “ “ “ “	1894	1895	34
“ “ “ “ “	1895	1896	29
“ “ “ “ “	1896	1897	29
“ “ “ “ “	1897	1898	34
“ “ “ “ “	1898	1899	35
“ “ “ “ “	1899	1900	38
“ “ “ “ “	1900	1901	38
“ “ “ “ “	1901	1902	38
“ “ “ “ “	1902	1903	40



