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ANNUAL REPORT  
OF THE  
STREET DEPARTMENT



OF THE  
CITY OF BOSTON.

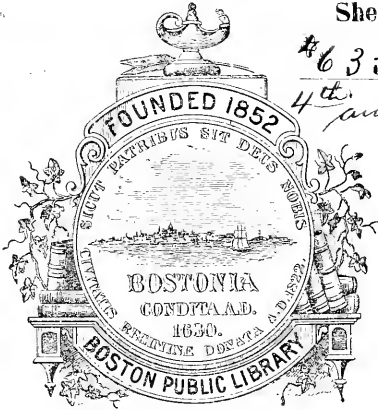
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1894




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# ANNUAL REPORT

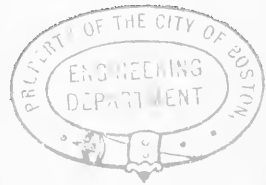
OF THE

# STREET DEPARTMENT

OF THE

# CITY OF BOSTON.

# 1894.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1895.

Boston Street Dept.

June 14, 1895

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4<sup>th</sup> Street Dept  
1894



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AND

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HON. EDWIN U. CURTIS,

*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 1894 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, the several divisions of the department being as follows:

The Central Office.

Bridge Division.

Paving Division.

Sewer Division.

Sanitary Division.

Street-Cleaning Division.

Boston and Cambridge Bridges.

Each of the above divisions, with the exception of the Central Office Division 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.

The work of street-watering, which devolves on the Street Department, is carried on under the supervision of the Paving Division, with a foreman of street-watering in charge.

This service could be more efficiently rendered if it were undertaken as a separate division with a responsible deputy superintendent in charge.

The principal features of the work of the year may be summarized as follows:

Paving with new blocks and regulating about 30 streets in various districts, improving about 50,000 square yards of paved roadway surface, and repaving numerous other streets.

Construction of Telford-macadam roadways on Commonwealth avenue, from Arlington street to Massachusetts avenue, and continuation of general construction on the same avenue, from the Crossroads to Brighton, amounting in all to about \$375,000 worth of work.

Setting 52,706 lin. feet of new edgestone, and laying 19,615 square yards of new brick sidewalks.

Increasing our asphalt pavements by about 10,500 square yards.

Rebuilding Chelsea-street bridge, including a new steel swing draw, and repairing Charles-river bridge.

Rebuilding bridge and draw over Fort Point channel in connection with the separation of grade of Dover street and the N Y., N.H., & H. R.R.

Building 23 miles of sewers and building 226 catch-basins, repairing 445, and cleaning 6,913 others, removing therefrom about 20,000 cubic yards of filthy material.

Cleaning about 10,500 miles of streets, removing 95,478 loads of dirt.

Sprinkling about 330 miles of streets for nearly eight months.

Collecting and removing 326,798 loads of house dirt and ashes.

Collecting and removing 50,637 loads of house offal.

Building, under the Board of Survey Act, twelve macadam streets, at an expenditure of \$106,820, nine of which have been practically completed.

A perusal of the financial tables that follow shows that the department has expended for maintenance the sum of \$2,038,855.91, and that the total expenditures of the consolidated department, including special appropriations, have been \$3,333,730.70. Of this amount, \$490,800.14 was spent on laying out and constructing new streets under chapter 323 of the Acts of 1891, as amended by chapter 418 of the Acts of 1892, known as the Board of Survey Act. Under this act, seven orders of laying out were passed near the close of the year to construct and complete which will

involve an expenditure of nearly \$2,000,000, while the land damages are estimated at \$1,284,908.50 in addition.

They are :

Blue Hill avenue, from Washington street to Mattapan.

Huntington avenue, from Copley square to Brookline line.

Harvard avenue, from Commonwealth avenue to the Brookline line.

Turner street, from Haviland street to Astor street.

Sherborn street, from Commonwealth avenue to Charles river.

Commonwealth-avenue extension, from Chestnut Hill avenue to the Newton line.

Columbus avenue, from Northampton street to Walnut avenue at the Park.

As the total amount of money available under this act for the coming year is only \$1,921,357.41, of which \$70,000 is required for the Board of Survey, \$500,000 for sewers and streets begun, and \$1,284,908.50 for land damages, it is evident that only \$66,448.91 remains available for new construction.

The laying out of Columbus avenue, together with the raising of the grade of the Providence Division of the N.Y., N.H., & H. R.R., now in progress, again force upon the city the question of the final disposition to be made of Stony brook.

#### STONY BROOK.

Between Centre street and Ritchie street, the open channel of Stony brook, 22 feet wide and 10 to 14 feet deep and 600 feet long, is included within the lines of Columbus avenue, crossing the location of the avenue twice. The least that can be done here is to arch over this channel before the avenue can be constructed, a work which will cause the expenditure of a large sum of money, and which will have to be destroyed within a few years to make way for the low-grade channel recommended by the Stony Brook Commission of 1886.

A wiser course would be to build here a section of the Commissioners' channel. At a point 500 feet south of the point where the brook channel leaves the avenue, near Ritchie street, the N.Y., N.H., & H. R.R., is now build-

ing a section of the Commissioners' channel, extending to a point 500 feet south of Boylston street, a distance of 2,300 feet, the engineers of the railroad, after consultation with the City Engineer and the Superintendent of Streets, having decided that this was the wisest course, when it had become evident that the raising of the grade of the Providence Division necessitated the filling in of the old channel. If the section of the Commissioners' channel is built as recommended between Centre and Ritchie streets, we shall then have two sections of the low-grade channel, one 600 feet long, the other 2,300 feet long, 500 feet apart, each drained by sections of the present channel, which is about 14 feet higher. The low-grade channels will therefore be filled at all times nearly to the crown of the arch with water, forming settling basins for the sand and mud of the brook, which will speedily fill them up.

The Commissioners' channel is now complete from Charles river, or more exactly from the ponds in the Back Bay Fens, to the Inlet Chamber near Pynchon street. This will have to be extended in the near future to join the section of channel between Centre and Ritchie streets, and this in its turn to join the section now being built by the N.Y., N.H., & H. R.R.

The Commissioners in 1886 recommended that in extending the channel above the Inlet Chamber, the original course of the brook be followed; that is, alongside the railroad as far as Old Heath street. But the experience of the city in 1880 may prove a valuable guide upon this point. The Superintendent of Sewers at that time, under whose direction the improvement of 1880-84 was begun, found that the damages demanded for land and buildings were so excessive that he was forced to build the channel in Pynchon street.

The experience would doubtless be repeated now. But, in addition to this, unless the channel is built immediately the N.Y., N.H., & H. R.R. will have erected here a retaining-wall about 19 feet high, carrying their four-track road; this will add so enormously to the difficulty and cost of excavating a trench 26 feet deep and 25 feet wide at its foot, that there cannot be any reasonable doubt that the city will be compelled to build this channel in Columbus avenue.

These considerations seem to make it evident that the extension of the low-grade channel from the Inlet Chamber up to join the section now being built by the railroad should precede the construction of Columbus avenue; otherwise shortly after surfacing this fine avenue the city will find itself forced to destroy it by excavating in it the enormous

trench required for this channel, — a trench 26 to 28 feet wide and 28 to 32 feet deep.

But any extension of the low-grade channel of Stony brook immediately calls up for solution two other knotty problems, which are inextricably bound up in it: one is the question of the rights of the Boston Belting Company to the water of the brook; the other is the question of providing a low-grade sewer for those districts in West Roxbury which are too low to be sewered by extensions of the existing sewer system there.

The Boston Belting Company use the water of the brook in their processes of rubber manufacture, and claim the right to it in virtue of an old mill-privilege. To extend the low-grade channel beyond the Inlet Chamber will cut off the water entirely from them unless some special device is adopted to cause the water to continue to flow down the old channel to their factory. Without attempting in this connection to discuss the relative rights of the Boston Belting Company and the city of Boston as to Stony brook, a discussion which would involve complicated legal points, it may be stated that there are three courses open to the city, if it be considered imperative or expedient to continue to supply the Belting Company with the water of the brook, viz.:

*A.* To erect a movable dam or large gate at the Inlet Chamber, damming up the water by means of it high enough to cause it to flow down the old channel in fair weather, and removing the dam during floods to allow an uninterrupted flow through the low-grade channel. This would require a damming up of  $13\frac{1}{2}$  feet.

*B.* To set up a pumping plant at the Inlet Chamber, and pump sufficient water up into the old channel to supply the factory.

*C.* To transfer the Inlet Chamber or a similar structure to the farthest point up stream to which the low-grade channel extends uninterruptedly, utilizing the existing channel to carry the Belting Company's supply between the Inlet Chamber and Centre street, and building an auxiliary channel from this point on, upon the haunch of the arch of Commissioners' channel.

If this latter scheme is adopted, arrangements should be made with the N.Y., N.H., & H. R.R. to build this auxiliary channel in connection with the section of the channel which they now have under construction, the city to pay the extra cost to the contractors.

There is time enough to make such arrangements as no more masonry will be built until spring.

The second problem mentioned above as connected with

the extension of the low-grade channel, viz., the building of a low-grade sewer for the Stony-brook valley, is simpler. There are about 500 acres of land in West Roxbury adjacent to the channel of the brook which is too low to be sewered by the existing system; some of it is being developed by new streets, and is being built upon. A sewer low enough to serve this territory can never be built half so cheaply as it can in connection with the building of this low-grade channel for the brook.

From the head of the Stony-brook branch of the intercepting system, at the corner of Elmwood and Linden Park streets to the Roxbury crossing, there is an unused 7-foot brick channel. From this point up to the Inlet Chamber the channel is only partially filled by the stream which is allowed to flow to the Belting Company. A sewer could be built cheaply here. From the Inlet Chamber up, a sewer could be built in the open channel as well as it could be below the Inlet Chamber, and one of the two 7 × 10 foot brick channels in Pynchon street would be available for it, even if the other were utilized for the auxiliary channel before mentioned. Above Centre street this sewer would have to be carried upon the haunch of the low-grade channel, and the same arrangement made with the railroad company in regard to building it as previously discussed in regard to an auxiliary channel.

These problems are so involved, each with the others, that this department and the city government should come to a decision in regard to them without delay, as the opportunity to build all that will be required in this narrow valley cheaply and without destroying previous costly work will never occur again.

The interests involved are serious enough, and the economy which can be affected is great enough to warrant obtaining the necessary funds by means of a special long-time loan outside the debt limit, if no other means are available.

The improvement of 1880-84 stopped at the Florence-street bridge, about a quarter of a mile north-easterly from Mount Hope station.

Private parties interested in Hyde Park lands have, during the past year, carried this improvement on up to the Hyde Park line, under an agreement with the city, they to do the work to the satisfaction of the City Engineer, and the city to pay them the sum of \$6,000; culverts at street-crossings have been rebuilt or underpinned where good enough, and the channel excavated to the theoretical grade

of the improvement of 1880-84, and to a width, substantially, of 10 feet.

Owing to the fact that this report covers a fiscal year, during which the department was in charge of another Superintendent, except for a small proportion of the time, it does not seem expedient or proper for me to enter into further discussion of the details of the work rendered possible and accomplished through his acknowledged ability and energy.

The report of the Executive Engineer, which follows, alludes in details to all the special features of the work of the year, and shows the force employed and the work undertaken, together with a valuable table of prices that obtained on a contract basis. Special attention might be called to the subjects of "Surface Drainage," "Street Cleaning," and "Smoke Nuisance."

In addition to this report, five appendices are herewith submitted, in which will be found the reports of the several Deputy Superintendents, showing the expenditures of each division in detail. They are as follows :

- Appendix A — Bridge Division.
- “ B — Paving Division.
- “ C — Sanitary Division.
- “ D — Sewer Division.
- “ E — Street-Cleaning Division.
- “ F — Former Superintendents and Document Numbers.

Respectfully submitted,

B. T. WHEELER,  
*Superintendent of Streets.*

BOSTON, February 1, 1895.

MR. BERTRAND T. WHEELER, *Superintendent of Streets*:

DEAR SIR: I herewith respectfully submit the fourth annual report of the operations and expenses of the Street Department since consolidation, the same being a full statement thereof for the year 1894:

### 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 dollars (\$20,000), to which was transferred from the Paving Division the sum of one thousand dollars (\$1,000), making a total of twenty-one thousand dollars (\$21,000), which was expended as follows:

Salaries . . . . .	\$17,236 67
General office expenditures . . . . .	3,647 62
	<hr/>
Total . . . . .	\$20,884 29

leaving a balance of one hundred fifteen dollars and seventy-one cents (\$115.71), which was transferred to the city treasury.



FINANCIAL STATEMENT OF THE STREET DEPARTMENT APPROPRIATION.

From February 1, 1894, to January 31, 1895.

MAINTENANCE.

APPROPRIATION.	Appropriations and Transfers during 1894.	Revenue.	Total Credits.	Expenditures for the twelve months ending January 31, 1895.	Balances January 31, 1895.
Street Department:					
Bridge Division . . . . .	\$130,787 21	•••••	1 \$130,787 21	\$130,137 21	\$650 00
Boston and Cambridge Bridges . . . . .	12,000 00	•••••	2 12,000 00	11,986 85	13 15
Central Office . . . . .	21,000 00	•••••	3 21,000 00	20,884 29	115 71
Paving Division . . . . .	752,950 85	\$7,702 30	4 760,653 15	715,608 02	45,044 53
Sanitary Division . . . . .	407,459 02	•••••	5 407,459 02	407,459 02	•••••
Sewer Division . . . . .	322,133 40	•••••	6 322,133 40	304,133 40	18,000 00
Street-Cleaning Division . . . . .	302,240 44	237 00	7 302,477 44	301,477 44	1,000 00
Street-Watering . . . . .	91,429 08	•••••	8 91,429 08	187,169 08	4,260 00
Totals . . . . .	\$2,100,000 00	\$7,939 30	\$2,107,939 30	\$2,038,855 91	\$69,083 39
1. Appropriation 1894-5 . . . . .	\$125,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	5,787 21	•••••	\$450,000 00	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	17,382 84	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	76 18	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	\$407,459 02	•••••	•••••
2. Appropriation 1894-5 . . . . .	\$12,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	•••••	•••••	\$330,000 00	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	1,638 66	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	404 74	•••••	•••••
3. Appropriation 1894-5 . . . . .	\$20,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	1,000 00	•••••	\$322,133 40	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	•••••	•••••	•••••
4. Appropriation for 1894-5 . . . . .	\$800,000 00	•••••	•••••	•••••	•••••
Transferred from special appropriations for "blocks" and repaving for corporations . . . . .	7,702 30	•••••	\$273,000 00	•••••	•••••
Transferred to Central Office . . . . .	\$1,000 00	•••••	21,240 44	•••••	•••••
" " Bridge Division, 5,787 21	•••••	•••••	8,000 00	•••••	•••••
" " Sewer Division, 1,638 66	•••••	•••••	•••••	•••••	•••••
" " Sanitary Divi- sion . . . . .	17,382 84	•••••	237 00	•••••	•••••
" " Street-Cleaning Division . . . . .	21,240 44	•••••	\$302,477 44	•••••	•••••
" " Street-Cleaning Division . . . . .	47,049 15	•••••	•••••	•••••	•••••
" " Street-Cleaning Division . . . . .	\$760,653 15	•••••	•••••	•••••	•••••
5. Appropriation 1894-5 . . . . .	\$125,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	5,787 21	•••••	\$450,000 00	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	17,382 84	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	76 18	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	\$407,459 02	•••••	•••••
6. Appropriation 1894-5 . . . . .	\$12,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	•••••	•••••	\$330,000 00	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	1,638 66	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	404 74	•••••	•••••
7. Appropriation 1894-5 . . . . .	\$20,000 00	•••••	•••••	•••••	•••••
Transferred from Paving Division . . . . .	1,000 00	•••••	\$322,133 40	•••••	•••••
" " Street-Watering . . . . .	•••••	•••••	•••••	•••••	•••••
8. Appropriation 1894-5 . . . . .	\$800,000 00	•••••	•••••	•••••	•••••
Transferred from special appropriations for "blocks" and repaving for corporations . . . . .	7,702 30	•••••	\$273,000 00	•••••	•••••
Transferred to Central Office . . . . .	\$1,000 00	•••••	21,240 44	•••••	•••••
" " Bridge Division, 5,787 21	•••••	•••••	8,000 00	•••••	•••••
" " Sewer Division, 1,638 66	•••••	•••••	•••••	•••••	•••••
" " Sanitary Divi- sion . . . . .	17,382 84	•••••	237 00	•••••	•••••
" " Street-Cleaning Division . . . . .	21,240 44	•••••	\$302,477 44	•••••	•••••
" " Street-Cleaning Division . . . . .	47,049 15	•••••	•••••	•••••	•••••
" " Street-Cleaning Division . . . . .	\$760,653 15	•••••	•••••	•••••	•••••
9. Transferred to city treasury . . . . .	•••••	•••••	•••••	•••••	•••••
Transferred to Street-Cleaning Division . . . . .	\$8,000 00	•••••	•••••	•••••	•••••
Transferred to Sewer Division . . . . .	494 74	•••••	•••••	•••••	•••••
Transferred to Sanitary Divi- sion . . . . .	76 18	•••••	•••••	•••••	•••••
Transferred to city treasury . . . . .	8,570 92	•••••	•••••	•••••	•••••
Transferred to city treasury . . . . .	\$91,429 08	•••••	•••••	•••••	•••••
Transferred to city treasury . . . . .	\$69,083 39	•••••	•••••	•••••	•••••

## Paving Division Specials.

OBJECT OF APPROPRIATION.	Appropriations, Balances, and Transfers.	Expended from Feb. 1, 1894, to Jan. 31, 1895.	Balances on hand Jan. 31, 1895.
Arklow st. . . . .	\$1,600 00		\$1,600 00
Baker st., Ward 23 . . . . .	1,350 40	\$1,350 40	
Bellflower st. . . . .	3,000 00	3,000 00	
Blakeville st. . . . .	1,500 00	1,500 00	
Blue Hill ave., paving . . . . .	25,000 00	25,000 00	
Bond st. . . . .	1,091 18		1,091 18
Bumstead lane . . . . .	7,327 00	7,327 00	
Bunker Hill st. . . . .	3,200 00	372 15	2,827 85
Bushnell st. . . . .	2,000 00	2,000 00	
Charter st. . . . .	4,800 00	9 20	4,790 80
Commonwealth ave., construction . . . . .	301,815 55	1 301,624 47	191 08
Congress and L sts. . . . .	14,700 00	558 00	14,142 00
Cranston st. . . . .	568 75	568 75	
Dartmouth st., Boylston st. to Commonwealth ave.,	6,200 00	5,839 65	360 35
Day st., Ward 22, macadamizing . . . . .	7,500 00	7,500 00	
Fay st. . . . .	1,408 82	1,408 82	
Henchman st. . . . .	3,000 00		3,000 00
Lewis st. extension . . . . .	2,500 00	1,834 79	665 21
Mill st. . . . .	2,000 00	2,000 00	
Millet st. . . . .	595 88	595 88	
Montview st. . . . .	1,273 05	1,273 05	
Mt. Vernon st., grade damages . . . . .	1,325 00	1,325 00	
Newport st. . . . .	1,904 12	1,904 12	
Oak st., Harrison ave. to Washington st. . . . .	3,313 18	3,313 18	
Park st., Charlestown . . . . .	1,138 23	1,138 23	
Preston st. . . . .	5,000 00	5,000 00	
Prince st., Hanover st. to N. Bennett ave. . . . .	3,500 00		3,500 00
Ruth st. . . . .	5,029 74	5,029 74	
Second st. . . . .	8,000 00	7,065 69	934 31
Talbot ave. . . . .	27,372 00	18,501 41	8,870 59
Thetford st. . . . .	3,000 00	3,000 00	
Utica st., Harvard st. to Kneeland st. . . . .	4,909 46	4,909 46	
<i>Carried forward</i> . . . . .	\$456,922 56	\$414,949 19	\$41,973 37

<sup>1</sup> Draft of \$5,450.91 reserved.

Paving Division Specials. — *Concluded.*

OBJECT OF APPROPRIATION.	Appropriations, Balances, and Transfers.	Expended from Feb. 1, 1894, to Jan. 31, 1895.	Balances on hand Jan. 31, 1895.
<i>Brought forward</i> . . . . .	\$456,922 56	\$414,949 19	\$41,973 37
Utica st., Kneeland st. to Beach st. . . . .	794 28	794 28	
Van Rensselaer place . . . . .	450 00	450 00	
Warren st., Soley st. to Winthrop st., asphaltng	600 00		600 00
Washington st., Ward 25 . . . . .	38,000 00	6,848 88	31,151 12
Whiting st. . . . .	2,135 00	2,135 00	
<b>Totals</b> . . . . .	<b>\$498,901 84</b>	<b>\$425,177 35</b>	<b>\$73,724 49</b>

## Street Improvements.

OBJECT OF APPROPRIATION.	Appropriations, Balances, and Transfers.	Expended from Feb. 1, 1894, to Jan. 31, 1895.	Balances on hand Jan. 31, 1895.
Street Improvements, Aldermanic District No. 1 .	\$12,200 00	\$12,200 00	
Street Improvements, Aldermanic District No. 2 .	17,185 75	17,185 75	
Street Improvements, Aldermanic District No. 3 .	1,115 98	1,115 98	
Street Improvements, Aldermanic District No. 4 .	15,037 43	15,037 43	
Street Improvements, Aldermanic District No. 5 .	537 82	537 82	
Street Improvements, Aldermanic District No. 6 .	37,003 44	23,522 78	\$13,480 66
Street Improvements, Aldermanic District No. 7 .	3,346 29	3,346 29	
Street Improvements, Aldermanic District No. 8 .	10,169 29	10,169 29	
Street Improvements, Aldermanic District No. 9 .	32,513 88	32,513 88	
Street Improvements, Aldermanic District No. 11 .	15,267 04	15,267 04	
Street Improvements, Aldermanic District No. 12 .	1,890 69	1,890 69	
Street Improvements, Wards 1 and 2 . . . . .	12,470 26	10,498 69	1,971 57
Street Improvements, Ward 3 . . . . .	6,666 67	2,548 58	4,118 09
Street Improvements, Ward 4 . . . . .	6,666 67		6,666 67
Street Improvements, Ward 5 . . . . .	7,560 41	6,109 06	1,451 35
Street Improvements, Ward 6 . . . . .	7,000 00	4,849 02	2,150 98
Street Improvements, Ward 7 . . . . .	18,668 54	18,668 54	
Street Improvements, Ward 8 . . . . .	13,000 00	13,000 00	
Street Improvements, Wards 7 and 8 . . . . .	20,000 00	12,448 08	7,551 92
Street Improvements, Ward 9 . . . . .	5,000 00		5,000 00
Street Improvements, Ward 10 . . . . .	5,000 00	5,000 00	
Street Improvements, Wards 9 and 10 . . . . .	20,000 00	20,000 00	
Street Improvements, Ward 12 . . . . .	11,882 88	124 26	11,758 62
Street Improvements, Ward 14 . . . . .	14,500 00	11,303 45	3,196 55
Street Improvements, Ward 15 . . . . .	11,500 00	7,367 20	4,132 80
Street Improvements, Wards 17 and 18 . . . . .	30,000 00	12,341 94	17,658 06
Street Improvements, Wards 19 and 22 . . . . .	15,000 00	15,000 00	
Street Improvements, Ward 20 . . . . .	10,000 00	9,263 19	636 81
Street Improvements, Ward 21 . . . . .	11,765 00	11,765 00	
Street Improvements, Wards 23 and 25 . . . . .	30,000 00	25,000 23	4,999 77
Street Improvements, Ward 24 . . . . .	28,000 00	28,000 00	
Street Improvements, Ward 25 . . . . .	418 01	418 01	
<b>Totals</b> . . . . .	<b>\$431,366 05</b>	<b>\$346,592 20</b>	<b>\$84,773 85</b>

## Sewer Division Specials.

OBJECT OF APPROPRIATION.	Appropriations, Balances, and Transfers.	Expended from Feb. 1, 1894, to Jan. 31, 1895.	Balances on hand Jan. 31, 1895.
Boylston st., "Surface Drains" . . . . .	\$1,600 00	\$1,600 00	
Sewers, Brighton . . . . .	2,486 47	2,486 47	
Sewer outlet, East Boston . . . . .	1,800 00	1,800 00	
Sewer between Roslindale and W. Roxbury . . . . .	280 00	280 00	
Sewers, South Boston . . . . .	2,348 05	1,081 80	\$1,266 25
Stony-brook damages . . . . .	5,670 15	5,670 15	
Sewers, Ward 23, Washington st., etc. . . . .	591 29	591 29	
<b>Totals . . . . .</b>	<b>\$14,775 96</b>	<b>\$13,509 71</b>	<b>\$1,266 25</b>

## Bridge Division Specials.

OBJECT OF APPROPRIATION.	Appropriations, Balances, and Transfers.	Expended from Feb. 1, 1894, to Jan. 31, 1895.	Balances on hand Jan. 31, 1895.
Berwick-park foot-bridge . . . . .	\$5,115 17	\$5,115 17	
Boylston-st. bridge . . . . .	1,094 00	1,094 00	
Broadway bridge . . . . .	499 37	499 37	
Bridge improvements, Wards 12 and 13 . . . . .	501 77	501 77	
Chelsea-st. bridge, rebuilding . . . . .	30,000 00	11,585 08	\$18,414 92
Gold st. bridge . . . . .	25,000 00	. . . . .	25,000 00
<b>Totals . . . . .</b>	<b>\$62,210 31</b>	<b>\$18,795 39</b>	<b>\$43,414 92</b>

## LAYING OUT AND CONSTRUCTION OF HIGHWAYS.

*Expenditures.*

Sewer construction . . . . .	<sup>1</sup> \$420,138 58
Street construction . . . . .	<sup>2</sup> 70,661 56
<b>Total . . . . .</b>	<b>\$490,800 14</b>

<sup>1</sup> Draft of \$441.10 reserved.<sup>2</sup> Draft of \$150 reserved.

### Recapitulation of Expenditures for the Twelve Months ending January 31, 1895.

OBJECT OF APPROPRIATION.	Current Ex- penses for the twelve months ending Jan. 31, 1895.	Special Appropriations.	Totals.
<b>Street Department:</b>			
Central Office . . . . .	\$20,884 29		\$20,884 29
Bridge Division . . . . .	130,137 21	\$18,795 39	148,932 60
Boston and Cambridge Bridges . .	11,986 85		11,986 85
Paving Division . . . . .	715,608 62	1425,177 35	1,140,785 97
Sanitary Division . . . . .	467,459 02		467,459 02
Sewer Division . . . . .	304,133 40	13,509 71	317,643 11
Street-Cleaning Division . . . . .	301,477 44		301,477 44
Street-Watering . . . . .	87,169 08		87,169 08
Street Improvements . . . . .		346,592 20	346,592 20
Laying Out and Construction of Highways . . . . .		2490,800 14	490,800 14
<b>Totals . . . . .</b>	<b>\$2,038,855 91</b>	<b>\$1,294,874 79</b>	<b>\$3,333,730 70</b>

<sup>1</sup> Draft of \$5,450.91 reserved.<sup>2</sup> Drafts of \$150 and \$441.10 reserved.

### Street-building under Chap. 323 of the Acts of 1891, as amended by Chap. 418 of the Acts of 1892.

STREET.	Paving.	Sewer.	Totals.
Arundel st., Mountfort st. to Beacon st. . . . .	\$3,048 26	\$564 24	\$3,612 50
<sup>1</sup> Batavia st., St. Stephen st. to Parker st. . . . .	411 02		411 02
<sup>1</sup> Bay State road, Deerfield st. to Sherborn st. . . . .	3,589 90	416 43	4,006 33
<sup>3</sup> Deerfield st., Commonwealth ave. to Charles river .	2,658 19	130 28	2,788 47
Huntington ave., Copley sq. to Brookline line . . . .	10 25		10 25
Ivy st., St. Mary's st. to Mountfort st. . . . .	8,302 22	3,144 12	11,446 34
<sup>1</sup> Miner st., Beacon st. to Brookline branch B.& A.R.R.,	255 19	53 65	308 84
Mountfort st., Ivy st. to Audubon road . . . . .	4,367 24	1,520 75	5,887 99
Newbury st., Charlesgate West to Brookline ave. . .	<sup>2</sup> 14,686 86	9,267 63	23,954 49
Norway st., Falmouth st. to Massachusetts ave. . . .	151 35	1,561 43	1,712 78
Parker st., Westland ave. to Huntington ave. . . . .	21,505 37	18,516 18	40,321 55
Sherborn st., Commonwealth ave. to Charles river . .	10 75	195 28	206 03
St. Germain st., Massachusetts ave. to Turner st. . .	1,747 53	789 25	2,536 78
Turner st., Haviland st. to Astor st. . . . .	13 00		13 00
<b>Totals . . . . .</b>	<b>\$61,057 13</b>	<b>\$36,159 24</b>	<b>\$97,216 37</b>

<sup>1</sup> Built mainly in 1893.<sup>2</sup> Draft of \$150 reserved.

**Street-building under Chap. 462 of the Acts of 1892 and  
Chap. 439 of the Acts of 1894.**

STREET.	Paving.	Sewer.	Totals.
Boylston st., Boylston road to Brookline ave. . . . .	\$9,604 43	. . . . .	\$9,604 43
Totals . . . . .	\$9,604 43	. . . . .	\$9,604 43

**INCOME.**

Statement showing the amount of bills and cash deposited with City Collector for the year ending January 31, 1895, by the several divisions of the Street Department :

Central Office . . . . .	\$20 00
Paving Division . . . . .	17,268 41
Sewer Division . . . . .	196,727 81
Sanitary Division . . . . .	41,820 55
Street-Cleaning Division . . . . .	8,163 77
Bridge Division . . . . .	1,598 62
Street-Watering . . . . .	906 77
Boston and Cambridge Bridges . . . . .	597 81
	<u>\$267,103 74</u>

Statement showing the amount paid into the city treasury during the same period on account of the several divisions of the Street Department :

Central Office . . . . .	\$20 00
Paving Division . . . . .	52,836 10
Sewer Division . . . . .	106,317 20
Sanitary Division . . . . .	44,870 94
Street-Cleaning Division . . . . .	2,146 05
Bridge Division . . . . .	1,598 62
Street-Watering . . . . .	295 25
Boston and Cambridge Bridges . . . . .	597 81
	<u>\$208,681 97</u>

**List of Contracts from February 1, 1894, to January 31,  
1895, made by the Street Department.**

**Paving Blocks.**

CONTRACT.	Awarded to	Proposal rec'd.	Price per M.
Large paving-blocks, 300,000 . . .	Rockport Granite Co.,	March 15, 1894.	\$66 70

**Spruce Lumber.**

DISTRICT.	Awarded to	Proposal received.	Price per M ft. B. M.	Price for Planing per M ft.
East Boston . . . .	John W. Leatherbee,	April 23, 1894.	\$15 75	\$1 00
Charlestown . . . .	" " "	" " "	15 50	1 00
Brighton } . . . .	{ Curtis & Pope }	" " "	{ 15 38	{ 0 95
Roxbury } . . . .			{ 14 95	{ 0 95
City proper } . . . .			{ Lumber Co. . }	{ 14 45

**Beach Gravel.**

DISTRICT.	Awarded to	Proposal received.	Price per ton.
City . . . . .	Hugh Farrell . . . . .	March 19, 1894.	\$0 59 delivered on wharves.

**Coal.**

CONTRACT.	Awarded to	Proposal received.	Price per ton, 2,240 lbs.
1,500 tons, Pumping Station, Dorchester . . . . .	C. H. Sprague & Son .	Mar. 10, 1894.	\$3 27
1,500 tons, Pumping Station, Dorchester . . . . .	H. G. Jordan & Co. . . (Incorporated.)	Aug. 14, 1894.	3 17

**Iron Castings.**

CONTRACT.	Awarded to	Proposal received.	Price per 100 lbs.
Iron Castings . . . . .	Mechanics' Iron Foundry Co. . .	March 23, 1894.	\$1 43

### Bridge-Strengthening, etc.

CONTRACT.	Awarded to	Proposal received.	Price.
Abutments, Cottage Farm Bridge over B. & A. R.R. . . . . .	Leavit, Daitley, & Crockett . . . . .	Feb. 8, 1894 . . . . .	\$40,150.50.
Iron railing, Boylston-street Bridge . . . . .	Boston Bridge Works . . . . .	Aug. 27, 1894 . . . . .	\$1,094.00.
Rebuilding Chelsea-street Bridge . . . . .	B. F. Nay & Co. . . . .	Aug. 15, 1894 . . . . .	\$15,964.00.
Furnishing iron draw, Chelsea-street Bridge . . . . .	Boston Bridge Works . . . . .	Sept. 4, 1894 . . . . .	\$8,450.00.
Repairing and strengthening Charles-river Bridge . . . . .	Trumbull & Ryan . . . . .	Aug. 28, 1894 . . . . .	* Prices below.
Sale, "up-stream" draw, Dover-street Bridge . . . . .	Hammitt & Son . . . . .	Nov. 8, 1894 . . . . .	\$150. Paid to the city.

\* (A) — Furnishing, driving, capping, etc., bents of piles, \$9.52 per pile.  
 (B) — Driving and securing in place each spurshore, \$8.00 per spurshore.  
 (C) — Putting on oak girders and brace, \$5 per piece.

(D) — Putting on 7 x 14 in. double girder-caps, \$40 per M ft. B.M.  
 (E) — Putting on stringers and bolsters, \$35 per M ft. B.M.

### Lease of Land, etc.

CONTRACT.	Lessor.	Proposal received.	Price.
Flats and docks for public landing, East Boston . . . . .	East Boston Dry Dock Co. . . . .	July 10, 1894 . . . . .	\$250 per year, payable quarterly.
Land and wharf, Revere street . . . . .	James J. Costello . . . . .	Aug. 1, 1894 . . . . .	\$460.31 per month.



## Quarrying Stone.

CONTRACT.	Lessor.	Proposal received.	Terms.
Quarrying and removing stone from Tremont-street ledge . . . . .	W. P. Page . . . . .	Jan. 4, 1894 . . . . .	\$0.35 per ton.
Quarrying and removing stone from Tremont-street ledge . . . . .	C. L. Perrin, Agent . . . . .	July 13, 1894 . . . . .	\$0.33 per ton.
Quarrying and furnishing stone to Rosseter-street crusher . . . . .	John McMorrow . . . . .	June 10, 1894 . . . . .	\$0.75 per ton.

## Removing Wall.

CONTRACT.	Awarded to	Proposal received.	Price.
Essex street, corner Lincoln street . . . . .	A. A. Elston . . . . .	Jan. 27, 1894 . . . . .	\$1,425.00.

## Teaming Crushed Stone, etc.

CONTRACT.	Awarded to	Proposal received.	Price.
From Dimock-street crusher to Commonwealth avenue, between Beacon st. and Cottage Farm bridge . . . . .	H. P. Nawu . . . . .	June 26, 1894 . . . . .	\$0.57 per ton.
Paving-blocks from Washington street, between Eliot and Boylston streets, to Commonwealth avenue, from Harvard avenue to Washington street . . . . .	Owen Doherty . . . . .	July 5, 1894 . . . . .	\$0.16½ per sq. yd.

## Excavating and Removing Material.

CONTRACT.	Awarded to	Proposal received.	Price.
Arlington st., from Beacon to Marlboro' st. . . . .	J. J. Sullivan . . . . .	May 16, 1894. . . . .	(A) \$0.90 per cubic yard.
Commonwealth ave., north side, Arlington st. to Clarendon st. . . . .	F. H. Cowin . . . . .	July 13, 1894. . . . .	(A) \$0.80 per cubic yard.
Commonwealth ave., north side, Clarendon to Exeter st. . . . .	J. J. Sullivan . . . . .	July 13, 1894. . . . .	(A) \$0.97 per cubic yard.
Commonwealth ave., north side, Exeter to Gloucester st. . . . .	D. F. O'Connell . . . . .	July 13, 1894. . . . .	(A) \$0.93 per cubic yard.
Commonwealth ave., north side, Gloucester st. to Massachusetts ave. . . . .	Doherty & O'Leary . . . . .	July 13, 1894. . . . .	(A) \$0.80 per cubic yard.
Commonwealth ave., south side, Arlington st. to Clarendon st. . . . .	F. H. Cowin . . . . .	July 14, 1894. . . . .	(A) \$0.95 per cubic yard.
Commonwealth ave., south side, Clarendon st. to Ex- eter st. . . . .	Doherty & O'Leary . . . . .	July 14, 1894. . . . .	(A) \$0.89 per cubic yard.
Commonwealth ave., south side, Exeter st. to Gloucester st. . . . .	D. F. O'Connell . . . . .	July 14, 1894. . . . .	(A) \$0.99 per cubic yard.
Commonwealth ave., south side, Gloucester st. to Massachusetts ave. . . . .	J. J. Sullivan . . . . .	July 14, 1894. . . . .	(A) \$0.89 per cubic yard.
Dartmouth st., Boylston to Newbury st. . . . .	J. J. Sullivan . . . . .	Sept. 4, 1894. . . . .	(A) \$0.97 per cubic yard.
Massachusetts ave., south side, Washington to Albany st. . . . .	J. J. Sullivan . . . . .	Sept. 15, 1894. . . . .	(A) \$0.75 per cubic yard; (B) \$0.12½ per square yard.
Cambridge st., Joy st. to Bowdoin sq. . . . .	S. & R. J. Lombard . . . . .	Sept. 20, 1894. . . . .	(A) \$0.15 per cubic yard; (B) \$0.15 per square yard.
Charles st., Pinckney to Cambridge st. . . . .	P. O'Riordan . . . . .	Sept. 20, 1894. . . . .	(A) \$0.47 per cubic yard; (B) \$0.17 per square yard.
Albany st., Lehigh st. towards Broadway extension .	P. F. Lonergan . . . . .	Oct. 1, 1894. . . . .	(A) \$1.12 per cubic yard; (B) \$0.10 per square yard.

(A) — Earth excavating.

(B) — Removing old paving.

## Filling.

CONTRACT.	Awarded to	Proposal received.	Price.
Commonwealth ave., south side, Brighton ave. to Harvard st. . . . .	M. Kiernan . . . . .	Oct. 29, 1894 . . . . .	\$0.83 per cubic yard.
75,000 cubic yards, more or less, Boylston st., Boylston road to Brookline ave. . . . .	J. O'Brien . . . . .	Nov. 21, 1894 . . . . .	\$0.02½ per cubic yard.

## Granolithic Sidewalk and Curb.

CONTRACT.	Awarded to	Proposal received.	Price.
Sidewalk and gutter, Lyndhurst st. . . . .	Warner H. Jenkins Co. . . . .	Sept. 17, 1894 . . . . .	\$0.06 per sq. ft., sidewalk; \$0.20 per sq. ft., gutters.
Sidewalk and curb, Faulkner st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Sidewalk, \$0.06 per sq. ft.; curb, \$0.10 per lin. ft.
Harbor View st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Sidewalk, \$0.06 per sq. ft.; curb, \$0.10 per lin. ft.
Magnolia st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Sidewalk, \$0.06 per sq. ft.; curb, \$0.10 per lin. ft.
Romsey st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Sidewalk, \$0.06 per sq. ft.; curb, \$0.10 per lin. ft.
Tremlett st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Sidewalk, \$0.06 per sq. ft.; curb, \$0.10 per lin. ft.
Greenbeys st. . . . .	Warner H. Jenkins Co. . . . .	Oct. 1, 1894 . . . . .	Curb, \$0.10 per lin. ft. In payment for sidewalk, the city furnishes the stone foundation.

**Garbage.**

CONTRACT.	Awarded to	Proposal received.	Price.
Treatment and final disposition . . . . .	New England Construction Co.,	July 25, 1894 . . .	\$7,500 per year for 20 tons daily, and \$0.25 per ton for each and every ton in excess of 20 tons.

**Collecting and Removing Ashes.**

CONTRACT.	Awarded to	Proposal received.	Price.
East Boston . . . . .	W. F. Hedrington . . . . .	Jan. 25, 1894 . . .	\$7,300 per year for two years.
South Boston, west of Dorchester st. and Old Colony R.R. to old Dorchester boundary line . . . . .	Denis O'Sullivan . . . . .	Feb. 17, 1894 . . .	\$5,985 per year for two years.
Meeting-house Hill district . . . . .	John McShane . . . . .	Feb. 26, 1894 . . .	\$4,237.50 per year for two years.

**Collecting and Removing House-Offal.**

CONTRACT.	Awarded to	Proposal received.	Price.
Meeting-house Hill district . . . . .	John McShane . . . . .	March 17, 1894 . . .	\$8,000 per year for three years. . .

Terminated Jan. 21, 1895.

## Paving with Trinidad Asphalt.

CONTRACT.	Awarded to	Proposal received.	Price.
Barton court . . . . .	Barber Asphalt Paving Co. . . . .	May 16, 1894 . . . . .	\$2.25 per square yard.
Chambers st., Green to Poplar . . . . .	Barber Asphalt Paving Co. . . . .	May 16, 1894 . . . . .	\$2.25 per square yard.
Charter st., Unity to Hanover . . . . .	Barber Asphalt Paving Co. . . . .	May 16, 1894 . . . . .	\$2.25 per square yard.
Court sq. . . . .	Barber Asphalt Paving Co. . . . .	June 14, 1894 . . . . .	\$2.25 per square yard.
Dartmouth st., Boylston to Newbury . . . . .	Barber Asphalt Paving Co. . . . .	Sept. 8, 1894 . . . . .	\$2.25 per square yard.
Oxford st., Beach to Essex . . . . .	Barber Asphalt Paving Co. . . . .	Nov. 1, 1894 . . . . .	\$2.25 per square yard.

## Paving with Sicilian Rock Asphalt.

CONTRACT.	Awarded to	Proposal received.	Price.
Pemberton sq. . . . .	H. Gore & Co. . . . .	May 8, 1894 . . . . .	\$2.25 per square yard.
Mason st., about 180 ft. long . . . . .	H. Gore & Co. . . . .	May 25, 1894 . . . . .	\$2.25 per square yard.
Fay st. . . . .	H. Gore & Co. . . . .	July 26, 1894 . . . . .	\$2.25 per square yard.
Massachusetts ave., south side, Washington to Albany, Charles st., in front of Massachusetts Charitable Eye and Ear Infirmary . . . . .	H. Gore & Co. . . . .	Sept. 17, 1894 . . . . .	\$2.25 per square yard.
Ash st., Oak to Nassau . . . . .	H. Gore & Co. . . . .	Oct. 3, 1894 . . . . .	\$2.25 per square yard.
		Oct. 26, 1894 . . . . .	\$2.25 per square yard.

**Paving and Regulating.**

CONTRACT.	Awarded to	Proposal received.	Price.
Cambridge st., Joy st. to Bowdoin sq. . . . .	H. Gore & Co. . . . .	Oct. 3, 1894 . . . .	(A) \$0.90; (E) \$0.08; (F) \$0.18; (G) \$0.90.
Causeway st., Haverhill st. to Nashua st. . . . .	J. Grant & Co. . . . .	Oct. 3, 1894 . . . .	(A) \$0.90; (E) \$0.08; (F) \$0.18; (G) \$0.90.
Charles st., Pinckney st. to Cambridge st. (one side) .	F. H. Cowin . . . . .	Oct. 3, 1894 . . . .	(A) \$0.90; (E) \$0.18; (F) \$0.28; (G) \$0.90.
Essex st., Harrison ave. to Kingston st. . . . .	Doherty & O'Leary . . . . .	Oct. 15, 1894 . . . .	(A) \$0.90; (E) \$0.08; (F) \$0.18; (G) \$0.90.
Essex st., Kingston st. to South st. . . . .	A. A. Libby & Co. . . . .	Oct. 15, 1894 . . . .	(A) \$0.90; (E) \$0.08; (F) \$0.18; (G) \$0.90.

EXPLANATION OF LETTERS.

A — Price per sq. yd. for laying granitic blocks and pitching joints.

F — Price per sq. yd. for laying brick sidewalks.

G — Price per sq. yd. for laying flagging crosswalks and pitching joints.

**Retaining-Walls, etc.**

CONTRACT.	Awarded to	Proposal received.	Price.
Harcourt st. . . . .	J. S. Jacobs & Son . . . . .	Dec. 15, 1893 . . . .	\$1,074.00.
Across end of Follen st., and addition to wall on Berwick Park . . . . .	Quimby & Ferguson . . . . .	June 19, 1894 . . . .	\$3,200.00.
Wall and steps, Ruth st. . . . .	Simpson Bros. . . . .	May 9, 1894 . . . .	(A) Material in wall, \$0.36 per cu. ft.; (B) Surfacing, \$0.10 sq. ft.; (C) Steps, \$1.15 per lin. ft.; (D) Platform, \$0.30 per sq. ft., including surfacing.

## Furnishing and Laying Concrete Base.

CONTRACT.	Awarded to	Proposal received.	Price per cubic yard.
Pemberton sq. . . . .	Metropolitan Construction Company . . . . .	May 1, 1894 . . . . .	\$5.00
Partmouth st., Boylston st. to Newbury st. . . . .	Metropolitan Construction Company . . . . .	Sept. 8, 1894 . . . . .	5.00
Mass. ave., south side Washington st. to Albany st. . . . .	Metropolitan Construction Company . . . . .	Sept. 17, 1894 . . . . .	5.00
Causeway st., in front of Union station . . . . .	Metropolitan Construction Company . . . . .	Sept. 20, 1894 . . . . .	5.00
Charles st., Pinckney st. to Cambridge st. . . . .	Metropolitan Construction Company . . . . .	Oct. 2, 1894 . . . . .	5.00
Cambridge st., Joy st. to Bowdoin sq. . . . .	Metropolitan Construction Company . . . . .	Oct. 4, 1894 . . . . .	5.00
Harrison ave., Essex st. towards Beach st. . . . .	Metropolitan Construction Company . . . . .	Oct. 4, 1894 . . . . .	5.00

## Street-Building under New Law, Chap. 323, Acts of 1891, as amended by Chap. 418, Acts of 1892.

CONTRACT.	Awarded to	Proposal received.	Prices.
Constructing and regulating a Macadam roadway in Newbury st., Charlesgate west to Brookline ave. . . . .	F. H. Cowin . . . . .	June 6, 1894 . . . . .	(A) \$0.35; (C) \$0.54; (D) \$2.00; (E) \$0.92; (G) \$1.07; (J) \$4.00; (M) \$1.17.
Constructing and regulating a Macadam roadway in Arandel st., Beacon st. to Mounifort st. . . . .	H. Gore & Co. . . . .	Sept. 5, 1894 . . . . .	(A) \$0.25; (C) \$0.20; (D) \$2.35; (E) \$0.30; (G) \$1.05; (J) \$4.00; (M) \$1.20.
Constructing and regulating a Macadam roadway in Ivy st., St. Mary's st. to Mounifort st. . . . .	J. Grant & Co. . . . .	Sept. 5, 1894 . . . . .	(A) \$0.25; (C) \$0.19; (D) \$2.32; (E) \$0.25; (G) \$1.10; (J) \$4.50; (M) \$0.95.
Constructing and regulating a Macadam roadway in Mounifort st., Audubon road to Ivy st. . . . .	H. Gore & Co. . . . .	Sept. 5, 1894 . . . . .	(A) \$0.25; (C) \$0.20; (D) \$2.35; (E) \$0.30; (G) \$1.05; (J) \$4.00; (M) \$1.20.

**Telford-Macadam Roadway (Chap. 323). — Concluded.**

CONTRACT.	Awarded to	Proposal received.	Price.
Parker st., Huntington ave. to Westland ave. . . . .	Doherty & O'Leary . . . . .	Aug. 7, 1894 . . . . .	(A) \$0.37; (B) \$0.67; (C) \$0.49; (D) \$2.06; (F) \$0.87; (G) \$0.95; (J) \$3.85.
Extension filling . . . . .	Doherty & O'Leary . . . . .	Aug. 7, 1894 . . . . .	(M) \$1.00; (N) \$1.10.
St. Germain st., Massachusetts ave. to Dalton st. . . . .	Quimby & Ferguson . . . . .	Oct. 27, 1894 . . . . .	(A) \$0.30; (B) \$0.11; (C) \$0.20; (D) \$2.00; (F) \$0.20; (G) \$1.00; (J) \$4.50; (M) \$0.95.

**EXPLANATION OF LETTERS.**

- A — Prices per cu. yd. for grading and preparing roadways and sidewalks.
- B — Price per sq. yd. for furnishing and placing Telford base (see footnote).
- C — Price per sq. yd. for furnishing and placing the crushed stone and binder (see footnote).
- D — Price per sq. yd. for furnishing blocks and paving gutters (see footnote).

On Arundel, Ivy, and Mountfort streets the crushed stone, binder, and edgestones were furnished by the city.  
On St. Germain street the Telford base, crushed stone, binder, and edgestones were furnished by the city.

**Sewer Construction under Chap. 323, Acts of 1891, as amended by Chaps. 418 and 402, Acts of 1892.**

CONTRACT.	Awarded to	Proposal received.	Prices.
Sewer and connections, Newbury st., Charlesgate west to Brookline ave. . . . .	Metropolitan Construction Co.	April 17, 1894 . . . . .	(A) \$2.10 per lin. ft. earth excavation and refill for 30 X 36 in. brick sewer; (D) \$1.95 per lin. ft. 12-in. pipe sewer, excavation and refill included; (E) \$0.45 per lin. ft. 12-in. pipe catch-basin, drain excavation and refill included; (F) \$0.85 per lin. ft. 10-in. pipe catch-basin, excavation and refill included; (G) \$0.85 per lin. ft. 6-in. pipe house drain, excavation and refill included; (M) \$4.65 per cu. yd. brick masonry, American cement mortar; (N) \$4.65 per cu. yd. brick masonry, Portland cement mortar; (O) \$3.95 per cu. yd. concrete; (R) \$40.00 per M ft. B.M. spruce lumber; (V) \$0.15 per lin. ft. 8-in. pipe underdrain; (ZZ) \$4.75 per drop inlet, excavation and refill included; (AA) \$35.00 per catch-basin, excavation and refill included.



Sewer and connections, Parker st., Huntington ave. to Westland ave. . . . .	National Construction Co. . . . .	May 9, 1894 . . . . .	<p>(A) \$1.80 per lin. ft. earth excavation and refill for 30 × 36 in. brick sewer; (A) \$.80 per lin. ft. earth excavation and refill for overflow manhole; (C) \$1.00 per lin. ft. 18-in. pipe sewer, excavation and refill included; (C) \$1.00 per lin. ft. 20-in. iron pipe connection with Stony-brook culvert; (D) \$1.02 per lin. ft. 15-in. pipe sewer, excavation and refill included; (E) \$1.01 per lin. ft. 12-in. pipe sewer, excavation and refill included; (F) \$0.37 per lin. ft. 12-in. pipe catch-basin drain excavation and refill included; (G) \$0.50 per lin. ft. 10-in. pipe catch-basin, drain excavation and refill included; (H) \$0.40 per lin. ft. 6-in. house drain, excavation and refill included; (K) \$20.00 per manhole; (M) \$5.00 per cu. yd. brick masonry, American cement mortar; (N) \$5.00 per cu. yd. brick masonry, Portland cement mortar; (O) \$4.50 per cu. yd. concrete; (R) \$38.00 per M. ft. B.M. spruce lumber; (V) \$0.20 per lin. ft. 8-in. underdrain; (W) \$4.00 per spruce pile; (A.A) \$20.00 per catch-basin, excavation and refill included; (Z) \$12.00 per drop inlet, excavation and refill included.</p>
Sewer and connections, Ivy st., St. Mary's to Mountfort . . . . .	Quimby & Ferguson . . . . .	July 26, 1894 . . . . .	<p>(D) \$0.73 per lin. ft. 15-in. pipe sewer, excavation and refill included; (E) \$0.69 per lin. ft. 12-in. pipe sewer, excavation and refill included; (F) 0.47 per lin. ft. 6-in. pipe house drain, excavation and refill included; (F) \$0.47 per lin. ft. 10-in. pipe catch-basin, drain excavation and refill included; (K) \$35.00 per manhole; (A.A) \$40.00 per catch-basin, excavation and refill included.</p>
Sewer and connections, Arundel st., Beacon to Mountfort . . . . .	National Construction Co. . . . .	July 25, 1894 . . . . .	<p>(E) \$0.45 per lin. ft.; (A.A) \$40.00 each.</p>

**Sewer Construction under Chap. 323. — Concluded.**

CONTRACT.	Awarded to	Proposal received.	Price.
Sewer and connections, Mountfort st., Ivy to Audubon road . . . . .	Dennis O'Connell . . . . .	July 26, 1894 . . . . .	(D) \$0.70 lin. ft.; (E) \$0.45 lin. ft.; (K) \$32.00 each; (A.A) \$45.00 each.
Sewer and connections, Norway st., Ward II . . . . .	A. A. Libby . . . . .	Oct. 15, 1894 . . . . .	(D) \$0.69 lin. ft.; (E) \$0.45 lin. ft.; (K) \$20.00 each; (O) \$3.50 cu. yd.; (L) \$30.00 per M ft. B.M.; (A.A) \$40.00 each.

EXPLANATION OF LETTERS.

- (D) 12-in. pipe sewer, excavation and refill included.
- (E) 6-in. pipe house and 10-in. pipe catch-basin drain, excavation and refill included.
- (K) Manholes.
- (O) Concrete.
- (L) Spruce lumber.
- (A.A) Catch-basins, excavation and refill included.

**Sewer Construction under the General Law.**

CONTRACT.	Awarded to	Proposal received.	Price.
Sewer and connections, Mt. Vernon st., Ward 23 . . . . .	James Dolan . . . . .	Jan. 5, 1894 . . . . .	(C) \$1.20 per lin. ft.; (D) \$1.20 per lin. ft.; (K) \$40.00 each; (L) \$5.00 per cubic yard.
Sewer and connections, Sturbridge st., River to Sanford . . . . .	Dennis O'Connell . . . . .	Jan. 5, 1894 . . . . .	(C) \$1.20 per lin. ft.; (K) \$35.00 each.
Sewer and connections, Sanford st., Ward 24 . . . . .	D. F. O'Connell & Co. . . . .	Jan. 5, 1894 . . . . .	(B) \$1.10 per lin. ft.; (D) \$1.10 per lin. ft.; (K) \$35.00 each.
Sewer and connections, Story st., G to H . . . . .	John W. Bowers . . . . .	Jan. 5, 1894 . . . . .	(D) \$1.00 per lin. ft.; (K) \$40.00 each.
Sewer and connections, Commonwealth ave., south side, Pleasant st. to a point 210 feet east of St. Paul st.,	Metropolitan Construction Co. . . . .	Jan. 23, 1894 . . . . .	(D) \$1.00 per lin. ft.; (K) \$40.00 each.

Sewer and connections, Commonwealth ave., 450 ft. east of Reedsdale st. to a point 500 ft. east of Malvern st. . . . .	Metropolitan Construction Co.	Feb. 3, 1894. . . .	(D) \$1.10 per lin. ft.; (F) \$0.12 per lin. ft.; (K) \$40.00 each.
Sewer and connections, Hunneman st., Washington st. to Harrison ave. . . . .	John W. Bowers . . . . .	Feb. 9, 1894. . . .	(C) \$1.25 per lin. ft.; (K) \$40.00 each.
Sewer and connections, Park st., W. Roxbury . . . .	John W. Bowers . . . . .	April 30, 1894. . .	(D) \$1.35 per lin. ft.; (K) \$39.00 each; (L) \$4.50 per cu. yd.
Sewer and connections, Anawan ave., W. Roxbury . .	John W. Bowers . . . . .	May 15, 1894. . . .	(D) \$1.55 per lin. ft.; (K) \$39.00 each; (L) \$4.40 per cu. yd.
Sewer and connections, Centre st., Corey to Maple, W. Roxbury . . . . .	James Dolan . . . . .	June 30, 1894. . . .	(C) \$1.25 per lin. ft.; (K) \$40.00 each; (L) \$4.00 per cu. yd.
Sewer and connections, Bellevue st., March ave. to end of existing sewer . . . . .	John W. Bowers . . . . .	July 2, 1894. . . .	(D) \$1.10 per lin. ft.; (K) \$45.00 each; (L) \$5.00 per cu. yd.
Sewer and connections, Pond st., May to Avon, W. Roxbury . . . . .	W. T. Davis . . . . .	July 6, 1894. . . .	(A) \$1.60 per lin. ft.; (C) \$1.40 per lin. ft.; (D) \$1.20 per lin. ft.; (K) \$55.00 each; (L) \$5.00 per cubic yard.
Sewer and connections, Maple st., W. Roxbury . . . .	James Dolan . . . . .	Sept. 8, 1894. . . .	(D) \$1.15 per lin. ft.; (K) \$40.00 each; (L) \$4.50 per cu. yd.
Sewer and connections, May st. . . . .	Thos. J. Young & Co. . . . .	Sept. 18, 1894. . . .	(D) \$1.10 per lin. ft.; (K) \$38.50 each; (L) \$5.00 per cu. yd.
Sewer and connections, Stockton st., Ward 24 . . . .	Andrew Carberry . . . . .	Sept. 24, 1894. . . .	(C) \$0.75 per lin. ft.; (L) \$3.75 per cubic yard.
Sewer and connections, Centre st., 700 ft. south from May st. to Lowder's lane, W. Roxbury . . . . .	Thos. J. Young & Co. . . . .	Oct. 5, 1894. . . .	(D) \$1.10 per lin. ft.; (K) \$38.50 each; (L) \$5.00 per cu. yd.
Sewer and connections, Maple st., Weld st., Station II, W. Roxbury . . . . .	James Dolan . . . . .	Oct. 24, 1894. . . .	(C) \$1.30 per lin. ft.; (K) \$67.50 each; (L) \$5.00 per cu. yd.
Sewer and connections, Tremont st., Brighton . . . .	Thos. J. Young & Co. . . . .	Oct. 24, 1894. . . .	(C) \$1.25 per lin. ft.; (D) \$1.10 per lin. ft.; (K) \$40.00 each; (L) \$5.00 per cubic yard.
Sewer and connections, Washington st., Ashmont to Dunbar, Dorchester . . . . .	Dennis O'Connell . . . . .	Nov. 12, 1894. . . .	(C) \$1.15 per lin. ft.; (K) \$38.00 each; (L) \$5.00 per cu. yd.
Sewer and connections, Pond st., Avon to Brookline ave. . . . .	James Dolan . . . . .	Dec. 3, 1894. . . .	(D) \$1.15 per lin. ft.; (K) \$40.00 each; (L) \$5.00 per cu. yd.
Sewer and connections, Bigelow st., Ward 25 . . . .	Thos. J. Young & Co. . . . .	Dec. 3, 1894. . . .	(D) \$1.65 per lin. ft.; (K) \$50.00 each; (L) \$5.00 per cu. yd.
Sewer and connections, Bigelow st., Ward 25 . . . .	Thos. J. Young & Co. . . . .	Dec. 21, 1894. . . .	(E) \$1.10 per lin. ft.; (K) \$40.00 each; (L) \$5.00 per cu. yd.

**Sewer Construction under the General Law. — Concluded.**

CONTRACT.	Awarded to	Proposal received.	Price.
Sewer and connections, Weld st., Maple to Willow, W. Roxbury . . . . .	James Dolan . . . . .	Dec. 29, 1894 . . . .	(C) \$1.50 per lin. ft.; (K) \$50.00 each; (L) \$5.00 per cu. yd.

EXPLANATION OF LETTERS.

- (A) — 24-in. pipe sewer, excavation and refill included.
- (B) — 18-in. pipe sewer, excavation and refill included.
- (C) — 15-in. pipe sewer, excavation and refill included.
- (D) — 12-in. pipe sewer, excavation and refill included.

- (E) — 10-in. pipe sewer, excavation and refill included.
- (F) — 6-in. pipe underdrain.
- (K) — Manholes.
- (L) — Rock excavation.

**Harvard Bridge.**

CONTRACT.	Awarded to	Proposal received.	Price.
Spruce lumber . . . . .	G. W. Gale Lumber Co. . . . .	Apr. 18, 1894 . . . .	\$14.25 per M ft. B.M.
Replanking . . . . .	Josiah Shaw . . . . .	May 14, 1894 . . . .	\$597.00.

## Miscellaneous Agreements.

CONTRACT.	Awarded to	Proposal received.	Price.
Pile driving, Morrison's Wharf, East Boston . . . . .	Nay & Ellis . . . . .	Mar. 17, 1894 . . . . .	\$2.50 each, driven outside of cap; \$2.75 each, driven inside of cap.
Deerfield st., sea-wall capstones . . . . .	Thos. A. Rowe . . . . .	Mar. 26, 1894 . . . . .	\$6.00 per lin. ft.
Deerfield st., sea-wall, iron railing . . . . .	G. T. McLaunthlin & Co. . . . .	June 9, 1894 . . . . .	\$1.50 per lin. ft.
Three (3) street-sweeping machines . . . . .	Universal Street Sweeping Machine Co. . . . .	July 20, 1894 . . . . .	\$950 each and \$3 per day royalty.
Culvert, Preston st., Dorchester . . . . .	Patrick J. Lyons . . . . .	Aug. 30, 1894 . . . . .	\$700.
Berwick Park footbridge. Removing footbridge over B. & A. R.R. at Aliston Station, and erecting same over N.Y., N.H., & H. R.R. at Berwick Park . . . . .	Boston Bridge Works . . . . .	July 30, 1894 . . . . .	\$1,700.
Paving with asphalt blocks, and regulating Derne st. . . . .	John Turner & Co. . . . .	Sept. 29, 1894 . . . . .	\$1.40 per sq. yd., laying asphalt blocks; \$0.25 per lin. ft. resetting edgestone; \$0.45 per sq. yd. relaying brick sidewalk.
Cable house on Congress-st. bridge . . . . .	Postal Telegraph Cable Co. . . . .	Dec. 7, 1894 . . . . .	\$100 per yr. paid to city.
Furnishing crushed stone to Park Department. . . . .	Street Department . . . . .	July 11, 1894 . . . . .	\$1.80 per ton.
Repairing Tremont st. bet. Cabot and Prentiss, bet. W. E. St. Ry. Co.'s tracks and westerly curb over trench of Brookline Gas Light Co. . . . .	. . . . .	Aug. 29, 1894 . . . . .	The Brookline Gas Light Co. agrees to pay to the city of Boston the sum of \$1,600 towards repaving this street.
Electric signals, "Draw open," City sq., Charlestown, Building culvert in City Yard, off Gibson st., Dorchester . . . . .	Blodgett Bros. & Co. . . . .	Apr. 17, 1894 . . . . .	\$400.
Furnishing edgestone . . . . .	Horace Sias . . . . .	Nov. 8, 1894 . . . . .	\$3.63 per lin. ft.
Surface drainage on account of tracks of Norfolk Suburban Street Railway Company . . . . .	Commrs of Public Institutions, . . . . .	Mar. 31, 1894 . . . . .	\$0.65 lin. ft. on wharf.
Macadamizing, catch-basins, and sewer work on Codman st., for the N.Y., N.H., & H. R.R. Co. . . . .	. . . . .	Nov. 15, 1894 . . . . .	\$500 paid to city of Boston by Norfolk Suburban Street Railway Company for doing this work.
	. . . . .	Dec. 13, 1894 . . . . .	Work done by Street Department, but paid for by the N.Y., N.H., & H. R.R. Co.

Work done by the Street Department and paid for by the West End Street Railway Company.

STREET.	Proposal received.	Prices.
Paving with granite blocks (pitch joints) on a concrete base, Washington st., Boylston st. to Elliot st. . . . .	July 5, 1894 . . . . .	Large blocks, \$74.50 per M; concrete base, \$5.00 per cu. yd.; laying paving and pitching joints, \$0.90 per sq. yd.; furnishing and preparing gravel bed, \$0.15 per sq. yd.
Paving with granite blocks (pitch joints) on a concrete base, Causeway st., Haverhill st. to Nashua st. . . . .	Aug. 15, 1894 . . . . .	Large blocks, \$74.50 per M; concrete base, \$5.00 per cu. yd.; laying paving and pitching joints, \$0.90 per sq. yd.; furnishing and preparing gravel bed, \$0.15 per sq. yd.
Paving with granite blocks (pitch joints) on a concrete base, Charles st., Pineckney st. to Cambridge st. . . . .	Sept. 20, 1894 . . . . .	Small blocks, \$40.00 per M; concrete base, \$5.00 per cu. yd.; laying paving and pitching joints, \$0.90 per sq. yd.; furnishing and preparing gravel bed, \$0.15 per sq. yd.
Paving with granite blocks (pitch joints) on a concrete base, Cambridge st., Joy st. to Bowdoin sq. . . . .	Sept. 29, 1894 . . . . .	Small blocks, \$40.00 per M; concrete base, \$5.00 per cu. yd.; laying paving and pitching joints, \$0.90 per sq. yd.; furnishing and preparing gravel bed, \$0.15 per sq. yd.

Furnishing Telford Base (as ordered).

CONTRACT.	Awarded to	Proposal received.	Price per ton.
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	Alexander McMurry . . . . .	Sept., 1894 . . . . .	\$1.15
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	H. P. Nawn . . . . .	Sept., 1894 . . . . .	1.15
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	Michael Kiernan . . . . .	Sept., 1894 . . . . .	1.15
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	Frank J. Hughes . . . . .	Sept., 1894 . . . . .	1.15
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	Cornelius McCool . . . . .	Sept., 1894 . . . . .	1.10
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	William Finneran . . . . .	Sept., 1894 . . . . .	1.10
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	William Gilligan . . . . .	Sept., 1894 . . . . .	1.10
Commonwealth ave., Arlington st. to Massachusetts ave. . . . .	James Killian . . . . .	Sept., 1894 . . . . .	0.81
Commonwealth ave., from Cross Roads to Cottage Farm bridge . . . . .	William Finneran . . . . .	Mar. 22, 1894 . . . . .	1.20
Commonwealth ave., from Cross Roads to Cottage Farm bridge . . . . .	H. P. Nawn . . . . .	Aug. 21, 1894 . . . . .	1.15
Commonwealth ave., from Cross Roads to Cottage Farm bridge . . . . .	James Killian . . . . .	Aug. 25, 1894 . . . . .	0.81
Commonwealth ave., from Cross Roads to Cottage Farm bridge . . . . .	A. McMurry . . . . .	Nov. 21, 1894 . . . . .	0.85

## EMPLOYMENT OF LABOR.

During the year ending February 1, 1895, 24 applications were made upon the Civil Service Commission for 28 employees of various grades, and 45 names were submitted by them, of which number 27 were given employment in the several divisions.

Of the 24 applications 3 were for promotions, two being allowed by the Civil Service Commission.

The rule of the Civil Service classifying bridge engineers and assistants went into effect October 1, 1894, and upon October 29, 1894, the names, rates of wages, etc., of the 17 persons so employed in the Bridge Division were forwarded to the Civil Service Commissioners. During the year 21 persons were transferred to this department from other city departments, and notices of 94 discharges from the department rolls were sent to the Commission.

The department records show that there are 2,434 persons eligible for employment in the various divisions, and of that number 2,100 were upon the pay-rolls ending January 24, 1895.

The following table shows the classification of all employees of the Street Department as at present organized :

### Grade and Number of Employees in the Street Department.

TITLE.	DIVISIONS.						Total.
	Central Office.	Paving.	Sewer.	Sani- tary.	Street- Clean- ing.	Bridge.	
Superintendent . . . . .	1						1
Deputy superintendents . . . . .		1	1	1	1	1	5
Executive engineer . . . . .	1						1
Purchasing agent and assistant . . . . .	2						2
Clerks . . . . .	1	8	5	4	1	1	20
Foremen . . . . .		12	11	4	11	3	41
Sub-foremen . . . . .		26	9	6	12	3	56
Inspectors . . . . .		6	19				25
Civil engineers . . . . .		2	3				5
Draughtsmen . . . . .			10				10
Transitmen . . . . .			2				2
Levelmen . . . . .			5				5
Rodmen . . . . .			13				13
Aids and tallymen . . . . .		2		8			10
Blacksmiths and assistants . . . . .		17	1	1	2		21
Bracers . . . . .			13				13
Bridge cleaners . . . . .						4	4
Boys . . . . .			24			2	26
Calker . . . . .						1	1
Captain . . . . .				1			1
Carpenters and assistants . . . . .		17	7		2	20	46
Coal-passers . . . . .			6				6
Draw-tenders . . . . .						21	21
Assistant draw-tenders . . . . .						33	33
Deck-hand . . . . .			1				1
Dumpers . . . . .				16	7		23
Engineers and assistants . . . . .		13	16			17	46
Feeders . . . . .				3			3
Firemen . . . . .			6				6
Gatemen . . . . .			4				4
<i>Carried forward . . . . .</i>	5	104	156	44	36	106	451



Grade and Number of Employees, etc. — *Concluded.*

TITLE.	DIVISIONS.						Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street-Cleaning.	Bridge.	
<i>Brought forward</i> . . . . .	5	104	156	44	36	106	451
Harness-makers . . . . .		2		3			5
Helpers . . . . .				171	61		232
Horse-shoers . . . . .				3			3
Hostlers . . . . .			2			1	3
Janitors . . . . .			2				2
Laborers . . . . .		389	329		149	1	868
Ledgemen . . . . .			3				3
Machinists . . . . .			2				2
Masons (stone and brick) . . . . .			31				31
Mason's tender . . . . .			1				1
Mate . . . . .			1				1
Measurers . . . . .		3					3
Messengers . . . . .	2	5	5	6	3	4	25
Oilers . . . . .			5				5
Patch pavers and assistants . . . . .		34					34
Painters . . . . .			1	2		6	9
Pilot . . . . .			1				1
Pipe-layers . . . . .			3				3
Plank-drivers . . . . .			2				2
Powdermen . . . . .		3					3
Riggers . . . . .			2				2
Stablemen . . . . .		11	4	7	6		28
Steam-drillers . . . . .		6					6
Steward . . . . .			1				1
Stone-cutters . . . . .		13	4				17
Store-keeper . . . . .			1				1
Teamsters . . . . .		67	11	153	62	2	295
Watchmen . . . . .		11	12	4	2	4	33
Weighers . . . . .		3					3
Wharfingers . . . . .		4	1				5
Yardmen . . . . .		5	2	12	3		22
Totals . . . . .	7	660	582	405	322	124	2,100

## COMPLAINTS.

The following is a complete list of all the complaints entered on the complaint book at this office since February 1, 1894 :

Whole number of complaints . . . . .	131
Divided as follows :	
Paving Division . . . . .	5
Sewer Division . . . . .	4
Sanitary Division . . . . .	97
Bridge Division . . . . .	0
Street-Cleaning Division . . . . .	8
Street-Watering Division . . . . .	17
	-----
Total . . . . .	131

BRIDGE DIVISION.

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The Northern District headquarters are located on Warren bridge, and there is ample room in the building and pier which is occupied by them for such horses and teams as are necessary for the work, and storage capacity enough for such tools, blocking, gearing, etc., as are demanded in carrying on the repairs.

The territory covered by this district on general work embraces all the bridges under the charge of the Bridge Division from Winthrop to Watertown.

The headquarters of the Southern District are located on Foundry street, and comprise an office of limited size, which is also used as a storehouse in lieu of something better, and yard room under the bridge. During the process of strengthening Broadway bridge, for its use by the electric cars, the stable and storehouse belonging to this district were entirely demolished.

A part of a stable on Dorchester avenue was rented to tide over the intervening time during rebuilding, but action on permanent location was postponed from time to time because of certain propositions of land exchanges between the Board of Street Commissioners and the Old Colony Railroad officials.

These are still in abeyance, and it is to be hoped that in the near future a definite understanding will be arrived at, as the Southern District badly needs a building and land where they can have proper accommodations for an office, stable, and storehouse. As they are situated at the present time, they have no facilities.

The territory of this district reaches from the city proper to Milton, and covers all bridges south and east of the Charles river.

Both districts have telephone connections, and both forces can be concentrated quickly whenever it is necessary.

The most important of the tide-water bridges under the care of the Bridge Division are twelve (12) in number. Of these, Chelsea North, Chelsea South, Charles river, Warren, L street, Congress street, and Broadway are operated by steam-power. Two are equipped with electricity — Dover street, which has a General Electric motor, and Federal street, which has a Thompson-Houston motor.

Malden and Mt. Washington avenue are worked by hand-power, and Meridian street by horse-power.

During the rebuilding of Dover-street bridge, Broadway and Federal street were taxed to their uttermost, and required constant attention. Warren-street bridge, in point of travel of all kinds, is the most important of all the tide-water bridges in Boston.

The establishment of the Boston & Maine R.R. freight yards on the Charlestown side of the channel has augmented the traffic on this bridge greatly, and many times it has been called upon to do the work of both Charlestown bridges. Some idea can be gained when it is considered that during the closing of Charles-river bridge not less than ten thousand vehicles, not including car service, daily used that thoroughfare. All work done on this bridge, where travel is liable to be impeded, is performed on Sundays.

Charles-river bridge has been overhauled and repaired during the year, and will relieve somewhat the immense strain on Warren bridge. A new bridge cannot be too quickly decided upon. Work is progressing rapidly on the new bridge from Chelsea to Charlestown. Chelsea-street bridge from East Boston to Chelsea is nearing completion, and will be opened for travel in a few weeks.

Malden bridge is in poor condition. Travel is increasing in that direction, and the draw is very narrow, and the draw-piers are old and entirely too short. New electric signals for Warren bridge have been erected at City square, Charlestown, to show when the draw is open.

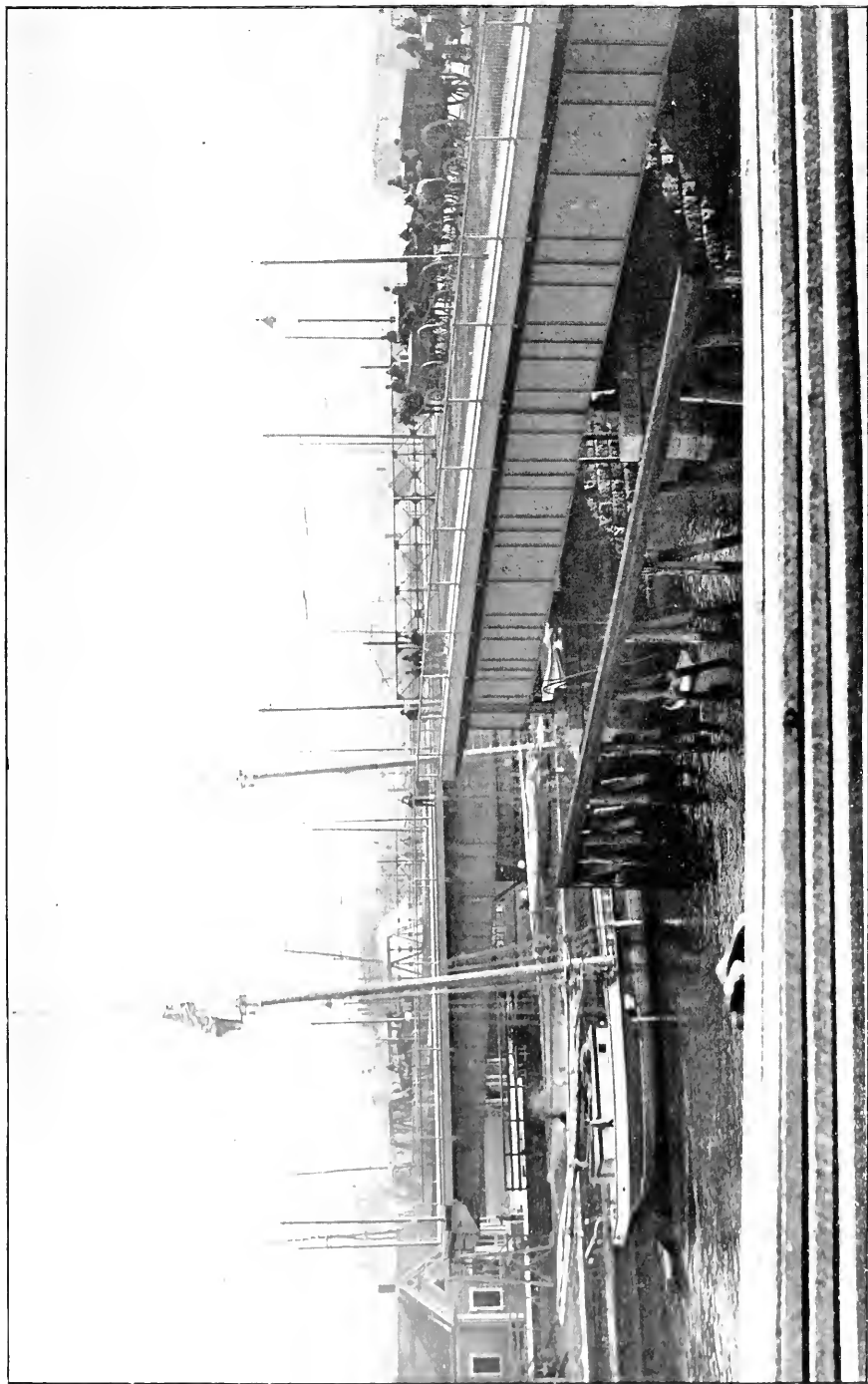
#### L-STREET BRIDGE.

During the year the L-street bridge has been opened for travel at the urgent request of many people whose interests are in that direction. On account of the roadway on the Boston end of the bridge not being paved or graded, and being very uneven, and altogether in poor condition, and from the fact that the street was not lighted, it was deemed judicious to restrict the hours of accommodation for travel from sunrise to sunset. Under even these restrictions quite a traffic has developed because of the great saving of distance to those who desire to reach the vicinity of the terminus of the bridge. Steps should be taken to put the street in proper condition for travel.

A plank sidewalk has been constructed on the Boston side for the accommodation of foot-passengers.

#### CONGRESS-STREET BRIDGE.

This is a wooden pile bridge, built in 1874-5, with an iron turn-table draw on a masonry foundation. The under-flooring of the roadbed and sidewalks is in a very bad condition, decaying fast, and steps should be taken in the near



DOVER-STREET BRIDGE OVER FORT POINT CHANNEL. — (Draw Open.)



future for a removal of such parts of the structure. The importance of this bridge to the public can best be realized, and the demands that are required for its safety and accessibility can best be estimated, from the fact that over one and a half million vehicles of every description and weight traverse it yearly. To inconvenience the public as little as possible, all work required on this bridge that might interfere with travel is performed on Sunday. During the present year new steel boilers have been constructed and set in place of the original ones, which were badly used up from a twenty years' service.

#### DOVER-STREET BRIDGE.

The new structure here has been completed, and is open for travel. The draw is equipped with electricity, furnished by a General Electric motor of twenty-five horsepower. This is the second of Boston's bridges to be thus operated, and from a three years' observation of its use on Federal-street bridge, under all conditions, we can confidently expect the same highly satisfactory results.

The draw-tenders' house has been repaired and painted, and has been moved to a proper location. The draw piers of this bridge are inadequate and not properly located. Steps should be taken to build and extend a pier on the south-easterly side of the draw sufficient to aid navigation in safely passing through.

#### MT. WASHINGTON-AVENUE BRIDGE.

The draw piers of this bridge are in bad condition, and should be rebuilt. They are so low that at times they are totally submerged at high water, and consequently then are useless, and do not fulfil their mission. They should be raised as high as practicable. The rest of the bridge is in fair condition. The draw is of iron, and is the only one of importance in the city of Boston that still continues to be operated by hand-power.

#### BROADWAY BRIDGE.

The draw pier of this bridge is badly decayed, and should be rebuilt without delay. Constant care is required to keep it from collapsing, and a decided improvement would be a continuation of the new pier on the south side to meet the northerly pier of Dover street.

The bridge is in poor condition, and requires frequent inspection and attention. The report of the Deputy Superintendent (Appendix A) gives a detailed statement of expenditures, and amount of work done on each bridge, together with much other information of a useful nature.

## CAMBRIDGE BRIDGE DIVISION.

## CRAIGIE'S BRIDGE.

The sides of the waterway for the passage of vessels through the bridge have been planked with 3-inch spruce; a bulkhead near the draw has been rebuilt. A weak point near the Cambridge end of the bridge has been strengthened, fences have been repaired, the draw sheathed, sidewalks repaired, and other ordinary repairs made by the aid of the men employed on the bridge. The flooring of the sidewalks near the Cambridge end, and the bulkhead, are in bad condition, and will be rebuilt next season.

## HARVARD BRIDGE.

The entire surface plank of the bridge has been renewed without interruption to travel. The West End Street Railway Company replanked between the rails on both tracks for the entire length of the bridge. The draw-tender and his assistants keep the sidewalks free from snow, clean the globes on the electric lights, make all ordinary small repairs on the bridge, and assist in cleaning the roadway. Experience has shown that the roadway planking will have to be renewed as often as once a year. The asphalt sidewalks on the bridge have not given satisfaction, and will be renewed for the entire length of the bridge next year by the contractors. They were laid under a guarantee of maintenance for five years, and are to be left in good condition at the end of that time.

## PRISON-POINT BRIDGE.

The house occupied by the draw-tender has been painted inside and newly papered by the draw-tender. Only ordinary repairs, such as planking and sheathing, have been made on the bridge. The draw is in bad condition and needs a thorough repairing.

The question of abolishing the grade crossing on the Boston & Maine Railroad, which adjoins this bridge, is under discussion. If this should be accomplished by carrying the highway over the railroad, it would involve the rebuilding of the bridge. For this reason, only such repairs have been made as were absolutely necessary for safety.





DOVER-STREET BRIDGE OVER FORT POINT CHANNEL. — (Draw Closed.)



## WEST BOSTON BRIDGE.

The underplank of the draw has been partly renewed, part of the waterway on side of the pier has been replanked, spurshores and braces have been bolted and spiked to the piles to keep the bridge in line. The whole length of the bridge under the planking of the roadway has been examined, and strengthened where necessary. The bulkhead at the Boston end of the draw, which has been a source of trouble for some years, has been rebuilt. The work was done between 1 A.M. and 3 P.M., on Sunday, without interruption to travel.

The ordinary repairs, such as sheathing the draw, repairing fences, renewing plank on piers, paving, etc., have been attended to. Much of this work has been done by the draw-tender and his assistants.

## IN GENERAL.

The usual statement is appended of the number of draw openings and the number of vessels which passed through; also table showing the traffic over bridges on August 15.

The amount of revenue received for dockage, rents, repairs to West End Street Railway tracks, etc., during the year, has been \$1,195.62; one-half, \$597.81, has been paid to the city of Cambridge.

**Number of Times the Draws in Canal, Harvard, Prison Point, and West Boston Bridges have been opened, and the number of Vessels which have passed through, for the year ending Jan. 31, 1895.**

DATE.	Canal.		Harvard.		Prison Point.		West Boston.	
	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.
February 1, 1894, to January 31, 1895.								
February, 1894.....	90	119	40	41	14	22	29	44
March .....	48	73	94	105	24	31	63	121
April.....	256	305	139	182	21	26	172	255
May .....	353	459	209	285	42	53	189	308
June .....	320	401	179	226	36	47	208	310
July.....	387	407	319	375	51	70	218	313
August.....	330	411	210	248	32	39	207	318
September.....	367	423	424	475	19	26	220	323
October .....	375	443	415	456	31	45	239	336
November.....	317	388	379	450	34	46	202	301
December.....	314	447	212	232	35	47	145	253
January, 1895 .....	103	148	12	18	25	32	23	34
Totals .....	3,260	4,024	2,632	3,093	364	478	1,915	2,916

**Statement showing Traffic on Bridges.**

DATE. 1894.	Bridge.	Foot-Passengers.	Teams.	Cars.	Car Passengers.	Bicycles
Aug. 15, 6 A. M. to 7 P. M.	Canal ... ..	6,682	5,045	492	12,570	104
	Harvard .....	2,115	2,771	346	9,109	1,350
	Prison Point.....	2,200	1,867	.....	.....	65
	West Boston.....	4,429	2,660	1,008	22,514	96
	Total.....	15,426	12,343	1,846	44,193	1,615

The following is a statement of the payments made by the city of Boston on account of the Canal, Harvard, Prison Point, and West Boston bridges, from February 1, 1894, to January 31, 1895 :

Amount of appropriation for financial years of 1894-95 . . . . .	\$12,000 00
Amount expended to January 31, 1895 . . . . .	11,986 85
Unexpended balance . . . . .	<u>\$13 15</u>

### Classification of Expenses.

1894.	Canal Bridge.	Harvard Bridge.	Prison-Point Bridge.	West Boston Bridge.	General Account.	Total.
Salaries of draw-tenders and assistants .....	\$1,140 00	\$1,271 00	\$229 11	\$1,250 00		\$3,890 11
Lumber .....	371 10	1,236 63	84 62	367 77		2,060 12
Electric lighting .....	287 52	1,144 51		517 49		1,949 52
General repairs .....	392 71	383 91	121 46	380 50		1,278 58
Inspection .....	180 00	157 50	30 00	135 00		502 50
Cleaning bridges .....	218 56	39 83		218 79		477 18
Ironwork .....	124 44	149 52	45 37	78 78		398 11
Sundries .....	103 02	122 46	23 20	97 27		345 95
Fuel .....	134 31	13 46		98 66		246 43
Electric current for motor.. ..		150 00				150 00
Watering roadways .....	62 50			62 56		125 00
Tools and hardware .....	36 77	38 68	13 20	26 94		115 59
Electric light, repairs, etc. . . . .		50 18				50 18
Water rates .....	16 00		5 50	11 00		32 50
Salaries .....					\$250 00	250 00
Travelling expenses .....					67 50	67 50
Printing and stationery .....					47 58	47 58
Totals .....	\$3,066 93	\$4,757 68	\$552 46	\$3,244 70	\$365 08	\$11,986 85

## PAVING DIVISION.

The following table shows the length of public highways and the character of pavements, February 1, 1895 :

## Length in Miles.

	Sheet Asphalt.	Asphalt Blocks.	Block.	Brick.	Cobble.	Telford and Macadam.	Gravel.	Not graded.	Total.
In previous Report.	5.66	0.81	77.68	0.36	3.52	211.73	136.00	11.89	447.65
February 1, 1895.									
City Proper.....	5.26	0.85	*42.13	0.42	2.92	28.05	0.61	.....	80.24
Charlestown .....	0.03	.....	8.74	.....	.....	13.77	0.03	0.06	22.63
East Boston.....	.....	.....	4.38	.....	0.17	3.05	19.18	0.18	26.96
South Boston .....	0.53	.....	11.92	.....	0.05	22.09	1.88	4.03	40.50
Roxbury.....	0.37	.....	8.06	.....	0.01	55.81	14.04	3.03	81.32
W. Roxbury.....	.....	.....	0.09	.....	.....	32.92	41.25	2.17	76.43
Dorchester ..	.....	.....	3.47	.....	.....	47.23	33.24	2.08	86.02
Brighton.....	.....	.....	.....	.....	.....	16.97	18.87	2.18	38.02
Total .....	6.19	0.85	78.79	0.42	3.15	219.89	129.10	13.73	452.12

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

\*Of this amount 2.70 miles = granite-block paving on concrete with pitched joints.

Total length of public streets, 452.12 miles.

There have been laid out and accepted by the Street Commissioners during the year 6.19 linear miles; many square feet have been discontinued without changing the mileage; 1,208.61 linear feet have been discontinued; corrections to previous measurements on account of abolishing grade crossings, and surrender of streets to the Park Department, show a decrease of 1.49 miles; making a total net increase of 4.47 miles. Street widenings have been ordered to the extent of 1,025,329 square feet.

Not included in the above table, there are about 142 miles of private ways and alleys which are not under the care of this department.

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

1859.....	111.50 miles.	1883.....	367.99 miles.
1871.....	201.32 "	1884.....	874.10 "
1872.....	207.4 "	1885.....	379.60 "
1873.....	209.24 "	1886.....	383.55 "
1874.....	313.90 "	1887.....	390.30 "
1875.....	318.58 "	1888.....	392.72 "
1876.....	327.50 "	1889.....	397.84 "
1877.....	333.2 "	1890.....	404.6 "
1878.....	340.39 "	1891.....	409.6 "
1879.....	345.19 "	1892.....	434.59 "
1880.....	350.54 "	1893.....	443.34 "
1881.....	355.5 "	1894.....	447.65 "
1882.....	359.85 "	1895.....	452.12 "

### Areas of Pavements.

The following table shows the areas of pavements in square yards, arranged by districts:

	Asphalt	Block.	Brick.	Cobble.	Telford and Macadam.	Gravel.	Not graded.	Totals.
Feb. 1, 1894.	111,147	1,677,451	3,638	41,706	3,877,758	2,245,034	219,128	8,175,862
Feb. 1, 1895.								
City Proper,	*107,113	†902,699	5,166	31,896	523,651	11,221	.....	1,581,746
Charlest'n..	421	197,366	.....	.....	205,112	161	1,413	404,473
E. Boston..	.....	100,361	.....	3,470	69,569	355,258	3,555	532,213
S. Boston ..	7,620	251,619	.....	1,192	383,629	38,365	83,599	766,024
Roxbury ..	6,559	171,993	.....	408	1,005,520	228,745	94,280	1,507,505
W. Roxb'y.	.....	2,067	.....	.....	566,903	639,671	32,321	1,240,962
Dorchester,	.....	74,594	.....	.....	840,059	545,642	78,600	1,536,895
Brighton ..	.....	.....	.....	.....	403,356	306,397	80,909	790,662
Total ....	121,713	1,700,699	5,166	36,966	3,997,799	2,245,034	374,677	8,360,480

\* Of this amount, 14,208 sq. yds. = asphalt blocks.

† Of this amount, 54,121 sq. yds. = granite-block paving on concrete with pitched joints.

Total area of public streets, 8,360,480 sq. yds.

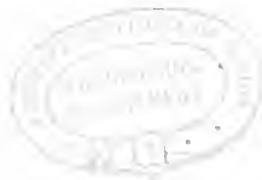
**Edgestones and Sidewalks—New Edgestones. (Lin. ft. set.)**

YEAR.	City Proper.	Roxbury.	South Boston.	East Boston.	Dorchester.	West Roxbury.	Brighton.	Charlestown.	Total.	
Laid under the law of 1872.	1881..	6,294	8,328	6,304	443	13,112	1,314	263	794	36,852
	1882..	3,398	10,930	4,190	2,119	8,235	5,454	5,543	1,595	47,464
	1883..	2,763	7,306	4,660	98	2,467	4,381	1,895	.....	21,570
	1884..	4,691	9,733	6,189	2,450	18,310	4,610	106	696	46,785
	1885..	5,291	4,644	2,538	1,233	4,976	1,952	303	546	21,583
	1886..	5,790	8,978	2,463	349	11,051	2,451	737	174	31,995
	1887..	3,222	10,192	4,269	436	5,229	2,726	2,055	223	28,352
	1888..	4,359	5,191	4,531	971	5,051	580	867	.....	21,550
	1889..	2,946	13,224	2,139	1,419	6,794	10,404	1,845	573	39,344
	1890..	2,781	11,475	4,946	981	9,882	3,288	3,042	988	37,383
	1891..	8,236	22,693	11,724	4,131	18,138	4,617	2,032	2,227	73,798
	1892..	9,222	25,506	9,631	11,233	56,859	9,970	9,001	2,804	114,231
	1893..	1,118	14,979	4,375	1,969	10,587	4,795	3,981	.....	41,804
	1894..	1,916	39,324	521	816	6,544	1,568	1,323	694	52,706
Total...	<b>62,027</b>	<b>192,503</b>	<b>68,480</b>	<b>28,753</b>	<b>157,235</b>	<b>58,110</b>	<b>32,993</b>	<b>11,314</b>	<b>611,415</b>	



## Brick Sidewalks. (Sq. yds. set.)

YEAR.	City Proper.	Roxbury.	South Boston.	East Boston.	Dorchester.	West Roxbury.	Brighton.	Charlestown.	Total.	
Laid under the law of 1872.	1881..	5,207	11,491	3,961	893	337	1,096	381	159	23,525
	1882..	5,905	7,510	4,984	1,658	179	1,834	117	887	23,074
	1883..	4,392	7,675	4,794	1,095	2,795	3,354	.....	177	24,282
	1884..	4,870	7,279	4,437	1,616	4,902	954	.....	739	24,797
	1885..	4,756	3,896	1,473	727	892	479	46	342	12,606
	1886..	5,273	5,285	2,112	1,002	2,843	.....	58	527	17,100
	1887..	5,970	7,693	3,768	1,500	1,348	643	.....	56	20,978
	1888..	2,540	6,910	3,164	1,110	614	346	.....	75	14,759
	1889..	4,835	10,489	1,942	1,362	638	124	138	.....	19,528
	1890..	4,913	7,651	1,915	1,947	1,155	274	900	791	19,546
	1891..	3,881	9,098	3,628	2,176	1,478	967	377	120	21,725
	1892..	10,423	20,231	4,484	12,847	10,462	2,905	1,068	3,451	65,871
	1893..	964	5,912	751	2,197	2,412	350	.....	175	12,761
	1894..	1,537	11,533	2,706	2,115	453	834	.....	437	19,615
Total..	65,466	122,653	44,119	32,240	30,508	14,160	3,085	7,936	319,882	



**Full List of Streets now Paved with Trinidad Asphalt.  
City Proper.**

Name.		Length. Feet.	Area. Sq. yds.
Albany st. ....	From East Concord st. to East Springfield st.....	450	2,700
Arch st. ....	From Franklin st. to Milk st.....	426	1,267
Ash st.....	From Bennet st. to 220 ft. north of Oak st. ....	230	409
Barton court.....	From Brighton st. to Barton st.....	134	179
Beacon st. ....	From Charles st. through Arlington st.....	870	3,800
“ “ .....	From Dartmouth st., within 150 ft. of Gloucester st..	1,744	9,277
“ “ .....	From 68 ft. of Gloucester st. to Massachusetts ave....	1,019	5,391
Bennet st. ....	From 90 ft. west of Harrison ave. to 162 ft. east of Washington st.....	180	300
Brattle square.....	From Brattle st. to Elm st.....	281	670
Brighton st.....	From Leverett st. to Allen st. ....	845	1,737
Central st. ....	From Broad st. to Kilby st.....	313	869
Chambers st.....	From Green st. through Poplar st.....	460	1,050
Charter st. ....	From Hanover st. to Unity st. ....	318	636
Cherry st.....	From Washington st. to Shawmut ave.....	334	594
Clark st. ....	From Hanover st. toward North st.....	120	227
Columbus ave.....	From B. & A. R.R. bridge through Massachusetts ave..	3,505	15,578
Congress square....	From State st. through P. O. ave.....	110	160
Cooper st.....	From North Margin st. to Endicott st. ....	166	516
“ “ .....	From Endicott st. to Charlestown st. ....	200	600
Court st.....	From Washington st. to Court square.....	231	642
Court square.....	From Court st. to Court st.....	665	1,883
Davis st.....	From Washington st. to Harrison ave.....	323	646
Dartmouth st.....	From Boylston st. to Newbury st. ....	266	2,058
Doane st. ....	From Kilby st. to Broad st.....	312	624
Endicott st.....	From Cooper st. through Thacher st. ....	312	1,005
Exchange place ....	From Congress st. to Kilby st.....	244	678
Groton st.....	From Washington st. to Shawmut ave. ....	335	558
Hanover ave.....	From Hanover st. to North st. ....	307	266
Harrison ave. ....	From East Newton st. to East Springfield st. ....		1,464
“ “ .....	From East Springfield st. to Roxbury line .....		130
Hollis st.....	From Tremont st. toward Washington st.....	276	521
Hudson st.....	From Beach st. to 90 ft. of Curve st. .... (Minus Kneeland and Harvard sts.)	1,407	3,938
Indiana place ....	From Shawmut ave. to Washington st. ....	343	686
Kilby st.....	From State st. to Milk st.....	648	2,628
Malcolm st. ....	From Mt. Vernon st. to Chestnut st. ....	281	290

Streets Paved with Trinidad Asphalt. — *Concluded.*

## City Proper.

Name.		Length. Feet.	Area. Sq. yds.
Massachusetts ave..	From Tremont st. to Columbus ave., S'y road.....	534	1,621
“ “ ..	From Tremont st. to Shawmut ave. “ .....	940	2,934
“ “ ..	From Shawmut ave. to Washington st. “ .....	710	994
Moon st. ....	From between North square and Fleet st. ....	182	384
North Bennet st. ..	From Hanover st. to Salem st. ....	552	920
Parmenter st. ....	“ “ “ .....	279	764
Poplar st. ....	From Chambers st. to Charles st. ....	1,188	2,442
Stillman st. ....	From between Salem st. to Endicott st. (on cobble)..	150	417
Stoddard st. ....	From Howard st. to Court st. (on cobble).....	135	150
Sun-court st. ....	From North st. to Moon st. ....	151	218
Taylor st. ....	From Dwight st. to Milford st. ....	193	300
Thacher st. ....	From Charlestown st. to Endicott st. ....	203	562
Tileston st. ....	From between Hanover st. and Salem st. ....	254	338
Warrenton st. ....	From Eliot st. to Tremont st. ....	670	1,587
“ “ ..	From Shawmut ave. to Washington st. ....	468	910
Water st. ....	From Congress st. through Battery-march st. ....	325	975
Wiggin st. ....	From North Bennet st. to Tileston st. ....	107	119

## South Boston.

D st. ....	From West Fifth st. to Gold st. ....	126	448
E st. ....	From Third st. to Bolton st. ....	111	419
Rogers st. ....	From Dorchester st. to Preble st. ....	360	480
West Sixth st. ....	From west of C st. toward D st. ....	95	316
West Third st. ....	From west of E st. through E st. ....	185	769

## Roxbury.

Cabot st. ....	From Tremont st. to Vernon st. ....	1,955	6,559
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## Charlestown.

Austin st. ....	From between Seminary place to Lawrence st. ....	144	421
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**Streets Paved with Sicilian Rock Asphalt.  
City Proper.**

Name.		Length. Feet.	Area. Sq. yds.
Charles st. ....	From between Revere st. to Cambridge st. ....	191	225
Decatur st. ....	From Washington st. to Harrison ave. ....	370	781
Dwight st. ....	From Shawmut ave. to Tremont st. ....	716	781
Fay st. ....	From Dover st. to Harrison ave. ....	318	560
Mason st. ....	From point 213 feet south of West street, a distance of 231 feet southerly .....	231	480
Massachusetts ave..	From Washington st. to Albany, Southerly road (un- finished) .....	1,224	4,151
Motte st. ....	From Harrison ave. to Washington st. ....	332	516
Pemberton sq. ....	In front of Court House. ....	323	1,365

**South Boston.**

Athens st. ....	From B st. to C st. ....	515	746
W. Broadway. ....	From 206 ft. east of easterly line of Dorchester ave. to A st. ....	350	1,944
W. Broadway. ....	From Gardner pl. to 150 ft. east. ....	150	648

**Streets Paved with Granite Blocks, Pitch, and Pebble  
Joints, on an American Concrete Base.  
City Proper.**

Name.		Length. Feet.	Area. Sq. yds.
Bedford st. ....	From Chauncy st. to Columbia st. ....	480	1,650
Cambridge st. ....	From Bowdoin sq. through Joy st. ....	741	2,347
Causeway st. ....	From Nashua st. to Haverhill st. ....	692	3,807
Chardon st. ....	From Bowdoin sq. to Merrimac st. ....	738	2,578
Charles st. ....	From Beacon st. to Pinckney st. ..	964	3,856
“ .....	From Pinckney st. through Revere st., one side. ....	243	486
“ .....	From between Revere st. to Cambridge st. ....	411	844
Court st. ....	From Court sq. to Scollay sq. ....	100	267
Devonshire st. ....	From State st. to Milk st. ....	650	2,133
Eliot st. ....	From Washington st. to Pleasant st. ....	1,183	4,634
Exchange st. ....	From State st. to Dock sq. ....	335	589
Harrison ave .....	From Beach st. toward Essex st. ....	338	2,146
India st. ....	From State st. to Central st. ....	126	921
Kingston st. ....	From Summer st. to Bedford st. ....	308	933
School st. ....	From Washington st. to Tremont st. ....	570	1,298
Tremont st. ....	From Scollay sq. to Boylston st. ....	2,826	12,675
Washington st. ....	From Cornhill through Eliot st. ....	3,504	12,967

The following statement of the City Engineer contains the main features of the special work of construction assigned to him by this department for engineering supervision :

CITY OF BOSTON, ENGINEERING DEPARTMENT,  
50 CITY HALL, January 31, 1895.

MR. B. T. WHEELER, *Superintendent of Streets* :

SIR: I herewith submit the following report of the work done under my direction for the Street Department during the year 1894.

The following are the principal items of work done :

Block-stone paving, on a concrete base, laid with pitch joints, 12,349.5 square yards, at an average cost of about \$4.75 per square yard.

Block-stone paving, on a gravel base, laid with pitch joints, 5,410 square yards, at an average cost of about \$3.50 per square yard.

Block-stone paving, on a gravel base, with gravel joints, 34,617 square yards, at an average cost of about \$3.00 per square yard.

Trinidad sheet asphalt, with a binder course of asphaltic cement concrete, on a concrete base, 4,577.6 square yards, at an average cost of about \$3.75 per square yard.

Sicilian rock asphalt, on a concrete base, 2,392.5 square yards, at an average cost of about \$3.75 per square yard.

Edgestone set, 48,678 lin. ft. ; brick sidewalk laid, 17,119 square yards ; flagging crosswalk laid, 2,361 square yards.

The following is a statement of the streets paved, for which plans were made, lines and grades given, and the work supervised :

*Albany Street.* — From Broadway to Lehigh street was paved with old granite blocks on a gravel base ; the blocks used were the best of those removed from Charles street, the street was sub-graded, and the gutters removed by P. F. Lonergan ; the paving, resetting of edgestone, and relaying of brick sidewalks was done by the Paving Division. The surface removed was macadam.

*Arlington Street.* — From Beacon to Marlborough street was paved with vitrified brick on a concrete base ; the street was sub-graded by J. J. Sullivan, the gutters removed by James Dolan ; the concrete base was put down and street paved by The Interstate Vitrified Brick and Paving Company, of New Jersey, at their own cost. The edgestones were reset and the brick sidewalk relaid by James Grant & Co. The surface removed was macadam.

*Austin Street* (Charlestown). — From Washington street to Fitchburg Railroad crossing was paved with granite blocks on a gravel base; the sub-grading was done by the Paving Division. The street was paved, the edgestones reset, the brick sidewalk and the crosswalks relaid by John Turner & Co. The surface removed was old granite blocks.

*Barton Court*. — From Barton to Brighton street was paved with Trinidad asphalt, with a binder layer of asphaltic cement concrete on the existing cobble-stone pavement, by the Barber Asphalt Paving Company.

*Blue Hill Avenue*. — From Dudley street to 80 feet north of Dalmatia street was paved with large granite blocks on a gravel base; the sub-grading was done by the Paving Division. From Dudley to Moreland street the street was paved, the edgestone reset, and the brick sidewalks and crosswalks relaid by the Paving Division.

From Moreland street the paving was done by D. N. Payson. Two new catch-basins were built on the easterly side, one at Stafford street and one at Devens street. The surface removed was macadam.

*Bowker Street*. — From Chardon to Sudbury street was paved with large granite blocks on a gravel base, with pitch joints. The old pavement was removed and the street was sub-graded by the Paving Division. The street was paved, the edgestones reset, and the brick sidewalks relaid by James Grant & Co. The West End Street Railroad Company, by agreement, paid for an amount of paving equivalent to the area previously occupied by their tracks. The pavement removed was cobble-stone.

*Cambridge Street*. — From Joy street to Bowdoin square was paved with large granite blocks on a concrete base, with pitch joints; the old block pavement was removed, and sub-grading done by S. & R. J. Lombard; the blocks and material excavated became the property of the contractor. The concrete base was put down by the Metropolitan Construction Company, the street was paved, the edgestones reset, and the brick sidewalks and granite flagging crosswalks relaid by James Grant & Co. The West End Street Railway Company agreed to pay for the work done between the rails of their tracks, which work was done in a similar manner to the rest of the street, by H. Gore & Co. The pavement removed was old granite blocks.

*Causeway Street*. — From west side of Nashua to east side of Haverhill street was paved with large granite blocks on a concrete base; the sub-grading was done by the Paving Division, the concrete base was laid by the Metropolitan Construction Company, the street was paved, the edge-

stones reset, and the brick sidewalks and granite flagging crosswalks relaid by J. Grant & Co.

There were four new catch-basins built on the northerly side of the street. The pavement removed was old granite blocks. The roadway was widened on the northerly side about 10 feet, by removing the old brick sidewalk, and using the space in front of the new Union Station for a sidewalk; the roadway was also improved by removing one of the West End Railway tracks between Portland street and Canal street and moving the other track over to the northerly curb. A granolithic sidewalk was laid in front of the old Lowell Station by the Warner H. Jenkins Company.

*Chambers Street.* — From Green to Poplar street was resurfaced with Trinidad asphalt on the old cobble-stone pavement by the Barber Asphalt Paving Company. The surface removed was old Trinidad asphalt.

*Chapman Street* (Charlestown). — From Austin street to Rutherford avenue was paved with large granite blocks on a gravel base, the bed was prepared by the Paving Division, the street was paved, the edgestones reset, and the brick sidewalks and flagging crosswalks relaid by J. Turner & Co. The pavement removed was old granite blocks.

*Charles Street.* — From Pinckney to Cambridge street, on the westerly side, except in front of the Eye and Ear Infirmary, was paved with large granite blocks laid with pitch joints on a concrete base; the old pavement was removed and the street sub-graded by P. O'Riordan and by the Paving Division. The best of the old blocks were used on Albany street, from Broadway to Lehigh street. The concrete base was laid by the Metropolitan Construction Company. The paving, including the westerly track of the West End Street Railway, the edgestone resetting, the brick sidewalk and granite flagging crosswalk relaying was done by F. H. Cowin. The West End Street Railway by agreement paid for the work done in their track. It was intended to pave the street in front of the Eye and Ear Infirmary with Sicilian rock asphalt, but on account of unfavorable weather the work had to be postponed; this part of the street was made passable by putting in crushed stone temporarily. The pavement removed was old granite blocks.

*Charter Street.* — From Hanover to Unity street was surfaced with two feet of Trinidad asphalt and binder on the cobble-stone base by the Barber Asphalt Paving Company; the cobble-stone base was regulated, the edgestones reset, and the brick sidewalk flagging crosswalks relaid by James Grant & Co. The former pavement was cobble-stone.

*Court Square.*—The easterly and southerly roadways were resurfaced with Trinidad asphalt and binder on a concrete base by the Barber Asphalt Paving Company. The old concrete base having been found to be poorly graded, and it not being deemed expedient to relay the same, considerable extra work had to be done in order to shape the binder so as to give a proper crown to the street.

*Commonwealth Avenue.*—From Arlington street to Massachusetts avenue, see page 60.

*Dartmouth Street.*—From Boylston street to Newbury street was paved with Trinidad asphalt on a concrete base by the Barber Asphalt Paving Company. The sub-grading was done by J. J. Sullivan; the concrete base was laid by the Metropolitan Construction Company. The edgestone was reset in part and the brick sidewalk relaid by H. Gore & Co. The original intention was to pave the street from curb to curb with asphalt, but the West End Street Railway was allowed to pave with granite blocks between the rails of their track, until the horse cars now running there are replaced by electrics. The former surface was macadam.

*Derne Street.*—From Hancock to Temple street was paved with Hastings asphalt blocks on a base of crushed stone, by J. Turner & Co. The sub-grading was done, the edgestone was reset (north side), and the brick sidewalk (north side) was relaid by J. Turner & Co. The cobblestone, old edgestone, and material excavated became the property of the contractor. On the southerly side of the street the State House Commissioners put in a combination granite curb and gutter and a granolithic sidewalk. One catch-basin was rebuilt at the corner of Hancock street; the former pavement was cobble-stone.

*East Eighth Street.*—From Old Harbor to G street (north side) and G to H street, on both sides of the railroad track, was paved with large granite blocks on a gravel base. The sub-grading was done by the Paving Division, and the street paved, edgestones reset, brick sidewalk and flagging crosswalks relaid by H. Gore & Co. The former surface was macadam.

*East Second Street.*—From I to K street was paved with large granite blocks on a gravel base; the sub-grading was done by the Paving Division, and the street paved, edgestone reset, brick sidewalk and flagging crosswalk relaid by H. Gore & Co. The former surface was macadam.

*Essex Street.*—From Harrison avenue to Kingston street was paved with large granite blocks on a gravel base, with pitch joints; the sub-grading was done by the Paving Division, and the street paved, edgestone reset, brick sidewalk



and flagging crosswalk relaid, by Doherty & O'Leary. The former pavement was old granite blocks. The street was widened to a uniform width of fifty feet.

*Essex Street.* — From Kingston to South street was paved with large granite blocks on a gravel base, partly with pitch joints and partly with gravel joints. The sub-grading was done by the Paving Division, and the edgestone reset, brick sidewalks and flagging crosswalks relaid, by A. A. Libby & Co. The former pavement was old granite blocks. This street was widened to a uniform width of fifty feet.

*Fay Street.* — From Dover street to Harrison avenue was surfaced with Sicilian rock asphalt on the existing cobble-stone pavement, by H. Gore & Co. This work was commenced in 1893. (See report of Superintendent of Streets for 1893.)

*Harrison Avenue.* — From Beach to Essex street; from Beach street 200 feet toward Essex street was paved with large granite blocks on a concrete base with pitch joints. The rest of the street was paved temporarily until the West End Street Railway can obtain and put in new special work. The concrete base was put in by the Metropolitan Construction Company; the rest of the work was done by the Paving Division. The work done was necessitated by the widening of the avenue. The former pavement was old granite blocks.

*Lewis-Street Extension.* — From North to Moon street was paved with granite blocks on a gravel base. The sub-grading was done by the Paving Division, and the paving was done, edgestone set, brick sidewalk and flagging crosswalks laid, by P. W. Hernon. One new catch-basin was built at the corner of North street. This extension was laid out in 1893.

*Mason Street.* — At Boston and Bijou theatres was surfaced with Sicilian rock asphalt on cobblestone base with binder, by H. Gore & Co. The base was regulated, the edgestone reset, and the brick sidewalks relaid by Paving Division. The former pavement was cobble-stone.

*Massachusetts Avenue.* — The southerly roadway, from Washington to Albany street, was to have been surfaced with Sicilian rock asphalt on a concrete base by H. Gore & Co., but only about 275 feet from Washington street was laid, when the weather became so unfavorable on account of the lateness of the season, that work had to be suspended. The excavating to sub-grade and removing of gutters was done by J. J. Sullivan. The concrete was put down by the Metropolitan Construction Co.; the edgestones reset and the brick sidewalk relaid by H. Gore & Co. A granolithic sidewalk in front of the City Hospital building was laid by

Simpson Bros. The centre parkway was extended about 130 feet to within 16 feet of Albany street, and a driveway was built across it opposite the entrance to the Hospital. The uncompleted roadway between Washington street and Harrison avenue was made passable by covering the concrete with crushed stone; the part between Harrison avenue and Albany street was closed to travel, and the concrete covered with seaweed to protect it from the frost. Nine new catch-basins were built between Harrison avenue and Albany street, — four on the northerly roadway and five on the southerly roadway, — and one was rebuilt at the corner of Albany street. The former surface was macadam.

*Park Street and City Square, Charlestown.* — The paving on this street, which was not completed in 1893, was finished in April of the present year.

*Pemberton Square.* — In front of the new Court House was surfaced with Sicilian rock asphalt on a concrete base, by H. Gore & Co. In the southerly corner, where the teams of Houghton & Dutton are loaded, the square was paved with large granite blocks on gravel base with pitch joints, by J. Grant & Co. The concrete base was laid by the Metropolitan Construction Company. The excavation to sub-grade was done by the Paving Division; the old gutter paving removed by J. Dolan; the edgestone reset by J. Grant & Co.; a granolithic sidewalk was laid on the westerly side of the square, and on part of the easterly side, by Simpson Bros.; and five new catch-basins were built. The former pavement was macadam. The old planting space in the square, containing four trees, was removed, the edgestone in front of the Court House was laid out in a circular arc, very nearly concentric with the edgestone on the opposite side of the roadway, making a roadway about 36 feet wide; at the back of the sidewalk was placed a curb of special design, between which and the building it is intended to make a grass plot.

*Ruth-Street Extension.* — This way or foot-path is in East Boston, and serves to connect Webster street and Marginal street, which are parallel streets, about 240 feet apart, but with a difference of level at this point of about 45 feet. The extension is about 138 feet long and 11½ feet wide. It consists of 7 flights of artificial stone steps connected by platforms of the same material. An additional flight of 13 steps connects Brigham street with Ruth street. The artificial stone work was done by Simpson Bros., at a cost of \$2,122.93. The iron railing and fence work was furnished by G. T. McLauthlin & Co., and cost \$554.97. The excavation, foundations, stone retaining-walls, and wooden fences were furnished by the Street Department. This is the first



ARTIFICIAL STONE STEPS — RUTH STREET, E. BOSTON.



example of the use of "artificial stone" on any considerable scale that the city has yet made. It is used here for walks, steps, and retaining-walls. It makes a fine-looking job, and thus far the experience has been satisfactory.

*Utica Street.* — From Kneeland street to the angle was paved with large granite blocks on a gravel base, by the Paving Division. About 350 square yards of the old cobblestone were removed by J. Dolan, the rest by the Paving Division. The edgestone, brick sidewalks, and crosswalks were relaid by the Paving Division. One new catch-basin was built. The former pavement was cobble-stone.

*Washington Street.* — From Essex to Eliot street was paved with large granite blocks on a concrete base with pitch joints, by H. Gore & Co. The old block paving was removed to Commonwealth avenue beyond Harvard avenue, by O. Doherty. The sub-grading was done by the Paving Division, and the edgestone reset, brick sidewalks and granite flagging crosswalks relaid, by H. Gore & Co.

The West End Street Railway, by agreement, paid for the work done between the rails, which work was done in a similar manner to the rest of the street. Two new catch-basins were built. The former pavement was old granite blocks.

#### GRADING STREET-RAILWAY TRACKS.

The work of properly grading street-railway tracks to fit a permanent surface of the street has been continued. This requires much labor, and it seems proper that the railway company should bear a portion of the cost of so doing. This has been arranged by requiring a survey of the street surface, with levels, to be made by the railroad engineers in all cases where street construction work has not been ordered by the Street Department. The grades for the tracks are then established and blue-prints of the working plans are furnished the railroads.

The following tracks have been graded :

#### WEST END STREET RAILWAY.

*Bowdoin Street.* — From Washington street to Geneva avenue.

*Cambridge Street.* — From Joy street to Bowdoin square.

*Causeway Street.* — From Billerica through Haverhill street.

*Centre Street.* — From Cedar to Pynchon and Cedar to Eliot square.

*Central Square.* — East Boston.

*Charles Street.* — From Pinckney to Cambridge street.

*Clarendon Street.* — Across Commonwealth avenue.

*Commonwealth Avenue.* — From Beacon street to Cottage Farm bridge and St. Paul street to near Malvern street.

*Dartmouth Street.* — From Boylston to Newbury street and across Commonwealth avenue.

*Dover Street.* — From 200 feet west of Albany street to Dover-street bridge.

*Eagle Street.* — From junction of Lexington street to new car-house.

*Essex Street.* — From Harrison avenue to Kingston street.

*Harrison Avenue.* — From Essex to Beach street.

*Huntington Avenue.* — From 2,950 feet south of Gainsborough to Tremont street.

*Lexington Street.* — From Meridian to Marion street.

*Lexington Street.* — From Eagle to Prescott street.

*Meridian Street.* — From Central square to Chelsea street.

*Prescott Street.* — From Lexington to Saratoga street.

*Tremont Street.* — At Huntington avenue.

*Warren Street.* — From Elm Hill avenue to Brunswick street.

*Washington Street.* — From Boylston to Hollis street and Boston & Albany Railroad bridge to Warrenton street.

*West Fourth Street.* — From Dover-street bridge through Dorchester avenue.

#### NORFOLK SUBURBAN STREET RAILWAY.

*Hyde Park Avenue.* — From Hyde Park line to Forest Hills.

#### QUINCY & BOSTON STREET RAILWAY.

*Neponset Avenue.* — At Neponset bridge.

Surveys, plans, and estimates for improving and paving the following streets have been made; construction not yet commenced :

*Albany Street.* — From old East Springfield to Northampton street.

*Arlington Street.* — From Marlborough through Commonwealth avenue.

*Ash Street.* — From Oak to Nassau street.

*Austin Street.* — From Fitchburg Railroad crossing to Prison-point bridge.

*Bartlett Street.* — From Washington street about 500 feet westerly.

*Bennington Street.* — From Wordsworth to Saratoga street.

*Chelsea Street.* — From Bennington to Saratoga street.

*Congress Street.* — From Atlantic avenue to Congress-street bridge.

*Court Avenue.* — And Corn Hill court.

*Dartmouth Street.* — From Warren avenue to Columbus avenue.

*Harrison Avenue.* — From Beach to Kneeland street.

*Harrison Avenue.* — From Dudley to Warren street.

*Harrison Avenue.* — From East Springfield to Northampton street.

*Massachusetts Avenue.* — From Washington to Albany street (northerly roadway).

*Merchants Row.* — From State to South Market street.

*Milk Street.* — From Washington to Congress street.

*Northampton Street.* — From Harrison avenue to Albany street.

*North Margin Street.* — From Cooper to Stillman street.

*Norway Street.* — From Massachusetts avenue to Falmouth street.

*Oxford Street.* — From Beach to Essex street.

*State Street.* — From Merchants row to India street.

*Washington Street.* — From Hollis to Boston & Albany Railroad bridge.

*Water Street.* — From Washington to Devonshire street.

#### MISCELLANEOUS WORK.

*Essex and Lincoln Streets.* — On February 7, 1894, a contract was made with A. A. Elston to take down the old building standing upon the widening of the above-named streets, and upon the estate of John Farlow, for the sum of \$1,425, which work was satisfactorily completed.

*West End Street Railroad Co.* — The tracks of the above company were removed from the following streets, and the cost of repaving the same with granite blocks on a gravel base with pitch joints was paid by the company. Measurements of the areas of paving, to be so paid for, were made and returned.

*Bowker Street.* — From Chardon to Sudbury street.

*Broad Street.* — From Wharf to Franklin street.

*Fleet Street.* — From Hanover to Commercial street.

*Foundry Street.* — From Division to W. Fourth street.

*Franklin Street.* — From Broad through Congress street.

*High Street.* — From Engine-house to Oliver street.

*Milk Street.* — From Oliver to Congress street.

*Oliver Street.* — From High to Milk street.

Surveys and plans were made for work upon the following

streets; grades and lines were given, but the work of construction was not supervised by this department:

*Dartmouth Street.* — From Tremont street to Warren avenue was paved with old granite blocks from Dover and Albany streets; a plan was prepared and lines and grades given for paving, resetting edgestones, relaying brick sidewalks and flagging crosswalks, the work being done by the Paving Division. The West End Street Railway tracks were not regraded. The former surface was macadam.

*Tufts Street.* — From Kingston to Lincoln street was repaved with granite blocks, gravel base. A plan was prepared and lines and grades given. The work of paving the roadway, resetting the edgestone, relaying the brick sidewalks and flagging crosswalks, was done by the Paving Division.

*Rutherford Avenue.* — From Devens to Chapman street was paved with granite blocks on gravel base. A plan was made and lines and grades given. The work of paving, resetting edgestones, relaying brick sidewalks and flagging crosswalks, was done by the Paving Division. The former surface was macadam. One new catch-basin was built and three old ones rebuilt.

*Thompson Street.* — From Main to Warren street was macadamized. A plan was made and lines and grades given. The work of macadamizing, resetting edgestones, relaying brick sidewalks, was done by the Paving Division. The former pavement was cobble-stone.

*Phipps Street (Charlestown).* — Was paved with granite blocks on gravel bed. A plan was prepared and lines and grades given. The work of paving the roadway, resetting edgestones, relaying brick sidewalks, was done by the Paving Division. The former pavement was cobble-stone.

*Charles Street.* — From Main to Bunker Hill street was paved with large granite blocks on a gravel base; lines and grades were given. The work of paving the roadway, resetting the edgestone, relaying brick sidewalks, was done by the Paving Division. The former surface was cobblestone.

*Sprague Street.* — From Princeton to Bunker Hill street was macadamized. The edgestone was set, cobble gutters and brick sidewalks were laid by the Paving Division. The former pavement was gravel.

*Oak Street.* — From Washington street to Harrison avenue was paved with granite blocks on a gravel base. A plan was prepared and lines and grades given. The work of paving roadway, resetting edgestone, relaying brick sidewalks and flagging crosswalks, was done by the Paving



Division. The former pavement was blocks and cobble-stone mixed.

*Utica Street.* — From Kneeland to Beach street was paved with granite blocks on a gravel base. A plan was made and lines and grades given. The work of paving the roadway, resetting edgestone, and relaying brick sidewalks was done by the Paving Division. The former pavement was old granite blocks.

*Congress Street.* — From A street to L-street bridge. The work on the plank sidewalk and fence, which was begun last year, has been completed.

*Bushnell Street (called Peabody Square).* — A plan was made showing the present and proposed location of trees; a plan and specification was also prepared for a circular park curb, and lines and grades given for setting the same. The work was done by the Paving Division. One catch-basin and one drop inlet built.

*Vale Street.* — From Dorchester street to Mercer street. Cross section and an estimate were made for filling the above to grade, and lines and grades given for filling the same.

Preliminary estimates were made for repairing or rebuilding ninety streets.

#### NEW STREETS.

During the early part of the season of 1894 three streets, viz., Miner street, Bay State road, and Deerfield street, which were reported last year as uncompleted, were finished. The following streets have been contracted for, under the provisions of Chap. 323 of the Acts of the Legislature of 1891, as amended by Chap. 418 of the Acts of 1892; the entire expense of construction is borne by the abutter, and sewer, gas, and water pipes, with house connections to the sidewalk, are laid in advance of the street construction:

*Arundel Street.* — From Beacon to Mountfort street, about 271 feet long, is practically completed at a total cost of \$1,843.45. For itemized prices and quantities, see table accompanying this report. The contractors were H. Gore & Co. It is a 6-inch macadam street.

*Ivy Street.* — From St. Mary to Mountfort, not including the Audubon-road intersection, is about 772 feet long. This contract, which was awarded to J. Grant & Co., is not yet completed, and there remains to be done the spreading of the binder, watering, and rolling. It is a 6-inch macadam street.

*Mountfort Street.* — From Audubon road to Ivy street is about 427 feet long. This street was constructed by H.

Gore & Co., at a cost of \$2,549.93. It is a 6-inch macadam street.

*Newbury Street.* — From Charlesgate West to Brookline avenue, about 1,271 feet in length, was built by F. H. Cowin & Co., at a total cost of \$10,386.93. This is a 6-inch macadam street.

*Parker Street.* — The contract for constructing and regulating this portion of this street from Huntington avenue to Westland avenue, about 1,687 feet long, was awarded to Messrs. Doherty & O'Leary. The work is not yet finished. It is to be a Telford roadway, the base to be 10 inches, and the broken stone 6 inches, in thickness.

*St. Germain Street.* — The contract for building St. Germain street, from Massachusetts avenue to Dalton street, about 749 feet long, was awarded to Quimby & Ferguson, but on account of the lateness of the season they were able to do only the filling to sub-grade. This is to be a Telford roadway, the base to be 8 inches, and the broken stone to be 6 inches, in thickness.

*Boylston Street.* — A contract for filling the Boylston-street extension, from Boylston road to Brookline avenue, about 2,070 feet in length, was awarded to J. O'Brien on December 1, 1894, at the rate of \$0.62½ per cubic yard, measured in the bank. The order of laying out requires a gravel roadway with gravel sidewalks.

#### COMMONWEALTH AVENUE.

This avenue now extends under one name from the Public Garden to the Newton line, a total length of 5.59 miles, it having been extended from the Chestnut Hill Reservoir gate to the Newton line, where it connects with a new avenue bearing the same name, which, like the part in Boston, is only partially completed. This avenue extends through the heart of Newton, a farther distance of four miles.

Commonwealth avenue in Boston varies in width from 120 to 200 feet, and is laid out partly as a parkway, in the care of the Park Department, partly as a highway, with heavy teaming ruled off by order of the Board of Aldermen, and partly as an ordinary highway. It was formed of portions of streets formerly bearing different names, with widenings and extensions made at different times. The extension of the avenue from Beacon street has been under construction for the last eleven years, during which time about one million two hundred and seventy-five thousand dollars has been expended upon it. A large amount of work has been done upon every part of it, excepting the most recent

extension, and a large amount yet remains to be done to complete the enterprise.

The following is a short account of what has already been done, together with a statement of its present condition and an approximate estimate of the cost of completion :

Beginning at the Public Garden in Boston, the first section, extending to Beacon street, a distance of 1.44 miles, was taken by the Park Commissioners, under Chap. 300, Acts of 1893, as a parkway. This section is uniformly two hundred feet wide. The part of it between the Public Garden, and Massachusetts avenue has two roadways and a central planting space. The northerly roadway is thirty-five feet wide between curbs ; the southerly roadway is thirty-five feet between curbs ; the central planting space is one hundred feet wide, with a gravel walk in the centre eighteen feet wide, and the sidewalks, each, fifteen feet wide. The roadways have been rebuilt this season in a thorough manner with Telford roads. The work was done by the Street Department for the Park Department. The excavation of the old surface was let in eight contracts. The stone for the Telford foundation was furnished by ten contractors and by the Street Department, and was set by four contractors. The old gutter blocks were removed by two contractors, and new ones were furnished by two contractors and from the city paving yards, and were set in place by four contractors. The edgestones were reset, where necessary, and the sidewalks repaved in part by two contractors. Broken stone for the macadam surface was furnished by two contractors, and from two city crushers. Steam-rollers were furnished from the Street and Park Departments and from contractors, the maximum number used was six. Gravel for gutter paving was furnished by the Street Department, and the broken stone was received and spread, and all miscellaneous work required to connect the various contracts was done, by the regular force of the Street Department. Platform scales were set up on the work, and all Telford and macadam materials were received by weight. The broken trap rock was weighed on cars.

Each roadway has two gutters, three feet in width. The Telford road has a base of Roxbury conglomerate eight and a half inches thick, thoroughly rolled, and a surface of broken stone four and a half inches thick after rolling. Between Arlington and Fairfield streets, the surface is trap rock from Salem and Waltham, furnished by the Massachusetts Broken Stone Company. From Fairfield to Gloucester street, on the northerly roadway, the surface is Roxbury conglomerate from Humboldt avenue, furnished by H. P. Nawn, and the

remaining blocks are surfaced with Roxbury conglomerate from the Tremont and Codman street ledges, mixed indiscriminately. No binding material, except stone screenings, was used, and on each section the screenings were of the same material as the broken stone. The intersections of cross streets were put in good order, and the street railways on Clarendon and Dartmouth streets were rebuilt with entirely new material, and Clarendon street was paved with granite blocks.

The total area of gutter paving was 7,446.7 sq. yds. The total weight of Telford base stone used was 11,806.64 tons, on 30,025.4 sq. yds., or 786.44 lbs. per sq. yd. The weight of trap rock macadam used was 7,467.36 tons, on 20,313 sq. yds., or 735.23 lbs. per sq. yd. The total weight of Roxbury stone macadam used was 4,211.08 tons on 11,842 sq. yds., or 711.21 lbs. per sq. yd. The result in weight of stone indicates that a considerably thicker road was actually built than was intended. The surface was kept at grade, and whatever settlement was caused by the weight of the heavy rollers was made good by additional broken stone.

The intersections of cross streets are built on a Telford base only in the continuation of the avenue roadways; the balance of the intersections were surfaced with broken stone and rolled. The quantity of broken stone used on them could not be exactly determined, and it was assumed that one-half the regular thickness was applied. The work was begun on July 30, 1894, and completed on November 20, 1894. The total cost of work on this section was \$84,373.10, less \$9,600 allowed for old materials removed; making the net cost \$74,773.10.

The remainder of this section is irregularly laid out, and is connected with the Back Bay Fens.

The next section, from Beacon street to Cottage Farm bridge, is .79 mile in length and 160 feet in width; it is laid out in the following manner: Commencing on the southerly line sidewalk, 10 feet; planting space, 12 feet; roadway, 35 feet; grass and electric railroad, 33 feet; roadway, 45 feet; planting space, 10 feet; and sidewalk, 15 feet. The filling on this section by the Boston Contracting Company, and their successors, the Fidelity and Deposit Company, of Maryland, was completed on September 23, 1893. The total quantity of material delivered was 57,675 cubic yards, at \$0.41 per yard, amounting to \$23,646.75.

Telford stone was accumulated during the preceding winter, and the southerly roadway between Beacon street and Cottage Farm bridge was built during the year 1894 by the regular force of the Street Department. A fence and wooden

sidewalk on the southerly side was built by the carpenters of the Bridge Division of the Street Department; the gutters were paved by contract. The roadway is a Telford road, with a face ten inches thick, and six inches of Roxbury stone macadam. The northerly roadway was built in 1893 in the same manner, except that the macadam is trap rock. This section is practically completed to within three hundred feet of Cottage Farm bridge. The sewers, gas and water pipes, are laid in the side planting spaces.

The abutments of the bridge were built during the year. By arrangement with the Boston & Albany Railroad these abutments are built partly in the railroad location, and the part of the bridge which was formerly maintained by the railroad will hereafter be maintained by the city. The central abutment and the bridge have not yet been built.

Essex street connects with the widened avenue on the northerly side, so as to render considerable filling necessary to make even a temporary connection. The plan, as arranged by the Board of Survey, contemplates ultimately elevating Essex street and crossing the Grand Junction Railroad by a bridge; but it will be necessary to make a temporary grade of about 6 per cent. crossing the track at grade, in order to keep the street open until the Board of Survey plan is carried out.

Westerly from the bridge to Brighton avenue the section is 160 feet in width and the distance is .69 mile. For about 1,000 feet westerly from the bridge, through the marsh, there has been an excessive settlement of filling with a large displacement of mud; only one temporary roadway has been built here. An unexpected settlement took place at this point, requiring some 16,000 cubic yards of surplus filling, for which the contractor was paid an extra sum of money. The filling on this section was completed on August 9, 1894, and while it is probable that settlement will continue for some years, it is probable that a fair street surface can be maintained. There are no sewers, gas, water, or surface drain pipes laid in the "marsh section," except the large main water and gas pipes. The remainder of the section to Brighton avenue has one roadway completed. This is a Telford road of Roxbury stone of the same thickness as those east of the bridge, and was built by the Street Department in 1894. The remaining roadway (on the southerly side) has been built to sub-grade of gravel, with the intention of finishing it with gravel as a soft road suitable for fast driving.

The width, plan, and disposition of water, gas, and sewer pipes is the same as in the section east of the Cottage Farm bridge. A considerable amount of work on sidewalks, loan spaces, and fences remains to be done.

The section between Brighton avenue and Warren street is .88 mile long and 200 feet wide. It is laid out with three roadways, a saddle-path, three grass plots, and two sidewalks; the width of each and their order, commencing on the southerly side, as follows: Sidewalk, 10 feet; grass plot, 10 feet; roadway, 26 feet; grass plot, 29 feet; central roadway, 50 feet; saddle-path, 20 feet; grass plot, 9 feet; roadway, 26 feet; grass plot, 10 feet; sidewalk, 10 feet. The central roadway has been built and has been in use for several years. It was necessary to raise its grade for about 1,200 feet in length to fit the new grade adopted; the amount of this change in grade is from 0 to 1 foot, in vertical height. The sub-grading is completed on a large part of this section, and the construction of the two side roads has been commenced. The side roads are to be of lighter construction than in the preceding section, the depth being for Telford base 8 inches, for macadam, 4 inches. The sewer and surface drain work on this section is substantially finished, and there are nearly enough paving-blocks on the ground for the gutters. These blocks came from the section of the avenue taken by the Park Commissioners, with the understanding that \$3,500 is to be paid for them when funds are available.

The section between Warren street and Chestnut Hill avenue is 200 feet wide and 1.07 miles long. This is an uneven and rocky section, with two sidewalks, 7.5 feet wide, and a roadway 50 feet wide winding irregularly through the location; it was built some years since. On September 15, 1884, in the Board of Aldermen, it was "Ordered, That the Board adopt the plan and profile for constructing Massachusetts avenue, in the Brighton District, as prepared by Henry M. Wightman, City Engineer, dated September 11, 1884, and deposited in the office of the said City Engineer, the said plan being a modification of a plan of said avenue designed by Frederick L. Olmsted. It being understood that the construction of said avenue shall be substantially in accordance with said plan. Passed."

The plan referred to has disappeared, but a copy exists. The road built does not exactly follow the plan, and no design has been adopted for the treatment of the remainder of the 200-foot location. A plan has recently been made which collects all the information concerning this section that is available, including the streets contemplated by

the Board of Survey, and the grades considered or adopted by them, and on this has been sketched a plan for building a series of side roads, and rough estimates have been made of the cost of completing the roads in accordance therewith. There will remain large areas of uneven land with high ledges between these roads, which, from their bold character, and the fine views from their summits, may be ornamentally treated, if desired. It would seem desirable that Mr. Olmsted should complete his design, and that this portion of the avenue should be built in accordance with it.

The remaining section between Chestnut Hill avenue and the Newton line is .72 mile long, and has been laid out as an ordinary highway. The plan provides for two roadways, three grass plots, and two sidewalks, disposed of as follows: Beginning at the southerly side: sidewalk, 10 feet; grass plot, 5 feet; roadway, 40 feet; grass and electric road, 25 feet; roadway, 25 feet; grass plot, 5 feet; sidewalk, 10 feet.

The estimated cost of completing the avenue from Beacon street to the Newton line, as outlined above, and exclusive of the cost of sewers and surface drains, and including land damages, is \$556,598, or about \$400,000, excluding the extension recently made beyond Chestnut Hill avenue, and provided that material is transferred from section to section. The estimates by sections are appended:

Estimated cost to complete the construction:

Beacon street to Warren street . . . . .	\$188,405 00
Warren street to Chestnut Hill avenue . . . . .	164,157 00
Chestnut Hill avenue to Newton line . . . . .	99,685 40
Bridge at Cottage Farm, cost to complete, . . . . .	60,159 00
Chestnut Hill avenue to Newton line, land damages, estimated by Street Commissioners . . . . .	44,191 00
	<hr/>
Total . . . . .	\$556,598 00

Fifteen per cent. for engineering and contingencies has been added in each section.

This estimate contemplates charging the section between Warren street and Chestnut Hill avenue with \$22,920 for earth filling to be received from the section between Chestnut Hill avenue and the Newton line, and crediting the first-named section with \$9,000 for rock to be used on the other sections.

Plans have been made showing the different methods of construction at different sections of the avenue, and also a

proposed method of completing the avenue from Warren street to Chestnut Hill avenue.

The following table shows the sums heretofore appropriated and expended upon the avenue :

DATE.	Appropriation.	Land Damages.	Construction and Miscellaneous.	Total Amount expended.
1883 .....	\$55,000 00	\$24,800 00	.....	\$24,800 00
1884 .....	50,000 00	14,462 00	\$49,992 03	64,454 03
1885 .....	50,000 00	19,713 68	4,813 21	24,526 89
1886 .....	40,000 00	.....	65,481 08	65,481 08
1887 .....	125,000 00	14,000 00	9,932 70	23,932 70
1888 .....	111,500 00	.....	46,069 45	46,069 45
1889 .....	.....	40,366 98	49,070 24	89,437 22
1890 .....	107,438 04	223,071 06	22,165 61	245,236 67
1891 .....	.....	.....	.....	.....
1892 .....	286,233 01	.....	123,170 81	123,170 81
1893 .....	203,000 00	56,527 00	209,719 65	266,246 65
1894 .....	247,000 00	30,275 00	271,349 47	301,624 47
	\$1,275,171 05	\$423,215 72	\$846,313 34	\$1,274,979 97
Balance...	.....	.....	.....	\$191 08

#### SIDEWALK PLANS.

A set of plans was made for the Street Department some years ago. The design was to show on one plan all pavements, gutters, sidewalks, street railways, and crossings, edgestones, all sewer and water pipes, and, in fact, all structures as they exist upon or under the surface of the public streets. The custody of these plans was turned over to this department in 1892, and a certain amount of work has been done each year toward bringing them up to date. The amount of work which the available force of the office can do each year is so small that most of the plans are hopelessly behind. They had not been recently corrected when they were turned over to us, and they are further behind now than they were then. Imperfect as they are, they are constantly consulted, and they can never perhaps be made absolutely



correct, as many streets in the older parts of the city contain structures of which there is no record. Under the present regulations it is possible to oblige all parties or corporations, having authority to use the public streets, to file plans of their structures, and it is a work of compilation to gather all the information into one plan of record. Until recently, it was necessary to gather most of this information from the street itself.

Unless means are provided by which more work can be done than is possible to do under the present conditions, the usefulness of these plans will diminish rapidly, and it will soon become a waste of effort to do anything upon them. An inspection of these plans has recently been made, and the following summary of their number and condition is given :

#### *City Proper.*

Of this division of the city there are 50 sectional plans, on a scale of 50 feet to an inch. The plans are nearly worn out, and as nothing has been done on them for many years, they are incomplete, and are incorrect in many particulars. These plans are used constantly. New plans should be made on a scale of 30 feet to an inch, similar to the Roxbury and Dorchester sectional plans. This would increase the number of plans from 50 to about 150.

#### *Charlestown.*

Of this division of the city there are 30 sectional plans, upon a scale of 30 feet to an inch. The set is incomplete, as 10 plans were either never made or have been lost. The plans are in good condition, so far as they go; but for several years nothing has been done upon them.

#### *East Boston.*

Of this division of the city there are 37 sectional plans, upon a scale of 40 feet to an inch. Seven plans have either never been made or have been lost, and there are no plans of Breed's Island. The plans are in good condition.

#### *South Boston.*

Of this division of the city there are 39 plans, upon a scale of 40 feet to an inch. Eleven plans required to complete the set have never been made. The plans are in good condition.

*Roxbury.*

Of this division of the city there are 79 plans, upon a scale of 40 feet to an inch. Two plans are missing, and 12 additional plans are required to complete the set. Twenty-five of these plans are very much worn and should be replaced. With the exception of the missing plans, this set is correct to January, 1895.

*Dorchester.*

Of this division of the city there should be 215 plans in the complete set. One hundred and six of the plans have been made, and are in good condition.

This district is growing rapidly, many new streets have been built since the plans were made, and many calls are made for the plans not yet made. These plans are upon a scale of 40 feet to an inch.

*West Roxbury.*

Of this division of the city there are 34 sectional plans, upon a scale of 40 feet to an inch. The plans are in good condition, but nothing has been done upon them for some years. About 300 plans would be required to complete the set, but as portions of this district are thinly settled, 100 additional plans would probably be sufficient for the next ten years.

*Brighton.*

Of this division of the city there are no sectional plans. There are 39 rolled plans, showing most of the principal streets, but nothing has been done upon these plans for many years. Sectional plans should be made of this district, the plans being made as needed. To make the complete set 120 plans would be required, upon a scale of 40 feet to an inch.

*Summary.*

The Roxbury set has been brought up to January, 1895, and some work has been done upon the South Boston and Dorchester sets. Each sheet, when corrected, is marked correct to the proper date in pencil. The remaining sheets have not been corrected for four years certainly, and it is unknown just when they were last corrected.

To maintain these plans in proper condition, a draughtsman and one assistant should be employed to take charge of them, to know all about them, to be responsible for their safe-keeping, to attend to people who desire to consult them, and to give their whole time to their correction. In one year, with the aid of such help as can be given by the remainder of the force in the winter, enough progress can be

made to determine what the cost of keeping up such a set of plans will be, and it should then be settled whether it is worth while to continue to do so or not. The pay of a draughtsman and assistant, competent to do this work, at present rates, need not exceed \$1,600 per annum.

#### BERWICK PARK FOOTBRIDGE, OVER PROVIDENCE DIVISION, NEW YORK, NEW HAVEN, & HARTFORD RAILROAD.

Plans and specifications for a retaining-wall on Follen street, and additions to the present retaining-wall on Berwick park, were prepared, and on June 21 a contract for doing this was concluded with Quimby & Ferguson for the sum of \$3,200. These retaining-walls form the supports of an iron footbridge similar to that over the railroad at Irvington street. The iron stairways and piers were furnished by the Boston Bridge Works, at a cost of \$1,200. The iron span is that formerly used at Franklin street, Allston; it was taken down, moved, and erected at Berwick park by the Boston Bridge Works for the sum of \$500.

#### BOYLSTON-STREET BRIDGE, OVER BOSTON & ALBANY RAILROAD.

Iron railings have been erected on this bridge, and on one of the street retaining-walls. The work was done by the Boston Bridge Works from plans and specifications prepared by this Department.

#### CHARLES RIVER BRIDGE.

This bridge, which was closed to team-travel on account of its dangerous condition, has been temporarily strengthened for the passage of light teams and foot-travel. The work was done by Trumbull & Ryan and the Bridge Division of the Street Department. The amount paid Trumbull & Ryan under their contract was \$2,909.94.

#### CHELSEA-STREET BRIDGE.

A contract was made with B. F. Nay & Co., on August 20, for removing the old bridge, including the draw and draw-pier, and rebuilding the entire pile bridge and draw-pier, and on September 6 a contract was made with the Boston Bridge Works for building a steel swing draw. The work is so nearly completed that it is probable that the bridge will be opened for travel early in the present month.

COTTAGE FARM BRIDGE, OVER THE BOSTON & ALBANY  
RAILROAD.

The abutments of this bridge have been extended to provide for a new bridge of a width equal to that of Commonwealth avenue at this point, and a retaining-wall built on the northerly line of Commonwealth avenue, between the northerly abutment and Essex street.

The plans and specification for this work were prepared by the Engineering Department, and the work done by Leavitt, Daily, & Crockett, for the sum of \$40,219.80.

Yours respectfully,

[Signed]

WILLIAM JACKSON,  
*City Engineer.*

STREET OPENINGS.

Eighteen thousand five hundred and fifty-two permits were granted during the past year to open streets. The excavations made under these permits aggregate 198.8 miles in length, and show the extent of this work.

The Street Department has been accustomed to grant to the various gas and other companies, whose work would in certain cases admit of no delay, a so-called "emergency permit," which allowed excavations to be made without special permission being obtained, the only requirement being that a daily return of openings made under this form of permit should be forwarded to the office of the superintendent.

Two thousand five hundred and seventy-six openings of an average length of six feet each were made under "emergency permits" for breaks in water and gas pipes which were alleged to require immediate attention. These openings were made under 99 permits.

In addition to the above permits, various other permits have been issued to pedlers, mechanics, and others, for different purposes, 14,376 in number; making the total number of permits issued 32,928.

Mention was made in last year's report that real-estate owners are extremely careless in providing sewer and water connections for their several buildings, both old and new, in streets that are advertised to be improved and regulated, and frequently call for a permit to open for gas, water, or sewer connections soon after the department has put down a permanent pavement.

Such cases are of frequent occurrence. The blame is

usually shifted off on unnoticed negligence of the contractor or somebody else, while the utter uselessness of a building without gas or water is put forward in the plea for consent to the opening being made.

The only remedy would seem to be to demand the forfeiture of a sufficient sum of money to repay the department for the necessary labor of making the pavement good with its own force. If let off with any lighter concession, the chances are that repetitions of neglect will occur, and the pavement itself will not receive the full measure of care in replacement that the regulations stipulate.

## STREET-WATERING.

In 1891 for the first time the Street Department assumed the responsibility of watering streets on a more enlarged scale and on a different system. Numerous public hearings were given on the subject of street-watering before the work was started, but were productive only in stirring up opposition to the proposed plan of assessing the expense of watering upon the estates abutting on streets and portions of streets watered, in proportion to the linear feet of frontage of each estate.

This was decidedly objectionable to the residents of suburban districts. The residents of the outlying sections of the city contended that such assessments would be exceedingly heavy upon them, as their frontages are comparatively large and the value of the estates relatively small. The owners of unimproved property also felt that such an arrangement would be a burden upon them.

The objections resulted in the substitution for the proposed assessment of a yearly appropriation for street-watering to be met by the general tax-levy.

To satisfy the complaints from Back Bay and South End residents on account of the unreasonable prices hitherto charged for the work, these two sections were let out by contract, to be paid for by the city, and the rest of the macadamized portions were watered by day carts, also at the city's expense. Paved streets, however, have been made the exception, and are still watered by private contractors at the abutter's expense on the subscription plan.

The results of the first two years were subjected to careful study, and adjustments in the distribution of the force and water-posts rendered the organization more efficient, until, with the modern equipments, the entire work was established on a more thorough and systematic basis.

The year 1894 was the driest and hottest season since this system of street-watering was inaugurated. With the humidity at 40, the thermometer at 90, and high winds, it was impossible at times to keep the dust down, and there were many days during the season when the atmospheric conditions were such that double the number of carts would have been necessary to manage and control the dust. The full force of carts was needed every day for a period in-

cluding June, July, and part of August, an unusually long spell of dry weather.

The total number of miles of macadam streets watered this year was 296.66, an increase of 17.36 miles over last year. The contractors watered at the expense of the abutters 32.50 miles of paved streets. The total number of miles of macadam and paved streets watered was 329.56, an increase over the year previous of 20.83 miles. The paved streets of the city proper are quite free from dust and in a clean condition, from frequent sweeping.

The department feels that the original cost of paved streets and the extra care taken of them does not warrant their free watering.

The watering of paved streets by contractors has been so excessive at times that it was necessary to prohibit it after 4 o'clock P.M. in order that the pavements might dry out preparatory for the night sweeping.

When asphalt streets are flanked on either side by macadam streets, it is well-nigh impossible to keep them free from dust. Beacon street, for example, is intersected by sixteen (16) macadam streets, from the gutters of which more or less dirt and dust blows on to the asphalt, and in wet weather mud from the same is tracked on to the asphalt surface by both wheels and hoofs. Constant sweeping, supplemented by occasional light sprinkling with fresh water, is the only proper treatment for asphalt paving, although this course has not obtained the past year.

Street-watering was begun this year on March 6 (last year March 19) and continued until December 1. A few carts were out on December 20 and 22. They could have been used oftener in this month, but the temperature would not permit. Streets cannot be watered if the thermometer is below 34°.

On August 10 both roadways of Commonwealth avenue were deducted from the contract because of construction, and were not watered from then to the end of the season.

To improve and facilitate the street-watering 24 new stand-pipes were erected. Much time is saved by establishing stand-pipes at convenient intervals, and more effectual watering can be done when the distance to obtain fresh supplies of water is not great.

The old style copper sprinklers have vanished and modern styles have taken their places.

The following table shows the changes that have been effected in the style of watering-carts during the past two years :

	Old Copper.	Studebaker.	Abbott-Downing.	Potter Patent.	Miller Knoblock.	
1892.....	61	4	16	27	.....	108
1894.....	.....	59	30	18	2	109

### Summary of Day Work paid for by the City.

No.	DISTRICT.	No. of carts hired by day.	No. teams owned by city.	No. miles covered.	Average miles per day per cart.
1	South Boston.....	9	.....	22.80	2.53
2	East Boston .....	7	.....	17.61	2.52
3	Charlestown .....	7	.....	15.00	2.14
4	Brighton .....	11	2	32.00	2.46
5	W. Roxbury.....	15	2	58.66	3.45
6	Dorchester .....	16	1	56.99	3.35
7	Roxbury .....	18	.....	53.04	2.95
8	Back Bay .....	3	.....	5.85	1.95
9	Beacon Hill .....	2	.....	4.21	2.10
10	South Yard.....	2	.....	5.04	2.52
	Totals .....	90	5	271.20	2.85

This summary shows that ninety carts hired by the day and five carts owned by the city watered 271.20 miles of streets daily for the season. Last year ninety-four carts watered 257.45 miles of streets.

The cost of day and city work, exclusive of supervision, was \$229 per mile, or \$62,192.50, as against \$298 per mile and a total of \$76,725 last year.

The carts averaged 2.85 miles of streets per day as against 2.74 miles last year. Watering was commenced on March 6, and continued until December 1, although in Back Bay, streets were watered on December 20 and 22.



### Summary of Contract Work paid for by the City.

DISTRICTS.	Contractors.	Carts.	Miles.	Cost.
Back Bay.....	M. E. Nawn .....	9	11.78003	\$6,696 02
South End.....	O. Nute & Son .....	4½	9.18760	5,128 15
Totals.....	.....	13½	20.96763	\$11,824 17

This table shows that thirteen and a half carts were used by the contractors to water 20.96763 miles of streets.

The Back Bay was watered with fresh water entirely this year. In the South End salt and fresh water were used, as last year.

The contract price in the Back Bay was \$575 per mile for fresh water. The price paid for the work in the South End was \$630 per mile for salt water and \$460 per mile for fresh water.

### Work done by Contractors at the Expense of the Abutters.

DISTRICT.	Contractors.	Carts.	Miles.
City Proper.....	Daniel Clark.....	3	3.67
City Proper.....	Potter Bros.....	5	8.75
City Proper.....	Proctor Bros. & Billings..	5	7.25
City Proper.....	O. Nute & Son.....	½	1.50
East Boston.....	J. H. Fitzpatrick.....	1	2.00
Charlestown.....	W. H. Quigley.....	1	2.00
Roxbury and South Boston..	H. P. Cook & Co.....	3	6.51
Roxbury .....	William Gilligan.....	1	1.25
Totals.....	.....	19½	32.93

The above work was done for, and at the expense of the abutters. The streets watered are all paved. The table shows that with 19½ carts these contractors watered 32.93 miles of streets in the City Proper, South Boston, East Boston, Charlestown, and Roxbury.

This is an increase over last year of 1½ carts and 3.50 miles of streets.

**Work done by the Contractors Free of Cost to the City.**

NAME.	Carts.	Miles.
Proctor Bros. & Billings.....	1	1.64
Potter Bros.....	$\frac{1}{2}$	.94
Daniel Clark.....	$\frac{1}{2}$	.86
H. P. Cook & Co.....	$\frac{1}{4}$	.52
Gilligan Bros.....	$\frac{1}{4}$	.54
Totals .....	2 $\frac{1}{2}$	4.50

This summary shows that five contractors with 2 $\frac{1}{2}$  carts watered 4.50 miles of streets free of cost to the city on return for the privilege of watering paved streets for the abutters.

The Superintendent of Streets required that they agree to this watering before granting them permits which ensures them the exclusive right of soliciting watering patronage from paved streets within certain defined limits, with the privilege of using the city stand-pipes and water.

**Summary of Work done which was paid for by the City.**

No.	DISTRICT.	Miles, day work.	Miles, contract work.	Total miles.
1	South Boston ..	22.80	.....	22.80
2	East Boston....	17.61	.....	17.61
3	Charlestown ...	15.00	.....	15.00
4	Brighton.....	32.00	.....	32.00
5	West Roxbury .	58.66	.....	58.66
6	Dorchester.....	56.99	.....	56.99
7	Roxbury.....	53.04	.....	53.04
8	Back Bay.....	5.85	11.78	17.63
9	Beacon Hill....	4.21	.....	4.21
10	South Yard ....	5.04	9.18	14.22
	Totals.....	271.20	20.96	292.16
		or about	or about	
		3,579,857 sq. yds.	459,384 sq. yds.	

Cost of day and city work, exclusive of supervision, \$229.32 per mile.

Cost of contract work, exclusive of supervision, \$564.13.

The apparent discrepancy between the cost of day work and that of contract work is accounted for by the fact that the contract watering obtained only in the South End and Back Bay Districts, where the streets are generally wide, and were partly watered with salt water.

The slight excess in cost per mile of contract work over last year was due to an early start in watering. The contractors are paid by the day for work done in March and December, the season extending, as per contract, from April 1 to December 1. The cost of contract, day, and city work was \$74,016.67. This expense is the cost exclusive of supervision, water-posts, repairs, etc. Water was furnished by the Boston Water Board at no expense.

**Distribution of Carts, showing Entire Amount of Work done.**

No.	DISTRICT.	City carts.	Hired carts.	Contractors' carts.	Total.	Miles.
1	South Boston.....		9	1	10	24.55
2	East Boston.....		7	1	8	19.61
3	Charlestown ...		7	1	8	17.00
4	Brighton.....	2	11	.....	13	32.00
5	W. Roxbury ...	2	15	.....	17	58.66
6	Dorchester ....	1	16	.....	17	56.99
7	Roxbury .....	.....	18	3	21	59.05
8	City Proper.....	.....	7	27	34	57.23
	Free Watering.....	.....	.....	2½	2½	4.50
	Totals... ..	5	90	35½	130½	329.59

## Money Expended, 1894.

No.	District.	City carts.	Contractors' carts.	Hired carts.	Labor.	Water-posts.	New carts.	Horse-hire.	Sundries.	Totals.
1	South Boston.....			\$5,812 50	\$659 45	\$59 42				\$6,531 37
2	East Boston.....			4,752 50	659 45	262 04				5,673 99
3	Charlestown.....			4,657 50	659 45	44 02				5,360 97
4	Brighton.....	\$1,382 50		7,587 50	659 45	189 75				9,819 20
5	West Roxbury...	1,245 00		9,805 00	1,318 90	381 18				12,750 08
6	Dorchester.....	665 00		10,100 00	1,318 90	538 42				12,622 32
7	Roxbury.....			11,180 00	1,318 88	308 52				12,757 40
8	City Proper.....		\$12,104 17	5,055 00	1,978 32	267 25	\$906 05	\$782 04	\$560 92	21,653 75
	Total .....	\$3,292 50	<sup>1</sup> \$12,104 17	\$58,900 00	\$8,572 80	\$2,050 60	<sup>2</sup> \$906 05	\$682 04	\$560 92	\$87,169 08

<sup>1</sup> \$230 due from last year.<sup>2</sup> One new Studebaker included.

The following table shows the amount expended in street-watering by the city for the last seventeen (17) years :

1878	.	.	\$23,595 02	1887	.	.	\$51,365 73
1879	.	.	26,747 18	1888	.	.	40,586 58
1880	.	.	33,306 95	1889	.	.	47,837 46
1881	.	.	36,178 24	1890	.	.	57,967 34
1882	.	.	45,797 00	1891	.	.	104,263 62
1883	.	.	53,502 29	1892	.	.	94,507 80
1884	.	.	34,518 47	1893	.	.	99,430 15
1885	.	.	43,854 68	1894	.	.	87,169 08
1886	.	.	44,940 35				

#### WATER-POSTS OR STAND-PIPES.

In order to improve the watering service this year twenty-four new stand-pipes were erected in different parts of the city. Seven stand-pipes were reestablished for various causes, principally on account of new streets, and new buildings being constructed where the pipes were formerly located.

The following table shows the locality of the pipes by districts :

District.	1891.	1892.	1893.	1894.	Increase over 1893.
South Boston.....	23	25	27	27	
East Boston .....	16	23	28	32	4
Charlestown.....	19	19	20	20	
Brighton .....	25	39	42	44	2
West Roxbury.....	50	59	60	65	5
Dorchester .....	61	72	75	82	7
Roxbury .....	53	60	65	68	3
City Proper .....	24	42	45	48	3
Totals .....	271	339	362	386	24

An increase of 115 stand-pipes since 1891.

## INCOME.

The Watering Division during the year watered streets in front of 106 school-houses, 14 police stations, and 28 engine-houses. In addition to the number cited we watered around several school-houses in course of construction.

The following sums were charged for street-watering :

Board of Police . . . . .	\$192 57
Engine-houses . . . . .	411 95
Louisburg square . . . . .	100 00
Marcella-street Home . . . . .	28 00
Homœopathic Hospital . . . . .	105 00
Dispensary Hospital . . . . .	12 25
Fairfax and Beaumont streets . . . . .	50 00
Section, Washington street, Jamaica Plain . . . . .	7 00
	<hr/>
Total . . . . .	\$906 77

Owing to lack of appropriation the School Board last year refused to pay for the watering in front of their school-houses.


The Boston Water Board, by its uniform promptness in furnishing new posts, in turning on or shutting off water, and in many other ways, has rendered the division much assistance during the year.

Mr. J. W. Smith, the Local Forecast official, offered valuable help by the mailing of weather maps twice a day and the furnishing of weather records.

## SANITARY DIVISION.

The work of the Sanitary Division includes the removal of house-offal and the removal of house and store dirt and ashes, accumulated from the burning of materials for heating buildings and for domestic purposes.

The following table shows the number of loads of offal collected and removed in the last eleven (11) years:

  
 AMOUNT OF HOUSE-OFFAL REMOVED.

Year.	No. of Loads.
1884 . . . . .	28,520
1885 . . . . .	31,206
1886 . . . . .	33,170
1887 . . . . .	36,724
1888 . . . . .	37,409
1889 . . . . .	40,183
1890 . . . . .	40,525
1891 <sup>1</sup> . . . . .	46,742
1892 . . . . .	46,343
1893 . . . . .	51,415
1894 . . . . .	50,637

Each load of offal is equivalent to fifty-seven (57) cubic feet, and weighs one and one-half ( $1\frac{1}{2}$ ) tons at certain seasons of the year, at others less.

The above table does not include previous to the year 1893 the amount collected by contract in East Boston and Brighton, which amounted to about 5,100 loads per year. Of the amount (50,637 loads) collected during the year 1894, 3,720 loads were collected by the East Boston contractor, 1,539 loads were collected by the Brighton contractor, and 3,296 loads were collected by the Dorchester contractor, leaving 42,082 loads collected by city teams.

The collection of this material is attended to in winter by an average regular force of 75 city offal carts and 163 men, and on contract work 16 offal carts and 32 men; making a total of 91 offal carts and 196 men. At different times, and especially in summer, an approximate extra force of 21 teams and 42 men are employed.

<sup>1</sup>Thirteen months.

The disposal has been made during the year in the following manner: The offal from the markets, and offal that is decayed, is put on board a scow and towed to sea; the offal of Charlestown is taken to the yard at Malden bridge and then disposed of to farmers; the offal of East Boston is collected by contractors, and is removed to Revere; the offal of the City Proper and South Boston is conveyed to the yard at the South End, and disposed of to farmers, who remove it daily; the offal of Roxbury and West Roxbury is conveyed to the yard on Highland street, and disposed of to farmers; a portion of the collections of West Roxbury is collected and sold to one man, who in turn sells it in Dedham; the offal of Brighton is collected by contract and disposed of outside of the district; and the offal in Dorchester has begun to be disposed of at the Gibson-street yard, where it is reduced by a process patented by the New England Construction Company, a description of which was given in the report of 1893.

This plant has been in operation for so little time that no judgment can at this writing be passed upon its efficiency from a sanitary point of view. It is designed to provide for the disposal of 20 tons daily, and can undoubtedly take care of a somewhat larger amount. Every detail is well constructed, and the general appearance of the buildings is suggestive of neatness and cleanliness. The actual results obtained will doubtless be of interest, and will appear in a future report.

#### COLLECTION AND DISPOSAL OF OFFAL.

YEAR.	Total amount collected.	Amount sold.	Amount dumped on scow and towed to sea or wasted.	Per cent. wasted to total collection.	Amount of receipts from sales.
1891 <sup>1</sup>	242,616 loads.	40,492 loads.	2,124 loads.	5 per cent.	\$30,672 65
1892 <sup>2</sup>	46,343 "	30,773 "	15,570 "	33 " "	21,282 82
1893 <sup>3</sup>	46,276 "	30,824 "	15,363 "	30 " "	20,790 03
1894 <sup>4</sup>	42,082 "	37,057 "	5,025 "	12 " "	26,262 40

January 21, 1895, New England Construction Company commenced to reduce the offal collected in the Dorchester District, and a temporary agreement was made with the con-

<sup>1 2 3</sup> Twelve months. Above table does not include contracts in East Boston and Brighton.

<sup>4</sup> In East Boston, 3,720 loads; Brighton, 1,539 loads; Dorchester, 3,296 loads; total, 8,555 loads, — collected during 1894 are not included in above table. For 1891 and 1892, East Boston and Brighton were estimated at 5,100 loads.



tractor for that district whereby he should continue the collection and deliver all the offal collected at the Gibson-street yard, and that he should be paid for the same on the basis of day-work.

The following table shows in convenient form the full force engaged in the collection of offal alone throughout the entire city :

THE FORCE EMPLOYED.

CITY FORCE.		Hired teams.	Contractors' teams.			Total.
			E. Boston.	Brighton.	Dorch'ter.	
Subforemen .....	2				1	3
Offal clerks .....	2					2
Teamsters.....	65	10	6	3	7	91
Helpers.....	71	10	6	3	7	97
Dumpers.....	3					3
Totals .....	143	20	12	6	15	196

The problem of a speedy disposal of offal without waste has not as yet been successfully solved by any large municipality. The attention given to it in the last five to ten years shows to what extent its importance has impressed itself upon the public mind, while in large cities of the interior, like Buffalo, Cleveland, Chicago, and St. Louis, the element of hasty extinction seems more desirable than any utilitarian consideration, and therefore destruction by fire is in great preference in Chicago, at least; yet the fact remains that no satisfactory plant has been established in either of these large cities that could be run either on a self-supporting basis or at a sufficiently low cost to guarantee its permanency, and at the same time be free from public condemnation and criticism. Crematories appear too costly, as a rule, reduction processes too offensive, due either to the use of objectionable reducing agents, or to undesirable odors from both the liquid and solid products of the reduction. The point of collection is generally the seat of complaint, because of failure to dispose of the collections promptly, and to properly wash out the offal wagons.

In some cases the city has had to come to the relief of the contracting corporations, and either contribute both the collected offal and all the animal-matter, or step in and run the

whole plant itself. Various experiments have been tried, and are being tried, and progress for the better can be reported; but the successful solution will only come when a truer knowledge of real facts is obtained, and the exact cost of every detail is carefully examined, not under the light of hasty and misleading comparisons between cities, ignoring the many differences in local conditions and requirements that always exist in different localities, but under the light of a comprehensive judgment that is seeking, only on the basis of sound and conservative reasoning, to establish a healthful method of treatment consistent with the demands of a growing population, and utterly void of all glittering suggestions of a sudden and mysterious fortune for an irresponsible inventor. Profit should be of secondary consideration, public health of the first.

#### REMOVAL OF ASHES.

The removal of ashes, house and store dirt, has been attended to during the year by a minimum force of 207 men and 88 city carts, also by 5 carts with an East Boston contractor, and 9 by the South Boston contractors, 5 carts by a West Roxbury contractor, and 8 carts by the Dorchester contractors. At different times, and especially during the winter months, an additional force of 50 teams and 100 men are employed.

This work shows a constant increase from year to year, as will be seen in the following table, and is an indication of the actual growth of the city:

AMOUNT OF ASHES, HOUSE AND STORE DIRT REMOVED.								
Year.								Number of Loads.
1882	.	.	.	.	.	.	.	159,197
1883	.	.	.	.	.	.	.	169,610
1884	.	.	.	.	.	.	.	182,642
1885	.	.	.	.	.	.	.	193,734
1886	.	.	.	.	.	.	.	209,129
1887	.	.	.	.	.	.	.	220,186
1888	.	.	.	.	.	.	.	233,514
1889	.	.	.	.	.	.	.	227,325
1890	.	.	.	.	.	.	.	245,730
1891 <sup>1</sup>	.	.	.	.	.	.	.	313,464
1892	.	.	.	.	.	.	.	303,878
1893	.	.	.	.	.	.	.	320,571
1894	.	.	.	.	.	.	.	326,798

Each load of ashes contains about 40 cubic feet.

<sup>1</sup> Thirteen months.

The following table shows the disposition of this material from February 1, 1894, to February 1, 1895, together with the amount of house-offal and the portion of street-sweepings that were disposed of by the Sanitary Division :

	Amount collected.	Deposited on low lands.	Towed to sea.	Collected by contractors.	Sold to farmers.
	Loads.	Loads.	Loads.	Loads.	Loads.
Ashes, house and store dirt.	326,795	164,833	95,779	66,186	
House-offal .....	50,637	.....	5,025	<sup>1</sup> 8,555	37,057
Street-sweepings.....	30,478	.....	30,478		
Cesspool dirt .....	1,376	.....	1,376		
	409,289	164,833	132,658	74,741	37,057

<sup>1</sup> This amount is included in the amount collected, 50,637 of the 8,555; 3,720 loads were collected in East Boston, 1,539 in Brighton, and 3,296 in Dorchester.

**Comparative Statement of Number of Loads of Ashes collected during 16 Weeks of the Summer and 16 Weeks of the Winter.**

Summer.	Loads.	Winter.	Loads.	Difference for Winter.
May 4, 1889, to Aug. 23, 1889	60,609	Nov. 30, 1889, to Mar. 1, 1890	82,866	22,257
“ 2, 1890, “ “ 21, 1890	65,239	“ 1, 1890, “ “ 13, 1891	93,660	28,421
“ 2, 1891, “ “ 21, 1891	76,025	Oct. 31, 1891, “ Feb. 19, 1892	100,223	23,598
Apr. 30, 1892, “ “ 19, 1892	82,034	“ 30, 1892, “ “ 12, 1893	106,772	24,738
“ 29, 1893, “ “ 18, 1893	91,721	“ 28, 1893, “ “ 16, 1894	106,851	15,130
“ 27, 1894, “ “ 16, 1894	58,865	“ 25, 1894, “ “ 7, 1895	116,915	28,050

The department in this city insists on a complete separation of offal and ashes. Receptacles containing both are not removed. The necessity of such separation is so obvious that no discussion is necessary. Other cities are recently following the example set by Boston.

The total expenditures of the division on account of offal and ashes, stock, etc., were \$484,012.80.

## SEWER DIVISION.

The past year has been one of unusual activity on the part of this division. The city has built with its own labor and by contract 90,802.77 linear feet of sewers, and designed and inspected 24,877.05 linear feet for private parties building under release; making a total for the year of 115,679.82 feet, or nearly twenty-two miles, which is about eight miles more than an average year. The total mileage of sewers now built is 384.72, of which 22.59 miles are intercepting sewers. Many new catch-basins and culverts have been built and old ones repaired. Over twenty miles of sewers have been cleaned and flushed, and 19,652.55 cubic yards of sludge removed from various catch-basins.

Under Chap. 323 of the Acts of 1891, as amended by Chap. 402 of the Acts of 1892, the Board of Street Commissioners had laid out a number of streets, and this division has built, by contract, in eight different streets, all the sewers, catch-basins, and house-drains which will ever be required, carrying the latter out to the curb-line. In the case of some unusually wide streets, it is the custom to build a sewer on each side of the street close to the curb, it having been found cheaper to do this than to build so many long house-drains. The object of building all these drains at one time is to make it feasible to preserve the street surface from the destructive effect of the constant digging of trenches for the laying of drains to connect the houses with the sewers.

The water and gas mains and house connections have been laid in these streets in the same manner and for the same reason.

In designing sewers for a large city, provision must be made not only for house sewage, but also for as much of the rainfall as will naturally find its way into the sewer system. The determination of the amount of house sewage is not complicated, as it is usually taken as about equal to the water supply of a given district. The size of the sewer is made to correspond with the maximum flow that occurs during the six hours of the day when the water supply is the greatest.

The care of the rainfall or the determination of the pro-

portion of rainfall that should be provided for in the sewer design is a much more complicated problem, and has so often been carelessly computed or left out of consideration, that the present generation is obliged to make up for the omissions of former engineers.

While the oldest inhabitant can tell of severe rain-storms that occurred years ago, no definite idea of their intensity can be gathered from the general terms of their description. Not until within recent years have rain-gauges been in use that would determine, except in a crude way, the amount of rainfall in a given time. When one looks for the records locally, he is surprised to find so little data adapted to the particular locality under consideration.

As far as Boston and vicinity is concerned, we are very much indebted to Mr. Desmond FitzGerald for the most careful records of both the water supply and the rainfall, together with a compilation of all the available data from different sources near this city. His records, taken with an automatically registering rain-gauge, show not only the total rainfall, but what is more essential, the *rate* of rainfall *during the period of heaviest constant fall*, which in reality determines the maximum flood discharge in sewers and water-courses. Diagrams of these rainfalls have been published in previous reports of this department. Recent study of this subject by eminent engineers has, through the published records of the profession, thrown much light on this question, and led to a much more intelligent judgment in all constructive design. The difference between the congested city area and the suburban area is fully appreciated, — the one with its impermeable pavements, brick sidewalks, and slated roofs, delivering with great rapidity the entire rainfall to the catch-basins and sewers; the other uncovered, porous in nature, drinking up with avidity the first downfall of rain, until saturated, or the "drainage vehicle" is established, when it then begins to deliver to the sewer system. After taking into consideration all these facts, and determining to a nicety the sizes of sewers, storm-drains, culverts, and overflows, and so regulating the same that no injudicious expenditure of money shall be made by building too large or prematurely, and no injury shall ensue by building too small, the working success of the design is nevertheless largely interfered with, because of the disregard of public good on the part of private owners of land, who fail entirely to appreciate the part in such design that *natural water-courses* play, and also fail to recognize that the law of equity demands that they be sacredly maintained, instead of being blotted out of sight.

The following statement of facts, as given by the Engineer of Sewer Division, Mr. E. S. Dorr, shows the tendency of the day, and is worthy of the careful consideration of all who have the general welfare and the general ultimate and permanent success of all our public works at heart :

#### SURFACE DRAINAGE.

"The subject of the proper disposal of the surface water in the suburban districts of the city is one of increasing importance.

"While the sewers in the City Proper, East and South Boston, and Charlestown are, in the main, large enough to carry both the sewage and surface water, those of the outlying districts are altogether too small to take the surface water, the areas to be drained being enormously larger than in the districts first mentioned. As the sewer system has been extended, year by year, into these outlying districts, the sizes designed have been but little larger than what was necessary to serve the needs of the district at the time of building. For many reasons this policy has been unavoidable ; the size of outlets limits the size of extensions, and scarcity of funds often makes it imperative to build a sewer smaller than good judgment would dictate, in order to reach some community where the public health is endangered for lack of sewerage.

"In many cases it would be not only financially impracticable but would show bad business judgment to sink large sums of money in building sewers large enough for all time, when the development of the district is uncertain or likely to be slow. The result of these various causes is, that the sewer system in Dorchester, West Roxbury, Brighton, and parts of Roxbury, while large enough in general to take care of the house sewage and the street water during light rains, is totally inadequate to carry off the surface water of heavy rains.

"A few instances are here arranged in tabular form to show the discrepancy between the capacity of the sewer and the storm flow from the district which it serves, the first column giving the names of the street in which the sewer lies, the second the capacity of the sewer in cubic feet per second, the third the size of the district in acres, and the fourth an estimate of the storm flow from the district :

## WEST ROXBURY DISTRICT.

STREET.	Capacity in cubic feet per second.	Acreage.	Storm duty, cubic feet per second.
Keyes street, Call to South street.....	45	500	150
Centre street, South to Orchard. ....	33	230	92
Washington street, Keyes to Morton. ....	25	1,000	300
Roslindale Main Sewer, Dudley to Albano...	34	670	201
Cohasset to Washington. ....	60	720	216

## DORCHESTER DISTRICT.

Talbot avenue, Bernard to Washington. ....	20	550	165
Granite avenue, Adams street to Neponset River. ....	25	470	140
Centre street, Washington street to Melbourne street. ....	25	950	240
Gibson street, Dorchester avenue to Adams street. ....	30	1,100	280
Adams, Park, Clayton, and Commercial. ....	30	1,300	350

## BRIGHTON DISTRICT.

North Beacon street.....	35	305	110
Washington street, Market to Cambridge street. ....	6	94	50

"The difference between the capacity and duty is being carried by the water-courses and by running the sewers under a head, often with floodings in consequence.

"The figures given above represent the flow which may be expected from a rainfall at the rate of an inch per hour, and the discharge of storm water from the districts even with this rainfall will increase with the development by 20% and over; heavier rains, which occur at intervals of a few years, will yield vastly more.

"The state of things is growing constantly worse as the city grows, because, as new streets and houses are built, the proportion of impervious surface, from which the rain runs

off rapidly, is being increased, causing the rainfall upon any given area to be concentrated and discharged in less time than in former years.

"The inadequacy of the sewer systems to carry the storm water becomes, therefore, more apparent every year as this change in the character of the surface of the ground goes on. It is also apparent that it becomes correspondingly important to preserve and improve the natural water-courses to serve as carriers of the bulk of these floods, as the alternative to this is practically to rebuild the whole sewer system of the suburban districts upon a larger scale.

"In other words, we shall be compelled to regard our sewers as part of a partially separate system, although they were built and have been used upon the combined principle.

"By confining the sewers to the duty of carrying the house sewage and the discharge from a limited number of catch-basins only, they will prove in most cases large enough, while the natural water-courses, supplemented by surface drains in the streets, will have to be developed into a system for carrying away the storm water.

"It is also important to keep as much surface water as possible out of the sewer system, for the additional reason that all water, whether sewage or rain water, has to be lifted by the pumps of the intercepting system.

"But however much those whose business it is to care for the city's interest may be impressed with the importance of preserving the water-courses, it is very difficult to impress the general public with its importance. This department is constantly involved in contests with land-owners who are filling up and obliterating these water-courses, heedless of well-defined channels or conspicuous street culverts. And here comes in play that discouraging phase of human nature, in consequence of which men, who are honorable in their dealings with their fellows, seem to be able to make use of a much lower code of morals when they come to deal with that impersonal entity called the city.

"Although it may be explained to them that their course will entail upon the city in a few years an enormous expense for rebuilding the sewers of larger size, and although the law is perfectly clear that no man has a right to obstruct a natural water-course and thereby damage his neighbor, still their personal gain outweighs these theoretical considerations, and they will persist in obliterating the channel, and will bring every political and other influence to bear to the end that the water which should flow in that channel be turned into the sewer, and have in many cases succeeded.

"No one can pretend that the land speculator suffers any



hardship by not being allowed to improve his lot in this manner, because the depreciation in the value of the land caused by the presence of the water-course has undoubtedly been discounted in the purchase price in every transfer through which it has passed, and certainly no one can claim that he has any moral right to the increment of value added thus at the city's expense. Unfortunately, his legal right to it is clear if he can get the thing done, and therein lies the temptation.

"Now, the city's interest is such a vital one in this matter that it cannot afford to remain passive: its course must be more aggressive in the future, or many of the most important of these water-courses will be practically obliterated within a few years, as a perusal of the paragraphs describing their present condition (which will be given later) will prove.

"The law, as it stands, gives the city no rights which are at all commensurate with its interest in the matter.

"The city's obligation is to keep a good and sufficient culvert in operation on every water-course which crosses a public street.

"If an abutter upon a water-course starts filling it in, the city can take no action until actual damage has resulted from flooding the street.

"This is the sum total of the city's duties and rights in regard to these channels.

"The city should be given the right, by virtue of its interest, to prevent the obliteration of these channels, by notification and the imposition of suitable fines; this would require the action of the Legislature. This right would serve to keep some kind of a channel open; but even this is not sufficient, as it would result in leaving to every abutter the right to build such a channel as he might desire without any uniformity of size or material, whereas a channel, to be an efficient carrier of water, should be fairly uniform as to size and grade.

"All cities build sewer systems and assess a portion of the cost upon those benefited, instead of leaving it to be done by individuals, by mutual agreement, because that is the only practicable way to secure a working system; there is just as much reason for doing the same thing in the case of a system of surface drainage. In very many cases it is now necessary to improve the channel of water-courses by deepening, widening, and straightening. Before the city can do this work it must at present make formal takings and pay land damages.

"It must then assume the whole cost of the work, as it has

no power to assess. The land-owners meanwhile reap all the benefit, the value of lands abutting upon such a stream being enhanced enormously by such operations, being oftentimes converted from swamps into available building lots.

"If the city's right to secure the preservation of these water-courses could be clearly established by legislative action, as proposed above, then damages could not be proven in case the city made improvements upon them; this being so, the necessity for making takings would in most cases be avoided, by obtaining easements by agreement with the land-owners for such locations for the channels as the land-owners might prefer in order to enable them to cut up their land into building lots to the best advantage. If, in addition, the city were given the right to assess such proportion of the cost of improvement upon abutting lands as the Legislature might deem fit, the vexed question of maintaining an adequate system of surface drainage, as a necessary adjunct to the sewer system, would be in a fair way to be settled upon an equitable basis.

"A brief review of the present condition and needs of some of the principal natural water-courses of the city may prove instructive.

#### DORCHESTER DISTRICT.

"Tenean brook is the natural outlet for the drainage of a valley of about 800 acres. The advisability of improving its channel in order to afford relief to the overcrowded sewer systems in Park and Gibson streets was discussed in the Report for 1892, page 112 (to which reference is made), and the approximate cost stated as \$125,000, covering the main brook and its northern branch from the outlet at Mill street to Park street near the West End car-houses. An extension of the improvement of about 700 feet would reach and drain the 'Clay Pits,' so called, of which particular mention was made in the report of the committee of the Common Council on Dorchester marsh lands, made January 3, 1895. This would cost about \$12,000 more, making \$137,000 in all. Farther up stream on this northern branch the city has built an expensive storm sewer from Bowdoin street through Geneva avenue and Westville street.

"This improvement will have to be eventually extended down stream to connect with the one first mentioned, and the surface water from all streets in the vicinity conducted to it by a system of surface drains.

"Upon the southern branch of this brook, which reaches the vicinity of Rosemont street, the city has built a capacious culvert on Dorchester avenue, and private parties who are

developing a large tract of land west of Dorchester avenue will provide a channel for it there.

"The southerly branch of Davenport brook flows through the Churchill swamp, to which reference is also made in the report of the Common Council committee previously mentioned. A systematic deepening of this brook from its mouth upwards is the only means of draining this swamp.

"On the northerly branch the city has built culverts on Armandine, Bailey, and Fuller streets and Dorchester avenue. Private parties have obstructed and nearly closed this water-course on Armandine, near Washington street, and at Burt avenue; early action should be taken to compel the reopening of its channel.

"The Mattapan brook, which rises near Forest Avenue Station and flows through Mattapan Village to the Neponset river, if improved systematically would improve the sanitary condition of that region and render large areas of swamp lands available for building purposes.

"The improvement of the upper part of this brook in the vicinity of Capen, Fuller, and Seldon streets is a necessity, owing to the fact that whatever system of sewers is built there, it will be impossible to take into them any of the storm water.

"Passing over the divide into the valley of Stony brook, the brook which flows through the site of the Oakland Garden, claims our attention. The department has had a long controversy with the land-owners here, who have obliterated the channel of the brook and turned its waters into the sewers, to the great detriment of the latter.

"This work will have to be undone. Farther down stream, where this brook is larger, the city has built ample culverts on Spencer street, Wheatland avenue, and Millet street.

#### WEST ROXBURY DISTRICT.

"Stony brook and its main tributaries need not be discussed further, in connection with this subject, than to state that they are too large to be in danger of obliteration. If funds were available, however, improvements might be undertaken upon them which would amply repay the cost. Upon the Canterbury branch, in the vicinity of the Austin Farm; upon the Roslindale branch, near Florence and Washington streets: Whipple avenue and Ashland street; a large tract between Walter, Weld, and Hewlett streets; also in the vicinity of Anawan avenue and Colberg-street extension, and Beach and Irving streets, — are localities where a comparatively light cost and inexpensive improvement would convert partially submerged marshes into habitable building land.

"The whole valley of the Roslindale branch above the channel built by the City Engineer in 1891, extending across Dndley and Bellevue avenues and along Belgrade avenue to Central Station, needs attention.

"This locality now has sewerage, and is being rapidly built up, but the present condition of the brook must lead to damp cellars, flooded lands, malaria and fever, if not bettered before long.

"The brook which rises south of West Roxbury Station and crosses the Dedham Branch R.R. near Spring Street Station needs urgently a systematic deepening and straightening, as the premises of the inhabitants of this valley are flooded by it every winter; but as much sewage finds its way directly and indirectly into it, and as it flows into Charles river at a point above where several towns and cities take their drinking water from the river, a system of sewerage should precede its improvement, for this sewage is now practically destroyed before reaching the river by the natural processes of aeration and sedimentation during its slow progress through reedy marshes.

#### BRIGHTON DISTRICT.

"In this district more abuses of the natural water-courses, in the way of obstruction, obliteration, and connection with the sewers, has taken place than in any other part of the city. The most important of these is the brook near Shepard and Winship streets, which flows northerly across Washington and Cambridge streets, near their junction, and North Beacon, near Arthur street; it then crosses Everett street at the corner of Braintree street, passes under the Boston & Albany Railroad, Lincoln and Franklin streets, in a culvert of considerable size. From Franklin to North Harvard streets the little that remains of the brook is carried in an absurdly small channel, consisting of 24 and 18 inch pipes; from North Harvard street to the river it flows in an open channel, crossing Western avenue in a good stone culvert. It is taken into the sewer in Shepard street, causing the sewers in this street and Winship street to back into the cellars every spring, and during heavy storms at other seasons. It is taken in again at Cambridge street, overcharging this sewer badly. Again on North Beacon street, near Arthur street, it is turned into the sewer. On Everett street, at the corner of Braintree, it is again connected with the sewer, and the remnant is carried in a pipe through the cellars of several dwelling-houses. A culvert was built at the demand of this department through the retaining-walls and embankment of the approach of the new Everett-street bridge over the

Boston & Albany Railroad, but is inoperative. At this point the only way of restoring the brook channel seems to be by building a capacious storm sewer. The importance of establishing an uninterrupted channel for this brook may be seen from the facts that its water-shed, at North Beacon street, for instance, is three hundred and five acres, yielding a flow of one hundred and ten cubic feet per second from storms of moderate intensity in the present state of development of the district, and probably one hundred and seventy-five cubic feet in heavy storms, to say nothing of the increase of flow, which must come with the future development, while the capacity of the main sewer in North Beacon street, which is the only channel operating at present freely, is only thirty-five cubic feet per second.

"Between North Harvard street and Western avenue the channel of the brook runs through the Rena-street district, so called, comprising about sixty acres. On account of its proximity to the Metropolitan main sewer, a part of this district has been sewered upon the separate system, the house sewers being connected with the Metropolitan sewer and the surface drains with the brook. Another portion, including Rena, North Harvard, Bayard, Weitz, and Kenneth streets, has no surface drains as yet. As the connections of these house sewers with the Metropolitan sewer had to be made through regulators, at the demand of the Metropolitan Drainage Commission, these sewers have no means of relief, except by backing up into the cellars, whenever the water in the Metropolitan sewer rises high enough to cause the regulators to cut off the connection. Surface drains will have to be built, connecting with the brook, and serving as relief overflows for the house sewers, making it absolutely necessary for this portion of the brook channel, at least, to be preserved.

"It will be seen from the foregoing description that this important brook is practically obliterated in numerous places, and measures should be taken by the city promptly to reopen its channel; for, if it is not done, the city will be forced to build an enormously expensive storm sewer to take its place, from North Harvard street to Shepard street, a distance of about nine thousand feet, at an early date.

"A drain, formerly a brook channel, tributary to the main brook, comes from the Boston & Albany stock yards, and joins the main brook at Everett street, close to the railroad. This carries all the foul washings of the stock yards, and causes a nuisance in the channel of the main brook north of this point. This should be connected with the Everett-street sewer, as its contents are as foul as any sewage; but

first the main brook should be disconnected from the sewer and restored to its proper channel.

"The tract of land bounded by North Beacon, Murdock, Sparhawk, and Market streets is laid out in streets, and has some sewers, built years ago by private parties. These are too near the surface to serve as sewers, but may be utilized as surface drains. A brook formerly flowed from this land across Market street, near Faneuil street, and down to the pond near North Beacon street at the iron bridge, and a portion of a good walled-up channel may yet be seen, but the remainder is obliterated. If this channel is not kept open the surface water from this area will all have to go into the Market-street sewer, and thence into the North Beacon-street sewer, aggravating the overcrowded condition of that sewer.

"At Oak square there is a brook which runs across the square from Tremont street under the West End car-houses and through private land between Faneuil and Washington streets, crossing Faneuil street, and running through Brooks pond to join the main brook from Chandler's pond.

"A tributary to this brook, which drains all the catch-basins in Oak square, and will afford a relief overflow to the Washington-street sewer, has been cut off by the building of the foundations of the West End car-houses, and will have to be restored.

"The main brook from Chandler's pond is too large to be easily obstructed, and has had culverts of ample size built upon it by the city at Parsons, Hobart, Faneuil, Oakland, and Lake streets."

The desirability of systematically deepening and improving waterways like the above-mentioned, beginning at the outlet and working toward their source, is unquestionable, and should be carried out before the adjoining land is wholly cut up into house lots and largely built upon, as then it would involve expensive land takings and serious claims for damage.

It is equally plain that the city should not be forced to take within its street limits a diverted waterway, and thus lengthen its course, and necessitate a more costly construction. Other cities are taking up this question, with a view of utilizing the valleys of prominent streams as a part of their park system, after the manner of our own Muddy River Parkway, with its banks terraced and planted with shady trees and flowering shrubs, crossed by well-designed stone-arched bridges, till the whole effect is most charming to those who admire landscape. Where necessary, the lowering of the stream-bed might be the means of transforming worthless stretches of land into the choicest building

lots. The former City Engineer of Newton, Mr. A. E. Noyes, and Mr. E. A. Buss, in making a joint study of this question, suggest that if legislation is commendable in establishing a Board of Survey for the city of Boston, especially authorized to designate the locations and grades of streets for the best public good, and to prevent owners of property from making further departure therefrom, then there is much more ground for seeking legislative authority for a city to lay out and determine the size and location of its surface drains, and prevent interference of the same by property-holders, under fear of penalty.

Whatever course is taken, cheap and temporary expedients for private interests *only* should be wholly discountenanced.

## STREET-CLEANING DIVISION.

## STREET-SWEEPING DISTRICTS.

*District No. 1. — West End.*

This district includes that portion of the City Proper that is bounded on the west and north by the Charles river, on the east by Charlestown and Washington streets, on the south by School and Beacon streets and Boston Common.

*District No. 2. — North End.*

This district includes that portion of the City Proper bordering on the Charles river and harbor front that lies east of Charlestown and Washington streets, and north of Central and Milk streets.

*District No. 3. — South End.*

This district includes the southerly portion of the City Proper (business section), and is bounded on the north by Central and Milk streets, on the east by Fort-point channel, on the south and south-west by Kneeland, Lincoln, Harvard, and Utica streets, and on the west by Washington street.

*District No. 4. — South End.*

This district includes the portion of City Proper and Back Bay that lies southerly from the Public Garden and Common, and extends as far as Dartmouth and Dover streets, and is bounded on the west and north by Beacon and School streets, easterly by Washington, Kneeland, Lincoln, Harvard, Utica streets, and Fort-point channel, southerly by Dover, Berkeley, Columbus avenue, and Dartmouth streets.

*District No. 5. — Back Bay and South End.*

This district includes all of Back Bay and South End between Charles river and South bay from Dartmouth and Dover streets on the north, to Massachusetts avenue, Hammond and Hunneman streets on the south.

*District No. 6. — South Boston.**District No. 7. — Roxbury.**District No. 8. — Brighton.**District No. 9. — East Boston and Charlestown.*



Owing to the constant growth of Dorchester and West Roxbury, the work done by occasional visits of sections of gangs from the adjoining districts was no longer sufficient; but, on account of the small appropriation, no additional force could be organized. These districts, however, are constantly cared for by the Paving Division force, thus saving the expense of extra superintendence and headquarters.

The following table shows the average force employed during the year:

District.	Average No. men employed.
Office . . . . .	4
1, West End . . . . .	32
2, North End . . . . .	32
3, South End . . . . .	32
4, South End . . . . .	32
5, Back Bay . . . . .	31
6, South Boston . . . . .	32
7, Roxbury . . . . .	28
8, Brighton . . . . .	—
9, Charlestown and East Boston . . . . .	27
Yard and stable . . . . .	14
Push-cart patrol . . . . .	39
	<hr/>
Total . . . . .	303

The above-mentioned force use in carrying out the work of the division the following plant:

Three 3-horse machines, 19 double sweeping-machines, 21 single sweeping-machines, 11 water-carts, 90 street-carts, 100 horses (owned by the division), 14 asphalt-scrapers.

Eight of the above horses are driving-horses.

The push-cart patrol use:

Fifty-nine push-carts, 63 extra barrels, 3 street-carts (steel), 3 horses (all hired). Of the 59 push-carts, 40 are in daily service.

In addition to the above-mentioned carts, the division hires about 33 extra teams.

The following table shows the number of loads of street-sweepings removed each year during the last thirteen years:

Year.	No. of cartloads.
1882 . . . . .	52,381
1883 . . . . .	58,272
1884 . . . . .	62,222
1885 . . . . .	61,455
1886 . . . . .	59,875
1887 . . . . .	68,990

Year.	No. of cartloads.
1888 . . . . .	68,010
1889 . . . . .	70,476
1890 . . . . .	70,449
1891, 12 months . . . . .	87,113
1891, 13 months . . . . .	91,425
1892 . . . . .	106,829
1893 . . . . .	110,496
1894 . . . . .	<b>95,478</b>

#### STREET-CLEANING.

With a gross expenditure of \$307,113.16, this division has cleaned 10,432.75 miles of streets, removing 95,478 loads of street-dirt; has also cleaned 2,175.65 miles of paved gutters on macadamized streets, including special work on crossings, maintained 16 dumping-stations, removed excess of snow from pavements and crossings, paid special attention to the collection and removal of leaves in the fall of the year, maintained a paper-patrol in freezing weather and a push-cart patrol in the retail district throughout the year; and, besides making necessary repairs to its plant and purchasing the new stock needed, made a disposal at sea of some 30,766 loads of street-dirt. The average cost of sweeping streets, including supervision, labor, yard, and stable expenses, *pro rata* of dumps, and removal, was \$15.61 per mile.

If the gross expenditure, including stock and all miscellaneous expenses, be divided by the total mileage of the city, which is 452 miles, the outside expenditure per season per mile of street is found to be \$679, which is very low as compared with other cities.

The results of the push-cart patrol system have been most satisfactory, and an extension of the routes is surely warrantable. Fifty thousand two hundred and eighty barrel-loads were taken up by this force alone.

The public waste-barrels, located in the immediate vicinity of various fruit stores, inviting the deposition of refuse which would otherwise be thrown into the street, have found favor with the public, and much littering of the street is thereby avoided.

District 8, or Brighton, was wholly taken care of by the Paving Division; also, macadamized streets in other outlying districts were scraped by this division, and 37,557 single and 1,948 double loads of street-scrapings were removed. After a severe snow-storm, the paving force is called to the aid of the street-cleaning force, and the cost of snow-removal is reported in Appendix B.

## GENERAL REMARKS.

The general term "street-cleaning" appears to be used in common discussion in a very loose way, and very misleading comparisons and erroneous conclusions result. This has been more apparent of late, as the subject has been of more than ordinary interest to the public for the past few years, and receives a correspondingly increased consideration by the press everywhere. In these comparisons the cost quantities set over against each other under the simple term "street-cleaning" do not apply in different cities to the same or analogous work.

It starts with (1) sweeping streets only; it then grows to include (2) the removal of the dirt or road detritus to the dumps; then gradually extends its scope by the following successive steps: (3) collecting and removing ashes, store-dirt, house-dirt, and kitchen refuse and garbage; (4) final disposition, either at sea, by incineration, or some rendering process; (5) collecting and rendering dead animals; (6) cleaning of alleys and private ways; (7) cleaning of catch-basins, cess-pools, and vaults, and removing night-soil; (8) removal of snow; (9) scraping macadamized streets; (10) street-sprinkling.

Each of the above items involves an expense varying in amount according to local conditions and laws. Collecting ashes, for instance, may figure but \$2.00 per mile of street, while scraping a heavy macadamized street may cost \$100 per mile. Then, too, some cities report that a certain number of miles of streets are kept clean throughout the year, which in some cases is a fair percentage of the city mileage, and in others it is made to equal the total mileage. Other cities keep a record of streets swept or cleaned each day, and at the end of the year report the accumulated amount, or total miles actually cleaned. It does not require much mathematical calculation to ascertain which method gives the best showing for the least amount of expenditure. Local conditions vary greatly. Some cities are almost wholly paved, few, like Boston, are mostly macadamized or gravelled. Some have convenient dumps, others necessitate long hauls. The price of labor varies, and the hours of labor are not always restricted. Public sentiment demands more in one city than in another, so that the degree of cleanliness satisfactory in one latitude would only be a source of disgust in another. Mud on a crossing not over a boot-sole would rouse a protest in some of our fashionable quarters, while in some of our Western cities, less whimsical by nature, no fault is found until there is "mud enough to bog a duck."

The history of the last five or ten years shows that the public demands a higher service, and the refinement of the present day asks for a greater opportunity for personal comfort and good health, and public opinion sanctions an increased expenditure. The amount spent on sanitary cleanliness was never so great as it is to-day in all our large cities, New York, for instance, about doubling the amount used five years ago. This desire for cleanliness has been spreading from city to city, until each one has its organized force with modern auxiliaries and appliances, vying with each other in the praiseworthy effort to banish the filthy and unsightly refuse from our public thoroughfares, and thus make them compare favorably with the streets abroad.

The time has now come when the official in charge must not study as to how much money he can spend for this work in a single year, but how much greater area he can keep *truly clean* without increasing the expenditure. Results without extravagance are really what is to be sought. In other words, the problem is resolved into this: By what methods can refuse of all kinds be turned to revenue or usefulness, and absolute waste be reduced to a minimum?

This can only be accomplished by a careful and painstaking process of differentiation or separating the products of street collections, and diverting each to a sphere of usefulness consistent with its character. Just as the material of a gravel bank becomes more useful and of wider adaptability to constructive requirements by a simple process of running it through a system of wire screens of varying mesh, until stones of a uniform size and sand particles are each collected together to be used for widely different purposes, so our refuse separated into its different elements may be turned to some good account, each being appropriated to its most valuable purpose, the clean ash its bed of filling, the rag its paper-mill, road detritus its fertilization market, and house-offal its digester, wherein it is further separated, yielding both animal and vegetable products of varying worth. This separating process must begin with each householder, and hence the requirement that different receptacles must be provided and used, one for street-dirt, another for ashes, and yet another for house-offal. The simple work of street-cleaning in its broad and sanitary sense must then resolve itself into a machine-like march of an organized force so controlled that, without interfering with the business use of streets, and without waste of time by conflicting effort, it shall take captive every scrap of filth and refuse legally left within its reach, and without delay or incidental annoyance remove the same to the nearest

point of collection, from which its final useful disposition can be made.

Its success must depend largely upon public coöperation with the municipal authorities, and individual effort throughout the community to refrain from carelessly allowing any of its waste dirt to be scattered about on any public highway.

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### SMOKE NUISANCE.

Argument is not necessary to convince the citizens of this city or any city that soft-coal smoke is the cause of untold injury to health, to the beauty of our architecture, to the cleanliness of our office furnishings and records, and a destructive agency of marked efficiency within the business district in its pernicious contact with the finer textile fabrics, and general merchandise as well.

Theorizing as to the remedy is not what the people want, but a practical, energetic, and effective activity, directed by proper law and ordinance, that shall forthwith demand compliance with such regulations as will abolish existing nuisances, and prevent new construction from entirely disregarding this whole question in the laying out of new plant. Such has been the plan of operation of this department. A *résumé* of the work of the year shows some good results, not so much in the multiplicity of the so-called devices, as in the actual marked reduction of the percentage of "dense, dark smoke" emitted from various stacks, as shown by recent observations as compared with those taken upon the same plants a year ago. Owners of estates have been more liberal in their desire to contribute to the general good of the community by the purchase of better and more smokeless fuels; engineers have been more stringent in their orders to the firemen, and the firing itself has not been so often intrusted to the elevator boy or some other equally irresponsible employee.

The scarcity of good coal in this vicinity last winter, due to the great strike among the miners, had a marked effect upon plants in this city, complaints coming from stacks that had formerly given no trouble.

Nothing has been more apparent from the result of the observations than the extreme lenity of the present law, allowing as it does that a stack may belch forth dense, dark smoke for fully *one-fourth* of the time. The history of the movement here only shows that the *terms of the law* should be prescribed by the community at large which is offended against, rather than by the offenders themselves. City

Document No. 81 of 1893 shows that the consumers of soft coal themselves were on the alert to see that the movement did not become too stringent in its final recommendations.

Chapter 353 of the Acts and Resolves of 1893 is still in force, but it is hoped that the present Legislature will modify it, as there is great difficulty in securing conviction in court, a warrant having been refused on one of the worst cases of violation as shown by observations of the inspector.

During the past year 188 complaint notices have been served and 184 inspections made; making a total to date of 319 notices served, and 300 inspections completed.

The inspections may be classified as follows:

With patent device attached . . . . .	38
Now considering the adoption of some device . . . . .	29
Wing walls . . . . .	5
Using hard coal . . . . .	32
Using shavings or similarly offensive fuels . . . . .	35
Claim compliance with the law . . . . .	150
Supplied with device of their own design . . . . .	4
Ready to adopt a satisfactory device . . . . .	7

Devices in use are:

1st. *Down-draft Furnaces*, "*American Down-draft*." — Nevins estate, 78 Chauncy street; Lyceum Theatre, Washington street; Nevins Estate, 66 Chauncy street; Smith-Carleton Company, 79 Boston street.

"*Hawley Down-draft*." — Brookline Gas Light Company, Allston; West End Power Station, Cambridge.

2d. *Automatic Stokers*, "*Roney Automatic Stoker*." — State House Extension, Mt. Vernon street; Boston Electric Light Company, Boston street.

3d. *Furnaces with Hollow Walls (to admit heated air)*, "*Jarvis Setting*." — Edison Illuminating Company, Atlantic avenue; Edison Illuminating Company, Head place; Boston Electric Light Company, Condor street, East Boston; E. Hodge & Co., 160 Liverpool street, East Boston; Boston Fire Brick Company, 394 Federal street; J. Roessle, 60 Pynchon street, Roxbury; L. Prang & Co., 286 Roxbury street, Roxbury.

"*Smith Setting*." — J. R. Alley & Sons, 123 Heath street, Roxbury; Furbush & Co., Rutherford avenue, Charlestown.

"*Jones Economic Furnace*." — Crawford House, Brattle street; Boston Electric Light Company, Gilbert place; Boston Lead Works, Hampden street; Boston & Maine Railroad, Minot street; Boston Belting Company, Elmwood street.

4th. *Steam Jet*, "*Andrews Hot-Air Device*." — Nahum Chapin, Water street; W. Smith & Co., Marginal street, East Boston; A. T. Van Nostrand, Alford street, Charlestown; Grand Hotel, 417 Columbus avenue.

"*Standard Smoke Consumer*." — B. H. Murray (Drake's Saw-mill), Border street, East Boston; Jordan, Marsh, & Co. (wholesale), corner Bedford and Lincoln streets; Houghton & Dutton, corner Tremont and Beacon streets.

"*Bartlett & Hayward Patent Damper*" (*perforated bridge-wall*.) — New Court-house, Pemberton square; Brown, Durrell, & Co., Kingston street.

"*Fyfe's Deflector*" (*wing walls*). — Homœopathic Hospital, corner Concord and Albany streets; Page Bros., 231 Cambridge street.

"*Whitfield Grate*." — Boston & Albany Railroad Grain Elevator, Chandler street.

Of the thirty-two plants reported as using hard coal, eight have since gone back to soft coal, mainly on the ground that they needed greater steaming capacity. Several are using soft coal and hard-coal screenings, and claim that they can keep within the limits of the law by so doing.

All of the above-mentioned inspections have been subjected to mechanical study, from which the following defects were made evident :

Chimney too small . . . . .	66
Air-space in grate too small . . . . .	21
Smoke-flue too small . . . . .	9
Number of tubes small . . . . .	1
Forced at times, especially in winter . . . . .	42
Boilers very old . . . . .	4
Chimney and smoke-flue small . . . . .	3
Boiler overworked . . . . .	1
Boiler heated by waste gases . . . . .	1
Insufficient data . . . . .	1
No apparent defect . . . . .	151

Circulars in regard to the selection of fuel and care in firing have been issued from time to time. A disposition to comply with the law and with the department regulations has been generally evident, showing that our community is made up mainly of law-abiding citizens. Even when the strike among coal operatives was on in April, the effects of which were very noticeable in June and July, and complaints began to multiply, investigation showed that, while inferior grades of bituminous coal were being shipped to this port in large quantities, owners were for the most part willing to subject

themselves to a little larger expense, and mix some hard coal with the soft, to mitigate in some degree the increased nuisance. On July 10 six additional observers were given to the inspector, to aid in taking records of various stacks. Later, this number was reduced to two men, who have covered the city regularly by districts, and have been keeping the department informed of any unusual appearance of smoke emission.

Some fifty set observations have been made on various stacks, lasting from two to sixteen hours each. These showed per cents. of dense, dark smoke varying from 5.1 to about 60, with one abnormal one of 78.8 per cent. Plants well equipped for complete combustion showed from 10 to 20 per cent. A few well-regulated and well-proportioned plants without device managed to keep their smoke from 20 to 26 per cent.

#### NEW LOCATIONS.

On July 24 a standing objection was filed with the Survey and Inspection of Buildings Department against the granting of permits for new boilers, without the applicants for locations first satisfying this department that they would endeavor to comply with the law, either by the adoption of a smoke-consuming device, or the use of a smokeless fuel.

In practice, the following formalities are observed before the applicant can receive permission to locate a new or relocate an old boiler-plant. He first makes application to the Inspector of Buildings, and is informed that before permission can be granted, the consent of the Superintendent of Streets must be obtained.

The Inspector of Buildings then fills out the upper portion of the following blank and sends it to the Superintendent of Streets :

(Form A.)

#### CITY OF BOSTON.

OFFICE OF INSPECTOR OF BUILDINGS,

BOSTON, ..... 189 .....

To the Superintendent of Streets:

You are hereby notified that .....

..... of ..... has made application for location of a boiler at No. .... on this date.

.....  
Inspector of Buildings.



No. .... OFFICE OF SUPERINTENDENT OF STREETS,  
ROOM 47, CITY HALL, ..... 189 .....

*To the Inspector of Buildings :*

You are hereby notified that the above-named applicant has ..... signified his intention of meeting the requirements of the Superintendent of Streets relative to the prevention of smoke, either by the adoption of a smokeless fuel, or of a satisfactory smoke-consuming device, and that I herewith  $\left\{ \begin{array}{l} \text{waive} \\ \text{or} \\ \text{renew} \end{array} \right\}$  objections to the granting of permit ....

*Superintendent of Streets.*

On receipt of this notification, the Superintendent of Streets fills out the following blank and sends it to the applicant, who must then appear before the Superintendent of Streets to obtain his sanction of the proposed boiler location.

*(Form B.)*

No. .... STREET DEPARTMENT,  
CITY HALL,  
BOSTON, ..... 189 .....

OFFICE OF THE SUPERINTENDENT,  
ROOM 47.

M .....

DEAR SIR: You are herewith notified that this department objects to the granting of your petition for leave to locate ..... boiler at ..... as per your application on file in the office of the Inspector of Buildings, unless the same ..... provided with an effective smoke-consuming device.

Will you please call at this office in reference to the matter, and oblige,

Yours truly,

*Superintendent of Streets.*

Pending the granting of the location, an inspection is made of the proposed boiler plant, and if the Superintendent of the Street Department finds that there is reasonable probability that it will comply with the law and ordinances, the applicant is required to sign the following blank, which states the nature of the boiler plant, coal to be used, etc. :

(Form C.)

No. ....

Boston, ....., 189 .....

Application for Location of Boiler :

by .....  
of.....  
at.....

*To the Superintendent of Streets :*

I hereby agree to comply with the statute laws and city ordinances, and the requirements of the Superintendent of Streets, relating to the prevention or the suppression of smoke, and propose to adopt ..... a device for said purpose, within ..... days from date, and will see that due care is continually exercised both in the selection and use of fuels, to the end that the amount of smoke emission and nuisance shall be reduced to a minimum.

The lower half of Form A is then filled out with "objections waived," and it is then returned to the Inspector of Buildings, who may then grant the location in the regular manner. It will be seen that by this agreement (Form C), signed by the applicant, the Superintendent of Streets obtains control over the boiler plant so far as smoke nuisance is concerned, and, in case this agreement is afterwards violated, the permission to operate such a boiler plant may be revoked by the Inspector of Buildings, through request of the Superintendent of Streets.

On the other hand, if the Superintendent of Streets is not satisfied, after investigation, that the proposed boiler plant will comply with the law relating to the smoke nuisance, the lower half of Form A is filled out with "objections renewed." This is then returned to the Inspector of Buildings, and the application is thereupon denied. In such a case the applicant, as a last resource, may apply to the Board of Appeal on Boiler Locations, and the decision of this Board is final. This Board of Appeal, as now constituted, consists of the present Superintendent of Streets; the Chairman of the Board of Fire Commissioners, Robert G. Fitch; the Chairman of the Boston Board of Health, Samuel H. Durgin, M.D.; and Messrs. George R. Swasey, Arthur H. Everett, and William H. Sayward.

Under the foregoing arrangement, ninety-two notices of applications have been received from the Inspector of Buildings. Of this number, in fifty-six cases objections have

been waived on account of being mainly hot-water heaters, constructed so as to burn hard coal only; in thirty cases, the applicant has shown a satisfactory guarantee that proper precautions are being taken, and has signed the record-book, agreeing to conform to all necessary requirements. Three cases are still open and await the results of further inquiry.

While the law is not at present as stringent as desirable, there is no doubt that many owners of both large and small plants show a decided willingness to comply with such requirements of the department as will, without unreasonable cost, abate the nuisance, and thus contribute to the general comforts and good health of the community; but greater stringency of law will be required to enforce action upon parties who are unwilling to be subjected to any expense whatever in the matter, but lean wholly to the item of economy, and are loath to incorporate any change, unless it can show a saving in their running expenses. In many plants the local conditions are such that the element of economy can readily become a factor of reasonable promise, but if those conditions will not admit of changes in the direction of economy, then it is surely the duty of the owner to offset his unavoidably cramped conditions with the adoption of some relieving expedient, even though it may at the same time subject him to a slightly increased expense.

#### CONCLUSION.

Allusion has been made in the foregoing report to the most important portions of the work of the year, but the limited space allotted to an executive report of this kind precludes the mention of numerous other features that would bear discussion.

In the appendices which follow, however, detail items may be found, arranged in convenient form, of such street and sewer construction as seemed of sufficient importance to merit special mention.

The table of former superintendents and document numbers of the annual reports at the end (Appendix F) will be found of convenient reference for general use in connection with the history of department work in past years.

Respectfully submitted,

HENRY B. WOOD,  
*Executive Engineer.*



# STREET DEPARTMENT.

## ORGANIZATION, 1894.

Central Office . . . . Room 47, City Hall.

**HENRY H. CARTER**, *Superintendent of Streets.*  
(Until December 8, 1894.)

**CHARLES R. CUTTER**, *Acting Superintendent.*  
(From December 8, 1894, to January 14, 1895.)

**BERTRAND T. WHEELER**, *Superintendent.*  
(From January 14 to the present time.)

**HENRY B. WOOD**, *Executive Engineer.*  
**JOHN W. McDONALD**, *Purchasing Agent.*

### BRIDGE DIVISION.

14 Beacon Street.

**JOHN A. McLAUGHLIN**, *Deputy Superintendent.*

**FREDERICK H. SPRING**, *Chief Clerk.*

### PAVING DIVISION.

Room 41, City Hall.

**CHARLES R. CUTTER**, *Deputy Superintendent.* (Until January 24.)

**DARIUS N. PAYSON**. (January 24 to the present time.)

**BENJAMIN B. TREMERE**, *Chief Clerk.*

### SANITARY DIVISION.

12 Beacon Street.

**PHILIP A. JACKSON**, *Acting Deputy Superintendent.*

**M. J. MURRAY**, *Chief Clerk.*

### SEWER DIVISION.

Room 44, City Hall.

**HENRY W. SANBORN**, *Deputy Superintendent (ex officio, Engineer Improved Sewerage).*

**FRANK H. RICE**, *Chief Clerk.*

Engineer's Office, 12 Beacon Street.

**E. S. DORR**, *Engineer in Charge.*

### STREET-CLEANING DIVISION.

14 Beacon Street.

**PHILIP A. JACKSON**, *Deputy Superintendent.*

**THOMAS McLAUGHLIN**, *Chief Clerk.*

### BOSTON AND CAMBRIDGE BRIDGES.

**HENRY H. CARTER**, *Commissioner for Boston (ex officio, until December 8, 1894)*

**CHARLES R. CUTTER**. (Acting Commissioner from December 8, 1894, to January 14, 1895.)

**BERTRAND T. WHEELER**. (Since January 14.)

**WILLIAM J. MARVIN**, *Commissioner for Cambridge.*



## APPENDIX A.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE  
BRIDGE DIVISION.14 BEACON STREET,  
BOSTON, February 1, 1895.MR. B. T. WHEELER, *Superintendent of Streets* :

DEAR SIR: I herewith respectfully submit the following report of the acts and expenditures of the Bridge Division from February 1, 1894, to January 31, 1895. There was allotted for the care, maintenance, etc., of the bridges during this period the sum of \$125,000, which by reason of the opening of L-street bridge to public travel, and in consequence of necessary work performed on Charles-river bridge that it might be used as a thoroughfare, was found to be insufficient to the amount of \$5,787.21. Thus the total sum regularly expended on the bridges and charged to this division was \$130,787.21.

The total number of bridges in Boston, not including culverts, is one hundred and twelve; four of these, viz., Harvard, Canal, Prison Point, and West Boston bridges, all connecting Cambridge, are in the care of two commissioners, one of whom is appointed by the city of Boston and the other by the city of Cambridge. The remainder are under the supervision of this division, and are thus tabulated: Thirty-four are wholly supported by railroad corporations, and seventy-eight are supported wholly or in part by the city of Boston. Included in this number are twenty-three tide-water bridges, provided with draws. The increase of two bridges consists of one at Audubon road, over Brookline branch of the Boston & Albany Railroad, and Florence street, over Stony brook.

Of the tide-water bridges there are eleven of great importance, viz., Meridian street (horse power), Chelsea North and Chelsea South (both steam power), Malden (man power), Warren, Charles River, Congress, L-street, and Broadway (all steam power), Federal and Dover streets (both electricity).

The condition of Malden, Charles-river draw, Broadway, and Congress-street bridges is unsatisfactory and require most careful attention.

Charles-river bridge was closed to team travel July 18, 1894, at 1.45 P.M., as it was considered dangerous. Extensive repairs, under the supervision of the City Engineer's Department, were performed under contract, and the bridge was reopened to team

travel on October 16, 1894, at 9 A.M. The draw, however, is still in very bad shape, as its foundation is much decayed.

Chelsea-street bridge is in process of rebuilding and will be completed in a few weeks. Dover-street bridge has been completed and is in running order, giving complete satisfaction. L-street bridge has also been opened to public travel during the year.

Embodied in the report will be found a detailed statement of the expenditures and a description of the work performed on each bridge; also a tabulated arrangement of those bridges supported wholly or in part by the city of Boston; widths of draw openings, widths of bridges, roadway, and sidewalks; kind of pavement used; number of draw openings made for navigation, and a census of traffic taken on some of the most important bridges, October 8, 1894, as a comparison with that taken in April, 1891, June, 1892, and September, 1893.

The inland bridges have been carefully looked after, and special effort has been made to keep them safe and clean. They have been thoroughly swept each week and scupper-holes have been kept free and clear. The operatives of the tide-water bridges have performed their duties in an efficient manner and have kept their piers and premises in a safe condition, and no accidents have been reported that could in any way be charged to the negligence or carelessness of the draw-tenders or their assistants.

The material used for repairs has been of good quality, and the delivery of the same in the different districts by those having the contracts has been prompt and efficient, causing no delay for the proper performance of the work.

As formerly, the same care has been exercised to keep on hand duplicate sets of gearing, and many times during the year this precaution has lessened public inconvenience.

#### SPECIAL WORK.

The report contains a description of work performed and expenditures on several bridges, money for which was provided from special appropriations.

The total amount of money so expended and charged—\$33,066.55.

Of this sum, for contract work, material, and repairs, which could not be performed by our men—\$27,729.33.

The balance was directly beneficial to our own bridge mechanics—\$5,337.22.

#### PUBLIC LANDING-PLACES.

The following public landing-places have been built by the city, and are maintained and controlled by the Street Department:

*Charles-river Bridge.*—Size, 40 × 60. Built in 1890. Moored from city's property.

*Essex-street Bridge.*—Size, 9 × 23. Built in 1890. Moored from city's property.

*East Boston, Public Landing.*—Size, 18 × 30. Built in 1893. Moored at dock of East Boston Dry Dock Company. Dock and flats leased at \$200 per year.



*Commercial Wharf.* — Size, 30 × 50. Built by M. F. Sullivan : contract dated January 1, 1892. Moored at dock of Commercial Wharf Corporation. Dock and flats leased November 30, 1891, at \$1,000 per year.

*Federal-street Bridge.* — Size, 20 × 35. Built by M. F. Sullivan, October 26, 1892. Moored from city's property.

## CABLE-HOUSES.

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

## New England Telephone and Telegraph Company :

Charles-river bridge . . . . .	2 houses.
Chelsea, south bridge . . . . .	1 house.
Congress-street bridge . . . . .	2 houses.

(Erected in 1882.)

## American Telephone and Telegraph Company :

Federal-street bridge (erected in 1890) . . . . .	1 house.
---	----------

## West End Street Railway Company :

Federal-street bridge . . . . .	2 houses.
Warren bridge . . . . .	2 houses.

(Erected in June, 1892.)

## New England Telephone and Telegraph Company :

Dover-street bridge . . . . .	2 houses.
-------------------------------	-----------

(Erected in 1894.)

## Postal Telegraph Cable Company :

Congress-street bridge . . . . .	2 houses.
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(Erected in 1894.)

Very respectfully yours,

JOHN A. McLAUGHLIN,  
*Deputy Superintendent.*

## FINANCIAL STATEMENT.

## REGULAR APPROPRIATION.

Appropriation, 1894-5 . . . . .	\$125,000 00
Transferred from Paving Division, December 6, 1894 . . . . .	5,000 00
Transferred from Paving Division, January 25, 1895 . . . . .	787 21
Total . . . . .	<u>\$130,787 21</u>
Amount of expenditures from February 1, 1894, to January 31, 1895 . . . . .	\$130,137 21
Transferred to City Clerk Department, December 31, 1894 . . . . .	650 00
	<u>\$139,787 21</u>

## EXPENDITURES.

*Administration.*

Office expenses :	
Printing . . . . .	\$72 00
Stationery and postage . . . . .	120 30
Office books . . . . .	77 25
Engraving plates, etc., annual report . . . . .	81 83
Requisition book, purchasing agent . . . . .	7 63
Envelopes, Superintendent of Streets . . . . .	46 36
Book of warrants . . . . .	8 03
Repairing books, etc. . . . .	50 90
Atlas, Dorchester . . . . .	36 50
Telephone . . . . .	156 00
Sundries . . . . .	34 67
	\$691 47
Salaries of Deputy Superintendent, Clerks, and Messenger . . . . .	6,394 00
Salaries of General Foreman and two District Foremen . . . . .	5,061 00
Salary of Clerk of Committee on Streets and Sewers, nine weeks . . . . .	258 84
Travelling expenses . . . . .	85 00
Board of Deputy Superintendent's horse and extra horse . . . . .	576 00
	\$13,066 31

## TOTAL REGULAR EXPENDITURES.

Expenditures, administration . . . . .	\$13,066 31
“ on tide-water bridges . . . . .	96,805 80
“ on inland bridges . . . . .	6,712 36
“ north yard and stable . . . . .	4,834 47
“ south “ “ “ . . . . .	8,718 27
	\$130,137 21

Total amount expended for the year, February 1, 1894. to January 31, 1895 . . . . .

## INCOME.

The amount of bills deposited with the City Collector during the year was as follows :

Work done by this division . . . . .	\$98 62
Sale of old material . . . . .	150 00
Rent of land and buildings . . . . .	1,350 00
	\$1,598 62

## TIDE-WATER BRIDGES.

**Broadway bridge** (over Fort-Point Channel).

Sheathed draw and roadway, put in new section of iron fence, put down new wheel guards, repaired piers and waterways, repaired engines, machinery, latches, etc.

Carpenters . . . . .	\$2,101 23	
Painters . . . . .	15 75	
Lumber . . . . .	1,478 24	
Nails . . . . .	115 00	
Ironwork . . . . .	994 90	
Repairing engines . . . . .	48 23	
Hardware . . . . .	14 57	
Paint stock . . . . .	3 30	
Cement . . . . .	1 20	
Teaming . . . . .	9 00	
Smoke-stack . . . . .	7 00	
	<hr/>	\$4,788 42

## Regular expenses :

Draw-tenders . . . . .	\$5,737 86	
Substitutes . . . . .	54 42	
Coal . . . . .	190 08	
Gas . . . . .	57 07	
Water . . . . .	25 00	
Falls . . . . .	22 10	
Ice . . . . .	6 00	
Small supplies . . . . .	62 83	
	<hr/>	6,155 36
		<hr/>
		\$10,943 78

**Cambridge-street bridge** (from Brighton to Cambridge).

Sheathed roadway and draw, repaired waterways, piers, and draw-tender's house, and made general repairs on hoisting machinery.

Carpenters . . . . .	\$124 50	
Lumber . . . . .	94 88	
Nails . . . . .	2 25	
Ironwork . . . . .	139 45	
Hardware . . . . .	1 95	
Car-fares . . . . .	9 75	
Smoke-stack . . . . .	3 75	
	<hr/>	\$376 53

## Regular expenses :

Draw-tender . . . . .	\$365 56	
Coal . . . . .	4 33	
Small supplies . . . . .	9 07	
	<hr/>	378 96
		<hr/>
		755 49

*Carried forward,*

\$11,699 27

*Brought forward,*

\$11,699 27

**Charles-river bridge** (from Boston to Charles-town).

Sheathed draw and repaired deck, put in new timbers on side of abutments, repaired sidewalks, capping, fences, draw-tender's house, piers, and waterway, built two new road-gates and repaired the two old ones, general repairs on machinery and engine, repaired track-timbers and boat, painted bridge-buildings and fence, and special contract work done by Trumbull & Ryan, strengthening the piles and under-timbers.

Carpenters . . .	\$866 25
Painters . . .	331 00
Lumber . . .	701 87
Nails . . .	48 70
Ironwork . . .	600 83
Repairing engine,	105 87
Hardware . . .	12 43
Paint stock . . .	69 43
Repairing radia-	
tor, trap, etc. . .	26 74
Painting signs . . .	8 00
Brick . . .	3 00
	<hr/>
	\$2,774 12

## Contract work:

Advertising . . .	\$5 25
Inspector . . .	188 00
Piles . . .	171 36
Spurshores . . .	185 00
Girders and braces,	570 00
Girders and caps,	159 60
Stringers and bol-	
sters . . .	28 98
Labor . . .	959 75
Lumber . . .	353 16
Ironwork . . .	244 70
15% added . . .	237 39
	<hr/>
	3,103 19
	<hr/>
	\$5,877 31

## Regular expenses:

Draw-tenders . . .	\$5,023 46
Coal . . .	399 48
Gas . . .	29 97
Water . . .	25 00
Cordage . . .	159 30
Ice . . .	6 00
Salt . . .	5 20
Lubricating oil . . .	52 90
Grate . . .	11 50

*Carried forward,*

<hr/>	<hr/>	<hr/>
\$5,712 81	\$5,877 31	\$11,699 27

<i>Brought forward,</i>	\$5,712 81	\$5,877 31	\$11,699 27
Snatch block . . . . .	10 50		
Kerosene . . . . .	8 88		
Small supplies . . . . .	72 25		
	<hr/>	5,804 44	
		<hr/>	11,681 75

**Chelsea bridge** [North] (over North channel, Mystic river).

Sheathed draw and repaired deck, also repaired latches, piers, waterway, and engine-house, adjusted draw, general repairs on machinery and engine, repaired boat and reset two buoys.

Carpenters . . . . .	\$624 50		
Painters . . . . .	33 25		
Lumber . . . . .	523 06		
Nails . . . . .	12 50		
Ironwork . . . . .	159 74		
Repairing engine . . . . .	38 69		
Hardware . . . . .	9 03		
Paint stock . . . . .	12 60		
Plumbing . . . . .	4 24		
Resetting buoys . . . . .	101 50		
Wire cable for draw . . . . .	40 83		
Repairing boat . . . . .	18 00		
	<hr/>	\$1,577 94	

Regular expenses:

Draw-tenders . . . . .	\$3,589 04		
Substitutes . . . . .	330 68		
Coal . . . . .	290 71		
Gas . . . . .	16 77		
Water . . . . .	27 50		
Ice . . . . .	6 00		
Lubricating oil . . . . .	14 20		
Small supplies . . . . .	53 84		
	<hr/>	4,328 74	

5,906 68

**Chelsea bridge** [South] (over South channel, Mystic river).

Sheathed draw and repaired deck, repaired waterways, road-gates, and boat, made general repairs on engine and draw machinery, and painted draw-tenders' house inside.

Carpenters . . . . .	\$286 25		
Painters . . . . .	177 00		
Lumber . . . . .	304 96		
Nails . . . . .	4 75		
Ironwork . . . . .	28 78		
Hardware . . . . .	27 31		
Paint stock . . . . .	37 12		
Repairing boat . . . . .	10 00		
	<hr/>	\$876 17	

*Carried forward,*

\$876 17      \$29,287 70

<i>Brought forward,</i>		\$876 17	\$29,287 70
Regular expenses :			
Draw-tenders . . . . .	\$4,386 72		
Substitutes . . . . .	158 57		
Coal . . . . .	232 16		
Gas . . . . .	20 74		
Water . . . . .	32 50		
Ice . . . . .	6 00		
Clock . . . . .	10 00		
Hose . . . . .	7 75		
Small supplies . . . . .	38 82		
	<hr/>	4,893 26	
		<hr/>	5,769 43

**Chelsea-street bridge** (from East Boston to Chelsea).

Repaired sheathing on roadway and draw.

Carpenters . . . . .	\$2 50		
Lumber . . . . .	9 52		
Nails . . . . .	10 00		
Ironwork . . . . .	81 32		
Car-fares . . . . .	1 50		
	<hr/>	\$104 84	

Regular expenses :

Draw-tender . . . . .	\$287 50		
Lubricating oil . . . . .	3 50		
	<hr/>	291 00	
		<hr/>	395 84

**Commercial Point or Tenean bridge** (Dorchester).

Repaired deck, sheathing, and hoisting machinery, made new flaps and painted fence.

Carpenters . . . . .	\$44 25		
Painters . . . . .	34 25		
Lumber . . . . .	14 94		
Ironwork . . . . .	32 06		
Paint stock . . . . .	7 17		
Car-fares . . . . .	4 80		
	<hr/>	\$137 47	

Regular expenses :

Draw-tender . . . . .	50 00		
	<hr/>		187 47

**Congress-street bridge** (over Fort-Point channel).

Sheathed draw twice, repaired pier, latches on draw, waterways, and draw-tenders' house, general repairs made on engines and machinery, repaired fender-guard and boat, painted bridge and fences, and red-leaded all ironwork.

Carpenters . . . . .	\$425 70		
Painters . . . . .	980 75		
Lumber . . . . .	512 32		
Nails . . . . .	28 90		
	<hr/>		

*Carried forward,* \$1,947 67 \$35,640 44

<i>Brought forward,</i>	\$1,947 67	\$35,640 44
Ironwork . . . . .	389 37	
Hardware . . . . .	9 79	
Paint stock . . . . .	205 72	
Repairing boat . . . . .	22 85	
Repairing piling . . . . .	186 74	
Teaming . . . . .	23 00	
	<hr/>	\$2,785 14

## Regular expenses :

Draw-tenders . . . . .	\$5,133 03	
Substitutes . . . . .	467 49	
Coal . . . . .	289 60	
Water . . . . .	106 75	
Grates . . . . .	47 44	
Kerosene . . . . .	38 53	
Copper pans . . . . .	7 10	
Clock . . . . .	10 00	
Ice . . . . .	6 00	
Waste . . . . .	8 10	
Salt . . . . .	6 80	
Small supplies . . . . .	89 48	
	<hr/>	6,210 32
		<hr/>
		8,995 46

**Dover-street bridge** (over Fort-Point channel).

Built temporary fence, repaired foot-bridge, raised and repaired draw-tenders' house and painted same inside and out two coats.

Carpenters . . . . .	\$330 00	
Painters . . . . .	312 25	
Lumber . . . . .	207 60	
Nails . . . . .	28 00	
Ironwork . . . . .	4 26	
Hardware . . . . .	26 73	
Paint stock . . . . .	37 70	
Plumbing . . . . .	12 50	
Wire cable for draw	46 54	
Plastering house . . . . .	136 25	
New chimney . . . . .	17 63	
Lettering signs . . . . .	10 00	
	<hr/>	\$1,169 46

## Regular expenses :

Draw-tenders . . . . .	\$2,912 63	
Substitutes . . . . .	1,022 60	
Coal . . . . .	19 56	
Cordage . . . . .	10 05	
Ice . . . . .	6 00	
Small supplies . . . . .	30 59	
	<hr/>	4,001 43
		<hr/>
		5,170 89

*Carried forward,*

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\$49,806 79

<i>Brought forward,</i>		\$49,806 79
<b>Essex-street bridge</b> (from Brighton to Cambridge).		
Repaired deck, sheathing and piers.		
Carpenters . . . . .	\$197 96	
Lumber . . . . .	173 26	
Nails . . . . .	14 00	
Ironwork . . . . .	21 58	
	<hr/>	406 80
Regular expenses: .		
Draw-tender . . . . .	\$658 32	
Substitute . . . . .	12 66	
Coal . . . . .	8 46	
Lubricating oil . . . . .	6 50	
Small supplies . . . . .	8 28	
	<hr/>	694 22
		<hr/>
		1,101 02
<b>Federal-street bridge</b> (over Fort-Point channel). Sheathed draws twice, repaired road-gates, built new float stage, repaired pier, waterways, and machinery, painted fence-gate and red-leaded iron-work.		
Carpenters . . . . .	\$244 12	
Painters . . . . .	15 00	
Lumber . . . . .	333 58	
Nails . . . . .	17 88	
Ironwork . . . . .	172 89	
Hardware . . . . .	24 61	
Paint stock . . . . .	3 14	
Plumbing . . . . .	30 77	
Repairing motor-house . . . . .	40 25	
Repairing rail-fence . . . . .	19 52	
Two wire cables for draws . . . . .	36 99	
Running wires for motor . . . . .	91 00	
Galvanized pipe . . . . .	19 17	
Smoke-stack . . . . .	10 55	
	<hr/>	\$1,059 47
Regular expenses: .		
Draw-tenders . . . . .	\$5,997 86	
Substitutes . . . . .	195 00	
Coal . . . . .	52 85	
Gas . . . . .	50 57	
Water . . . . .	10 00	
Ice . . . . .	6 00	
Lubricating oil . . . . .	28 00	
Small supplies . . . . .	43 47	
	<hr/>	6,383 75
		<hr/>
		7,443 22
<b>Granite bridge</b> (from Dorchester to Milton). Sheathed draw and roadway, and repaired piers.		
Carpenters . . . . .	\$59 75	
	<hr/>	
<i>Carried forward,</i>	\$59 75	<hr/>
		\$58,351 03



<i>Brought forward,</i>	\$59 75	\$58,351 03
Lumber . . . . .	76 62	
Nails . . . . .	2 25	
Ironwork . . . . .	163 03	
	<hr/>	\$301 65
Regular expenses :		
Draw-tender . . . . .	\$239 20	
Lubricating oil . . . . .	5 75	
Small supplies . . . . .	1 94	
	<hr/>	246 89
		<hr/>
		548 54

**L-street bridge** (over reserved channel at junction of Congress and L streets).

Repaired waterways and piers, minor repairs on engines, and a little painting done inside draw-tenders' house.

Carpenters . . . . .	\$151 07	
Painters . . . . .	15 00	
Lumber . . . . .	101 97	
Nails . . . . .	17 50	
Ironwork . . . . .	32 89	
Repairing engines . . . . .	12 55	
Hardware . . . . .	14 69	
Paint stock . . . . .	18 75	
Plumbing . . . . .	56 30	
Smoke-stack . . . . .	9 85	
	<hr/>	\$430 57

Regular expenses :

Draw-tenders . . . . .	\$2,468 11	
Substitutes . . . . .	600 06	
Coal . . . . .	164 32	
Water . . . . .	86 00	
Ice . . . . .	6 00	
Bedding . . . . .	27 00	
Stove . . . . .	19 45	
Lubricating oil . . . . .	11 50	
Packing . . . . .	18 96	
Clock . . . . .	10 00	
Grates . . . . .	9 96	
Copper pans . . . . .	27 90	
Small supplies . . . . .	78 58	
	<hr/>	3,527 84
		<hr/>
		3,958 41

**Malden bridge** (from Charlestown to Everett).

Sheathed draw, repaired waterways, piers, wheelguards, sidewalk, and fence, adjusted draw, put in new water service, and painted house and fence two coats.

Carpenters . . . . .	\$313 01	
Painters . . . . .	24 88	
	<hr/>	
<i>Carried forward,</i>	\$367 89	\$62,857 98

<i>Brought forward,</i>	\$367 89	\$62,857 98
Lumber . . . . .	187 57	
Nails . . . . .	4 50	
Ironwork . . . . .	100 86	
Paint stock . . . . .	5 21	
Plumbing . . . . .	40 70	
Car-fares . . . . .	2 30	
	<hr/>	\$709 03

Regular expenses :		
Draw-tenders . . . . .	\$2,791 36	
Substitutes . . . . .	75 00	
Coal . . . . .	28 59	
Gas . . . . .	17 83	
Water . . . . .	10 00	
Ice . . . . .	6 00	
Lubricating oil . . . . .	5 90	
Row-boat . . . . .	67 50	
Small supplies . . . . .	44 11	
	<hr/>	3,046 29
		<hr/>
		3,755 32

**Meridian-street bridge** (from East Boston to Chelsea).

Sheathed draw, repaired waterway, piers, fence, road-gates, and latches, made general repairs on draw machinery, repaired draw-tenders' house and boat, and painted bridge underneath and overhead, and buildings one coat.

Carpenters . . . . .	\$682 75	
Painters . . . . .	479 88	
Lumber . . . . .	300 11	
Nails . . . . .	12 50	
Ironwork . . . . .	288 67	
Hardware . . . . .	20 83	
Paint stock . . . . .	100 66	
Plumbing . . . . .	43 27	
Ferry-fares . . . . .	1 00	
Resetting buoy . . . . .	50 00	
Making pattern . . . . .	12 25	
Repairing boat . . . . .	14 00	
Chimney pot . . . . .	11 18	
Sundries . . . . .	15 65	
	<hr/>	\$2,032 75

Regular expenses :		
Draw-tenders . . . . .	\$2,791 36	
Substitutes . . . . .	880 68	
Coal . . . . .	24 81	
Feed . . . . .	118 95	
Gas . . . . .	9 73	
Water . . . . .	10 00	
Horseshoeing . . . . .	41 55	
	<hr/>	
<i>Carried forward,</i>	\$3,877 08	\$2,032 75
		<hr/>
		\$66,613 30

<i>Brought forward,</i>	83,877 08	82,032 75	\$66,613 30
Veterinary service . . . . .	22 00		
Ice . . . . .	6 00		
Lubricating oil . . . . .	11 40		
Small supplies . . . . .	36 17		
	<hr/>	3,952 65	
			5,985 40

**Mt. Washington-avenue bridge** (over Fort-Point channel).

Sheathed draw twice, repaired fence and sidewalk, sheathed pier, repaired waterways, latches, and boat, made sanitary repairs in draw-tenders' house, and painted bridge and buildings.

Carpenters . . . . .	\$793 25		
Painters . . . . .	354 00		
Lumber . . . . .	780 63		
Nails . . . . .	32 55		
Ironwork . . . . .	124 87		
Hardware . . . . .	5 20		
Paint stock . . . . .	74 26		
Plumbing . . . . .	104 76		
Car-fares . . . . .	1 80		
Repairing boat . . . . .	29 50		
Damage to schooner . . . . .	11 50		
Small sundries . . . . .	6 48		
	<hr/>	\$2,318 80	

Regular expenses :

Draw-tenders . . . . .	\$4,486 56		
Substitutes . . . . .	56 28		
Coal . . . . .	41 21		
Gas . . . . .	81 38		
Water . . . . .	10 00		
Ice . . . . .	6 00		
Lubricating oil . . . . .	25 75		
Stove and repairs . . . . .	12 12		
Rent of land . . . . .	60 00		
Small supplies . . . . .	82 14		
	<hr/>	4,861 44	

7,180 24

**Neponset bridge** (from Dorchester to Quincy).

Repaired deck and sheathed roadway, repaired flaps, piers, waterways, and boat.

[See Special, "Street Improvements, Ward 24."]

Carpenters . . . . .	\$362 00		
Lumber . . . . .	81 04		
Nails . . . . .	39 25		
Ironwork . . . . .	64 19		
Hardware . . . . .	7 58		
Car-fares . . . . .	3 10		
Repairing boat . . . . .	18 00		
	<hr/>	\$575 16	

*Carried forward,*

8575 16    \$79,778 94

<i>Brought forward,</i>		\$575 16	\$79,778 94
Regular expenses :			
Draw-tender . . . . .	\$398 84		
Lubricating oil . . . . .	5 75		
Small supplies . . . . .	2 63		
	<hr/>	407 22	
			982 38
<b>North Beacon-street bridge</b> (from Brighton to Watertown).			
Laid new deck on draw and sheathed the same.			
Carpenters . . . . .	\$40 00		
Lumber . . . . .	35 31		
Nails . . . . .	2 25		
Car-fares . . . . .	16 65		
Sundries . . . . .	2 00		
	<hr/>	\$96 21	
Regular expenses :			
Draw-tender . . . . .		74 88	
		<hr/>	171 09
<b>North Harvard-street bridge</b> (from Brighton to Cambridge).			
Sheathed roadway and draw, and put in new flaps.			
Carpenters . . . . .	\$34 75		
Lumber . . . . .	73 36		
Nails . . . . .	2 25		
Ironwork . . . . .	213 55		
Car-fares . . . . .	5 80		
	<hr/>	\$329 71	
Regular expenses :			
Draw-tender . . . . .		365 56	
		<hr/>	695 27
<b>Warren bridge</b> (from Boston to Charlestown).			
Sheathed both draws three times, repaired piers, waterway, and fender-guard, adjusted tracks, repaired boat, general repairs made on engines and machinery, and painted top and underside of bridge and buildings one coat.			
Carpenters . . . . .	\$774 89		
Painters . . . . .	928 82		
Lumber . . . . .	936 27		
Nails . . . . .	44 00		
Ironwork . . . . .	543 40		
Repairing engine . . . . .	116 77		
Hardware . . . . .	2 25		
Paint stock . . . . .	194 84		
Plumbing . . . . .	124 57		
Wire cable for draw . . . . .	22 44		
Repairing roof . . . . .	35 00		
Small sundries . . . . .	9 16		
	<hr/>	\$3,732 41	
<i>Carried forward,</i>		<hr/>	<hr/>
		\$3,732 41	\$81,627 68

<i>Brought forward,</i>	\$3,732 41	\$81,627 68
Regular expenses :		
Draw-tenders . . . . .	\$5,047 56	
Substitutes . . . . .	267 50	
Coal . . . . .	686 40	
Gas . . . . .	96 08	
Water . . . . .	50 00	
Ice . . . . .	6 00	
Ladders . . . . .	9 20	
Small supplies . . . . .	58 53	
	<u>6,221 27</u>	
		9,953 68

**Western-avenue bridge** (from Brighton to Cambridge).

Sheathed draw and roadway, repaired deck, fence, and piers.

Carpenters . . . . .	\$50 50	
Lumber . . . . .	111 98	
Nails . . . . .	2 25	
Ironwork . . . . .	186 08	
Car-fares . . . . .	10 10	
	<u>\$360 91</u>	

Regular expenses :

Draw-tender . . . . .	\$365 56	
Coal . . . . .	6 50	
Lubricating oil . . . . .	5 75	
	<u>377 81</u>	
		738 72

**Western-avenue bridge** (from Brighton to Watertown).

Sheathed roadway and draw, put in new iron ladder from draw to pier, built new tool-house and painted the same.

Carpenters . . . . .	\$162 50	
Lumber . . . . .	181 03	
Nails . . . . .	39 35	
Ironwork . . . . .	9 30	
Hardware . . . . .	4 52	
Car-fares . . . . .	8 00	
	<u>\$404 70</u>	

Regular expenses :

Draw-tender . . . . .	\$74 88	
Substitutes . . . . .	43 50	
Storage of tools . . . . .	10 00	
Small supplies . . . . .	6 98	
	<u>135 36</u>	
		540 06

**Winthrop bridge** (from Breed's island to Winthrop).

Sheathed roadway.

Carpenters . . . . .	\$143 50	
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<i>Carried forward,</i>	\$143 50	\$92,860 14
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<i>Brought forward,</i>	\$143 50	\$92,860 14
Lumber . . . . .	316 59	
Nails . . . . .	15 00	
Car-fares . . . . .	27 35	
	<hr/>	\$502 44
Regular expenses :		
Draw-tender . . . . .	100 00	
	<hr/>	602 44
<b>Sundry expenditures</b> on tide-water bridges.		
Lumber . . . . .	\$4 13	
Nails . . . . .	23 13	
Ironwork . . . . .	127 00	
Hardware . . . . .	19 97	
Paint . . . . .	25 84	
Cleaning iron trucks . . . . .	60 00	
B. W. W. tickets, mechanics,	37 50	
W. E. " " . . . . .	115 00	
	<hr/>	\$412 57
Regular expenses :		
Chief draw-tender . . . . .	\$1,820 00	
Messenger . . . . .	797 68	
Draw-tenders' books . . . . .	80 23	
Stationery and postals . . . . .	16 38	
Repairing wagon . . . . .	52 60	
Car-fares . . . . .	20 00	
Small supplies . . . . .	49 00	
	<hr/>	2,835 89
		3,248 46
<b>Public landings.</b>		
Repairs.		
Commercial Wharf :		
Labor . . . . .	\$8 00	
Ironwork . . . . .	7 05	
Painting sign . . . . .	6 00	
	<hr/>	\$21 05
East Boston :		
Towage . . . . .	\$7 75	
Ironwork . . . . .	3 46	
	<hr/>	11 21
		\$32 26
Regular expenses :		
East Boston :		
Rent . . . . .	62 50	
	<hr/>	94 76
Total expended on tide-water bridges . . . . .		<hr/> <u>\$96,805 80</u>

## RECAPITULATION.

*Table showing Expenditures on the Tide-water Bridges for the Year, February 1, 1894, to January 31, 1895.*

NAME OF BRIDGE.	Repairs, Labor, Lumber, Iron- work, and Painting.	Regular Ex- penses, Sal- aries, Fuel, and Supplies.	Total.
Broadway . . . . .	\$4,788 42	\$6,155 36	\$10,943 78
Cambridge street . . . . .	376 53	378 96	755 49
Charles river . . . . .	5,877 31	5,804 44	11,681 75
Chelsea (North) . . . . .	1,577 94	4,328 74	5,906 68
Chelsea (South) . . . . .	876 17	4,893 26	5,769 43
Chelsea street . . . . .	104 84	291 00	395 84
Commercial point . . . . .	137 47	50 00	187 47
Congress street . . . . .	2,785 14	6,210 32	8,995 46
Dover street . . . . .	1,169 46	4,001 43	5,170 89
Essex street . . . . .	406 80	694 22	1,101 02
Federal street . . . . .	1,059 47	6,383 75	7,443 22
Granite . . . . .	301 65	246 89	548 54
L street . . . . .	430 57	3,527 84	3,958 41
Malden . . . . .	709 03	3,046 29	3,755 32
Meridian street . . . . .	2,032 75	3,952 65	5,985 40
Mount Washington avenue . . . . .	2,318 80	4,861 44	7,180 24
Neponset . . . . .	575 16	407 22	982 38
North Beacon street . . . . .	96 21	74 88	171 09
North Harvard street . . . . .	329 71	365 56	695 27
Warren . . . . .	3,732 41	6,221 27	9,953 68
Western avenue (to Cambridge) . . . . .	360 91	377 81	738 72
Western avenue (to Watertown) . . . . .	404 70	135 36	540 06
Winthrop . . . . .	502 44	100 00	602 44
Chief draw-tender and sundry expendi- tures . . . . .	412 57	2,835 89	3,248 46
Public landings . . . . .	32 26	62 50	94 76
Totals . . . . .	\$31,398 72	\$65,407 08	\$96,805 80

## INLAND BRIDGES.

<b>Albany-street bridge</b> (over Boston & Albany Railroad).		
Lumber, used in December, 1893, when bridge was sheathed . . . . .		\$11 38
<b>Ashland-street bridge</b> (over New York, New Haven, & Hartford Railroad, Providence Division).		
Sheathed roadway.		
Carpenters . . . . .	\$24 00	
Lumber . . . . .	83 00	
Nails . . . . .	4 50	
	<hr/>	111 50
<b>Baker-street culvert</b> , Brook Farm, West Roxbury.		
Sheathed roadway and culvert.		
Carpenters . . . . .	\$22 50	
Lumber . . . . .	64 30	
Nails . . . . .	4 75	
	<hr/>	91 55
<b>Beacon-street bridge</b> (over Boston & Albany Railroad).		
Sheathed roadway.		
Carpenters . . . . .	\$66 00	
Lumber . . . . .	115 66	
Nails . . . . .	4 50	
	<hr/>	186 16
<b>Berkeley-street bridge</b> (over Boston & Albany Railroad).		
Sheathed roadways.		
Carpenters . . . . .	\$68 32	
Lumber . . . . .	67 20	
	<hr/>	135 52
<b>Berkeley-street bridge</b> (over New York, New Haven, & Hartford Railroad, Providence Division).		
Repaired sheathing on roadway.		
Carpenters . . . . .	\$12 75	
Lumber . . . . .	40 95	
Hardware . . . . .	3 50	
Nails . . . . .	4 50	
	<hr/>	61 70
<b>Blakemore-street bridge</b> (over New York, New Haven, & Hartford Railroad, Providence Division).		
Repaired iron fence and patched sheathing.		
Ironwork . . . . .	\$18 00	
Lumber . . . . .	7 39	
Nails . . . . .	2 25	
	<hr/>	27 64
		<hr/>
<i>Carried forward,</i>		\$625 45



<i>Brought forward,</i>		\$625 45
<b>Bolton-street bridge</b> (over New York & New England Railroad).		
Repaired sidewalks and roadway.		
Carpenters . . . . .	\$4 69	
Lumber . . . . .	5 29	
	<hr/>	9 98
<b>Boylston-street bridge</b> (over Boston & Albany Railroad).		
Sheathed one roadway and repaired the other.		
Carpenters . . . . .	\$84 38	
Lumber . . . . .	118 78	
Nails . . . . .	4 50	
	<hr/>	207 66
<b>Broadway bridge</b> (over Boston & Albany Railroad).		
Sheathed roadways.		
Carpenters . . . . .	\$65 00	
Lumber . . . . .	111 03	
Nails . . . . .	9 00	
	<hr/>	185 03
<b>Columbus-avenue bridge</b> (over Boston & Albany Railroad).		
Sheathed roadways and repaired wheel-guards.		
Carpenters . . . . .	\$83 71	
Lumber . . . . .	80 48	
Nails . . . . .	11 25	
	<hr/>	175 44
<b>Commonwealth-avenue bridge</b> (over outlet).		
Sheathed roadway and laid new sidewalk.		
[Balance of lumber used charged to special "Street Improvements, Wards 19 and 22."]		
Carpenters . . . . .	104 75	
Lumber . . . . .	164 35	
Nails . . . . .	21 60	
	<hr/>	290 70
<b>Cornwall-street bridge</b> (over Stony brook.)		
Sheathed roadway.		
Carpenters . . . . .	\$26 50	
Lumber . . . . .	33 66	
	<hr/>	60 16
<b>Cottage Farm bridge</b> (over Boston & Albany Railroad at Commonwealth avenue).		
Sheathed roadway.		
Carpenters . . . . .	\$62 25	
Lumber . . . . .	152 43	
Nails . . . . .	13 12	
Car-fares . . . . .	6 00	
	<hr/>	233 80
<i>Carried forward,</i>		<hr/>
		\$1,788 22

<i>Brought forward,</i>		\$1,788 22
<b>Cottage-street [foot] bridge</b> (over flats, East Boston).		
Repaired piles, sway-braces, walk, and bridge-tender's house and painted house.		
Bridge-tender . . . . .	\$630 00	
Carpenters . . . . .	181 00	
Painters . . . . .	20 00	
Lumber . . . . .	106 62	
Ironwork . . . . .	7 74	
Paint stock . . . . .	4 19	
Car-fares . . . . .	12 70	
Lettering sign . . . . .	5 00	
Smoke-stack . . . . .	3 75	
Coal . . . . .	4 33	
Small supplies . . . . .	4 11	
	<hr/>	979 44
<b>Elmwood-street bridge</b> (over Stony brook).		
Repaired sidewalk and sheathed roadway.		
Carpenters . . . . .	\$19 25	
Lumber . . . . .	22 35	
Nails . . . . .	4 50	
	<hr/>	46 10
<b>Ferdinand-street bridge</b> (over Boston & Albany Railroad).		
Sheathed roadway.		
Carpenters . . . . .	\$21 25	
Lumber . . . . .	55 49	
Nails . . . . .	2 25	
	<hr/>	78 99
<b>Gardner-street culvert</b> (West Roxbury).		
Laid new deck and sheathed the same.		
Carpenters . . . . .	\$15 00	
Lumber . . . . .	22 60	
Nails . . . . .	2 25	
	<hr/>	39 85
<b>Huntington-avenue bridge</b> (over Boston & Albany Railroad).		
Sheathed roadway.		
Carpenters . . . . .	\$40 50	
Lumber . . . . .	157 37	
Nails . . . . .	9 00	
	<hr/>	206 87
<b>Hyde Park-avenue bridge</b> (over Stony brook).		
Repaired deck and sheathed roadway.		
Carpenters . . . . .	\$101 75	
Lumber . . . . .	138 87	
Nails . . . . .	7 75	
	<hr/>	248 37
		<hr/>
<i>Carried forward,</i>		\$3,387 84

<i>Brought forward,</i>		\$3,387 84
<b>Keyes-street culvert</b> (West Roxbury).		
Sheathed roadway.		
Carpenters . . . . .	\$45 19	
Lumber . . . . .	25 26	
	<hr/>	70 45
<b>Linden Park-street bridge</b> (over Stony brook).		
Repaired deck and sheathed roadway.		
Carpenters . . . . .	\$26 75	
Lumber . . . . .	58 17	
Nails . . . . .	4 50	
	<hr/>	89 42
<b>Longwood-avenue bridge</b> (from Roxbury to Brookline).		
Sheathed roadway.		
Carpenters . . . . .	\$24 50	
Lumber . . . . .	58 18	
Nails . . . . .	2 25	
	<hr/>	84 93
<b>Massachusetts-avenue bridge</b> (over Boston & Albany Railroad).		
Sheathed one roadway and repaired the other.		
Carpenters . . . . .	\$50 94	
Lumber . . . . .	58 31	
Nails . . . . .	4 50	
	<hr/>	113 75
<b>Massachusetts-avenue bridge</b> (over New York, New Haven, & Hartford Railroad, Providence Division).		
Sheathed roadway.		
Carpenters . . . . .	\$33 00	
Lumber . . . . .	67 59	
Nails . . . . .	4 50	
	<hr/>	105 09
<b>Mattapan bridge</b> (from Dorchester to Milton).		
Patched roadway.		
[Balance of lumber used charged to special "Street Improvements, Ward 24."]		
Carpenters . . . . .	\$30 75	
Lumber . . . . .	3 26	
Nails . . . . .	2 25	
	<hr/>	36 26
<b>Shawmut-avenue bridge</b> (over Boston & Albany Railroad).		
Built new sidewalk on westerly side and concreted same, and sheathed roadway.		
Carpenters . . . . .	\$237 95	
Painters . . . . .	34 00	
Lumber . . . . .	357 43	
Nails . . . . .	19 00	
Ironwork . . . . .	9 23	
	<hr/>	
<i>Carried forward,</i>	\$657 61	\$3,887 74

<i>Brought forward,</i>	\$657 61	\$3,887 74
Paint stock . . . . .	58 90	
Cement and sand . . . . .	3 00	
Concrete walk . . . . .	134 53	
	<hr/>	854 04
<b>Summer-street culvert</b> (West Roxbury).		
Sheathed roadway and repaired sidewalk.		
Carpenters . . . . .	\$12 00	
Lumber . . . . .	29 33	
Nails . . . . .	7 85	
	<hr/>	49 18
<b>Texas-street bridge</b> (over Stony brook).		
Rebuilt bridge.		
Carpenters . . . . .	\$15 50	
Lumber . . . . .	28 86	
Ironwork . . . . .	2 40	
Nails . . . . .	7 50	
	<hr/>	54 26
<b>West Newton-street bridge</b> (over New York, New Haven, & Hartford Railroad, Providence Division.		
Sheathed roadway.		
Carpenters . . . . .	\$18 25	
Lumber . . . . .	70 50	
Nails . . . . .	2 25	
	<hr/>	91 00
<b>Williams-street culvert</b> (West Roxbury).		
Laid new deck, and sheathed roadway.		
Carpenters . . . . .	\$4 50	
Lumber . . . . .	35 71	
Nails . . . . .	4 75	
	<hr/>	44 96
<b>Woodman-street culvert</b> (West Roxbury).		
Sheathed roadway.		
Carpenters . . . . .	\$18 00	
Lumber . . . . .	18 59	
Nails . . . . .	3 30	
	<hr/>	39 89
<b>Sundry expenditures</b> on inland bridges.		
Labor on snow . . . . .	\$1,143 02	
Labor, bridge-cleaners . . . . .	221 67	
Teaming snow . . . . .	90 00	
Sand for slippery walks . . . . .	22 50	
Salt " " " . . . . .	6 50	
Lumber, sundry repairs . . . . .	12 51	
Nails " " . . . . .	28 27	
Paint " " . . . . .	29 95	
Hardware " " . . . . .	16 87	
Sundry car-fares, mechanics . . . . .	120 00	
	<hr/>	1,691 29
Total expended on inland bridges . . . . .		<u>\$6,712 36</u>

## RECAPITULATION.

*Table showing Expenditures on the Inland Bridges for the Year  
February 1, 1894, to January 31, 1895.*

Name of Bridge.	Repairs, Labor, Lumber, Ironwork, and Painting.
Albany street . . . . .	\$11 38
Ashland street . . . . .	111 50
Baker street (culvert) . . . . .	91 55
Beacon street (over Boston & Albany Railroad) . . . . .	186 16
Berkeley street " " " " " . . . . .	135 52
Berkeley street (over N.Y., N.H., & H. Railroad, Providence Division) . . . . .	61 70
Blakemore street . . . . .	27 64
Bolton street . . . . .	9 98
Boylston street (over Boston & Albany Railroad) . . . . .	207 66
Broadway " " " " " . . . . .	185 03
Columbus avenue . . . . .	175 44
Commonwealth avenue (over outlet) . . . . .	290 70
Cornwall street . . . . .	60 16
Cottage Farm . . . . .	233 80
Cottage street . . . . .	979 44
Elmwood street . . . . .	46 10
Ferdinand street . . . . .	78 99
Gardner street (culvert) . . . . .	39 85
Huntington avenue . . . . .	206 87
Hyde Park avenue . . . . .	248 37
Keyes street (culvert) . . . . .	70 45
Linden Park street . . . . .	89 42
Longwood avenue . . . . .	84 93
Massachusetts avenue (over Boston & Albany Railroad) . . . . .	113 75
Massachusetts avenue (over N.Y., N.H., & H. Railroad, Providence Division) . . . . .	105 09
Mattapan . . . . .	36 26
Shawmut avenue . . . . .	854 04
Summer street (culvert) . . . . .	49 18
Texas street . . . . .	54 26
West Newton street . . . . .	91 00
Williams street (culvert) . . . . .	44 96
Woodman street (culvert) . . . . .	39 89
Sundry expenditures . . . . .	1,691 29
Total . . . . .	<u>\$6,712 36</u>

## REGULAR MAINTENANCE EXPENSES AT NORTH AND SOUTH YARDS.

## NORTH YARD, DISTRICT NO. 1.

*Warren Bridge.*

Messenger . . . . .	\$797 68
Watchmen . . . . .	1,208 00
Tools for carpenters . . . . .	86 99
Tools for painters . . . . .	3 60
Telephone . . . . .	156 00
Gas . . . . .	41 86
Plumbing . . . . .	42 03
Rubber hose . . . . .	13 80
New doors . . . . .	13 00
Water . . . . .	10 00
Ice . . . . .	6 00
Small supplies . . . . .	10 65

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 \$2,389 61

## STABLE, DISTRICT NO. 1.

Teamster . . . . .	\$780 00
Hostler . . . . .	631 75
Feed . . . . .	330 81
Repairing vehicles . . . . .	128 82
Repairing harnesses . . . . .	71 15
Horseshoeing . . . . .	112 29
Concord wagon . . . . .	200 00
Pung . . . . .	65 00
Clipping horses . . . . .	15 00
Water . . . . .	10 00
Dentistry . . . . .	3 00
Small supplies . . . . .	97 04

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 2,444 86

Total expended, North Yard and Stable . . .

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 \$4,834 47
 

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## SOUTH YARD, DISTRICT NO. 2.

*Foundry Street.*

Messenger . . . . .	\$748 94
Watchman . . . . .	735 00
Yardman . . . . .	420 00
Tools for carpenters . . . . .	297 42
Tools for painters . . . . .	163 65
Telephone . . . . .	156 00
Coal . . . . .	29 96
Building closet and lockers . . . . .	24 50
Repairing iron scrapers . . . . .	25 20
Ladders . . . . .	10 00

*Carried forward,*


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 \$2,610 67

<i>Brought forward,</i>	\$2,610 67
Falls . . . . .	10 95
Repairing hydraulic jacks . . . . .	35 60
Shovels . . . . .	12 00
Ice chisels . . . . .	7 50
Water . . . . .	10 00
Ice . . . . .	6 00
Small supplies . . . . .	33 00
	<hr/>
	\$2,725 72

## STABLE, DISTRICT NO. 2.

Teamster . . . . .	\$737 50
Hostler . . . . .	735 00
Feed . . . . .	683 33
Repairing wagons . . . . .	931 16
Repairing buggies . . . . .	294 85
Repairing sleighs . . . . .	73 25
Horseshoeing . . . . .	229 00
Three horses . . . . .	745 00
Clipping horses . . . . .	18 00
Rent of stable . . . . .	600 00
Coal . . . . .	19 06
Veterinary service . . . . .	34 60
Repairing harnesses . . . . .	275 90
New harnesses . . . . .	295 00
English Vegetable food . . . . .	75 00
Colic medicine . . . . .	15 00
Small supplies . . . . .	231 50
	<hr/>
	5,992 55
Total expended, South Yard and Stable . . . . .	<hr/> <u>\$8,718 27</u>

## SPECIAL APPROPRIATIONS.

**Broadway bridge** (over Fort-Point channel).

Sundry repairs on machinery.	
Ironwork . . . . .	\$499 37
Transferred to bridge improvements.	
Wards 12 and 13, June 4, 1894 . . . . .	501 77
	<hr/>
Total . . . . .	<u>\$1,001 14</u>

## BRIDGE IMPROVEMENTS, WARDS 12 AND 13.

**Broadway bridge** (over Fort-Point channel).

General repairs on draw machinery, new centre, etc. . . . .	
Ironwork . . . . .	\$431 23
Carpenters . . . . .	70 54
	<hr/>
Total expended . . . . .	<u>\$501 77</u>

**Berwick Park footbridge** (over N.Y., N.H.,  
& H. R.R., Providence Division).

Erected footbridge and built retaining-walls.

Advertising . . . . .	\$39 17	
Inspector . . . . .	176 00	
Contract with Quimby & Ferguson for work done and material furnished on retaining-walls . . . . .	3,200 00	
Contract with D. H. Andrews for work done and material furnished, removing old bridge from Franklin street and re- furnishing and erecting same at Ber- wick park . . . . .	1,700 00	
	<hr/>	
Total expended . . . . .		\$5,115 17
Transferred to City Nursery and Green-houses. January 31, 1895 . . . . .		884 83
		<hr/>
Appropriation . . . . .		\$6,000 00
		<hr/> <hr/>

**Boylston-street bridge** (over Boston & Albany  
Railroad).

Built new iron fence.

Erecting fence . . . . .	\$1,094 00	
Transferred to surface drain, Boylston street, De- cember 3, 1894 . . . . .	1,600 00	
Transferred to City Nursery and Greenhouses, Jan- uary 31, 1895 . . . . .	38 82	
	<hr/>	
Appropriation . . . . .		\$2,732 82
		<hr/> <hr/>

**Chelsea-street bridge**, rebuilding (East Boston  
to Chelsea).

Rebuilt by B. F. Nay & Co.

Top sheathing done by Bridge Division.

Advertising . . . . .	\$120 45	
Inspector . . . . .	406 00	
Specifications . . . . .	59 22	
Contract with B. F. Nay & Co. for work done and material furnished rebuilding bridge (except iron draw) . . . . .	10,808 60	
Carpenters . . . . .	167 00	
Inspecting and testing at mill material for iron draw . . . . .	23 81	
	<hr/>	
Total expended . . . . .		\$11,585 08
Balance . . . . .		18,414 92
		<hr/>
Appropriation . . . . .		\$30,000 00
		<hr/> <hr/>

[Work uncompleted.]



**Commonwealth avenue.**

Built sidewalk and fence.

Carpenters . . . . .	\$1,181 00
Lumber . . . . .	1,610 96
Nails . . . . .	92 19
Car-fares . . . . .	67 00
Ice . . . . .	3 00

Charged to Commonwealth avenue . . . . .	<u>\$2,954 15</u>
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**Broadway bridge (over Fort-Point channel).**

Ironwork . . . . .	\$121 06
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**Congress-street bridge (over Fort-Point channel).**

Ironwork . . . . .	\$1,507 16
Two upright boilers, special pattern . . . . .	1,000 00
Setting same, connections, valves, smoke-burners, etc. . . . .	400 00

2,907 16

**Federal-street bridge (over Fort-Point channel).**

Plumbing . . . . .	\$299 50
Ironwork . . . . .	10 22

309 72

**L-street-bridge (over Reserved channel).**

Two spar buoys . . . . .	\$94 00
Two 6-ton mooring-stones . . . . .	210 00

304 00

**Mt. Washington-avenue bridge (over Fort-Point channel).**

Repairing fender-guard . . . . .	\$184 00
Iron-work . . . . .	12 88

196 88

**Congress street.**

Completed the fence and sidewalk.

Carpenters . . . . .	\$1,612 05
Painters . . . . .	261 75
Lumber . . . . .	821 63
Nails . . . . .	52 45

2,747 88

Charged to Street Improvements, Aldermanic District No. 6 . . . . .	<u>\$6,586 70</u>
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**Williams-street bridge (over Stony brook).**

Rebuilt the bridge.

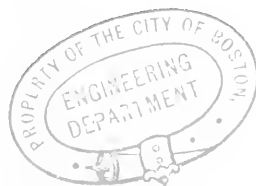
Carpenters . . . . .	\$144 00
Lumber . . . . .	185 48
Nails . . . . .	15 45

Charged to Street Improvements, Aldermanic District No. 11 . . . . .	<u>\$344 93</u>
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<b>L-street bridge</b> (over Reserved channel).	
Overhauling engine, machinery, windlass-head and shaft, repairing fence, draw-latch, and connecting steam-pump.	
Charged to Street Improvements, Ward 14 . . . . .	<u>\$291 58</u>
<b>Granite bridge</b> (from Dorchester to Milton).	
Repaired machinery . . . . .	\$128 90
<b>Mattapan bridge</b> (from Dorchester to Milton).	
Repaired roadway.	
Lumber . . . . .	21 47
[See regular appropriation.]	
<b>Neponset bridge</b> (from Dorchester to Milton).	
New deck.	
Lumber . . . . .	\$438 25
Ironwork . . . . .	204 20
	<u>642 45</u>
[See regular appropriation.]	
Charged to Street Improvements, Ward 24 . . . . .	<u>\$792 82</u>
<b>Brookline-avenue bridge</b> (over Boston & Albany Railroad).	
Laid new deck and sheathed the same, and painted bridge two coats, also the water-pipes.	
Carpenters . . . . .	\$727 75
Painters . . . . .	413 89
Lumber . . . . .	998 43
Ironwork . . . . .	4 80
Hardware . . . . .	31 80
Nails . . . . .	47 75
Paint stock . . . . .	71 83
Car-fares . . . . .	4 90
	<u>\$2,301 15</u>
<b>Commonwealth-avenue bridge</b> (over outlet).	
[For description of work done, see regular appropriation.]	
Lumber . . . . .	240 59
Charged to Street Improvements, Wards 19 and 22,	<u>\$2,541 74</u>
<b>Florence-street bridge</b> (over Stony brook).	
Rebuilt bridge, sidewalks, and fence.	
[Balance of work done to be paid for in 1895.]	
Carpenters . . . . .	\$759 24
Charged to Street Improvements, Wards 23 and 25,	<u>\$759 24</u>

## RECAPITULATION.

Amounts charged to Special Appropriations :		
Broadway Bridge . . . . .		\$499 37
Bridge Improvements, Wards 12 and 13 . . . . .		501 77
Berwick Park footbridge . . . . .		5,115 17
Boylston-street Bridge . . . . .		1,094 00
Chelsea-street Bridge, rebuilding . . . . .		11,585 08
Commonwealth avenue . . . . .		2,954 15
Street Improvements, Aldermanic District No. 6 . . . . .		6,586 70
“ “ “ “ “ 11 . . . . .		344 93
“ “ Ward 14 . . . . .		291 58
“ “ Ward 24 . . . . .		792 82
“ “ Wards 19 and 22 . . . . .		2,541 74
“ “ Wards 23 and 25 . . . . .		759 24
Total . . . . .		<u>\$33,066 55</u>



## LIST OF BOSTON BRIDGES.

## I. — BRIDGES WHOLLY SUPPORTED BY BOSTON.

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

- Agassiz road, in Back Bay Fens.  
 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. E. Railroad.  
 Audubon road, over Boston & Albany Railroad, Brookline Branch.  
 Beacon entrance, Back Bay Fens, over Boston & Albany Railroad.  
 Beacon street, over outlet to Back Bay Fens.  
 Beacon street, over Boston & Albany Railroad.  
 Berkeley street, over Boston & Albany Railroad.  
 Berkeley street, over N. Y., N. H., & H. Railroad, Providence Division.  
 Berwick-park (foot) bridge, over N. Y., N. H., & H. Railroad, Providence Division.  
 Blakemore street, over N. Y., N. H., & H. Railroad, Providence Division, West Roxbury.  
 Bolton street, over N. Y. & N. E. Railroad.  
 Boylston street, over Boston & Albany Railroad.  
 Boylston street, over outlet to Back Bay Fens.  
 \*Broadway, over Fort-Point channel.  
 Broadway, over Boston & Albany Railroad.  
 Brookline avenue, over Boston & Albany Railroad.  
 Byron street, over Boston, Revere Beach, & Lynn Railroad.  
 \*Castle Island, from Marine park, South Boston, to Castle Island.  
 \*Charles river, 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.  
 Commonwealth avenue, over outlet to Back Bay Fens.  
 \*Congress street, over Fort-Point channel.  
 Cornwall street, over Stony brook, West Roxbury.  
 Cottage Farm, over Boston & Albany Railroad, at Commonwealth avenue.  
 Cottage-street footbridge, over flats, East Boston.  
 Dartmouth street, over Boston & Albany, and Providence Division of N. Y., N. H., & H. Railroad.  
 \*Dover street, over Fort-Point channel.  
 \*Federal street, over Fort-Point channel.  
 Fen, Back Bay Fens.

- Ferdinand street, over Boston & Albany Railroad.  
 Florence street, over Stony brook, West Roxbury.  
 Gold-street footbridge, over N. Y. & N. E. Railroad.  
 Huntington avenue, over Boston & Albany Railroad.  
 Irvington-street footbridge, over N. Y., N. H., & H. Railroad,  
 Providence Division.  
 \*L street, over Reserved channel at junction of Congress and L  
 streets.  
 Leyden street, over Boston, Revere Beach, & Lynn Railroad.  
 Linden Park street, over Stony brook.  
 \*Malden, from Charlestown to Everett.  
 Massachusetts avenue, over Boston & Albany Railroad.  
 Massachusetts avenue, over N. Y., N. H., & H. Railroad, Provi-  
 dence Division.  
 \*Meridian street, from East Boston to Chelsea.  
 \*Mt. Washington avenue, over Fort-Point channel.  
 Neptune road, over Boston, Revere Beach, & Lynn Railroad.  
 Public Garden footbridge.  
 Shawmut avenue, over Boston & Albany Railroad.  
 Stony brook, Back Bay Fens.  
 Swett street, east of N. Y. & N. E. Railroad.  
 Swett street, west of N. Y. & N. E. Railroad.  
 \*Warren, from Boston to Charlestown.  
 West Newton street, over N. Y., N. H., & H. Railroad, Provi-  
 dence Division.  
 West Rutland-square footbridge, over N. Y., N. H., & H. Rail-  
 road, Providence Division.  
 Winthrop, from Breed's Island to Winthrop.

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

- \*Cambridge street, from Brighton to Cambridge.  
 Central avenue, from Dorchester to Milton.  
 \*Chelsea (North), from Charlestown to Chelsea.  
 \*Essex street, from Brighton to Cambridge.  
 \*Granite, from Dorchester to Milton.  
 Longwood avenue, from Roxbury to Brookline.  
 Mattapan, from Dorchester to Milton.  
 Milton, from Dorchester to Milton.  
 \*Neponset, from Dorchester to Quincy.  
 \*North Beacon street, from Brighton to Watertown.  
 \*North Harvard street, from Brighton to Cambridge.  
 Spring street, from West Roxbury to Dedham.  
 \*Western avenue, from Brighton to Cambridge.  
 \*Western avenue, from Brighton to Watertown.

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

- Albany street, over Boston & Albany Railroad.  
 Dorchester street, over N. Y., N. H., & H. Railroad, Plymouth  
 and Taunton Division.

Everett street, over Boston & Albany Railroad, Brighton.

\*Harvard, from Boston to Cambridge.

\*Canal, from Boston to Cambridge.

\*Prison Point, from Charlestown to Cambridge.

\*West Boston, from Boston to Cambridge.

The last four bridges are in the care of two Commissioners, one of whom is appointed by the City of Cambridge and the other by the City of Boston.

#### IV. — BRIDGES SUPPORTED BY RAILROAD CORPORATIONS.

##### *1st. — Boston & Albany Railroad.*

Harrison avenue.

Market street, Brighton.

Tremont street.

Washington street.

##### *2d. — Boston & Maine Railroad, Eastern Division.*

Mystic avenue.

Main street.

##### *3d. — Boston & Maine Railroad, Western Division.*

Mystic avenue.

Main street.

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

Everett street.

##### *5th. — New York & New England Railroad.*

Dorchester avenue.

Harvard street, Dorchester.

Morton " "

Norfolk " "

Norfolk " "

Silver street.

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 and Taunton Division.*

Adams street.

Ashmont street and Dorchester avenue.

Cedar Grove Cemetery.

Freeport street.

Savin Hill avenue.

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

Beech street, West Roxbury.  
 Bellevue street, West Roxbury.  
 Canterbury street, West Roxbury.  
 Centre street, or Hog Bridge, West Roxbury.  
 Centre and Mt. Vernon streets, West Roxbury.  
 Dudley avenue, West Roxbury.  
 Park street, West Roxbury.

RECAPITULATION.

I.	Number wholly supported by Boston . . . . .	57
II.	Number of which Boston supports the part within its limits . . . . .	14
III.	Number of which Boston pays a part of the cost of maintenance . . . . .	7
IV.	Number supported by railroad corporations :	
	1. Boston & Albany . . . . .	4
	2. Boston & Maine, Eastern Division . . . . .	2
	3. " " Western Division . . . . .	2
	4. Boston, Revere Beach, & Lynn . . . . .	1
	5. New York & New England . . . . .	13
	6. New York, New Haven, & Hartford, Plymouth and Taunton Division . . . . .	5
	7. New York, New Haven, & Hartford, Providence Division . . . . .	7
	Total number . . . . .	112

The existing regulations for the passage of vessels through drawbridges have been posted on the several bridges, as required by law.

The records of the number of draw openings, vessels passing through the bridges, time of passage, kind of vessels, number laden with cargo, etc., as kept by the draw-tenders of the several bridges, have been tabulated, and the totals are given in the summary, which will be found in Appendices A1 and A6.

A list of widths of openings for vessels in all bridges provided with draws in the city, measurements being furnished by the City Engineer, will be found in Appendix A2.

Appendix A3 is a table, also made by the City Engineer, showing widths of bridges, kind of roadways, sidewalks, etc.

A list of culverts and small bridges will be found in Appendix A4.

Appendix A5 contains a tabulated statement of traffic.

## APPENDIX A1.

## DRAW-TENDERS' REPORTS.

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, from February 1, 1894, to January 31, 1895.

NAME OF BRIDGE.	STEAMERS.			SAILING VESSELS.			TUGS.			ALL OTHERS.			TOTAL NO. VESSELS.			Total No. of Car- goes.	Total No. of Open- ings.
	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 . . . . .	4	2	6	1,888	912	2,800	1,641	294	1,935	594	201	795	4,127	1,409	5,536	1,761	4,146
Cambridge street . . . . .				100	9	109	482	41	523	190	15	205	772	65	837	146	529
Charles river . . . . .	16	18	34	1,745	758	2,503	2,315	627	2,942	1,718	553	2,271	5,794	1,956	7,750	2,303	5,534
Chelsea (North) . . . . .	59	7	66	1,023	118	1,141	3,469	372	3,841	1,395	236	1,631	5,946	733	6,679	1,134	4,566
Chelsea (South) . . . . .	46	5	51	767	83	850	1,718	92	1,810	1,030	53	1,083	3,561	233	3,794	1,083	2,935
Chelsea street . . . . .	6		6	55	2	57	131	28	159	84	32	116	276	62	338	84	105
Commercial point . . . . .						1				1		1	1	1	2	2	2
Congress street . . . . .	200	77	277	3,107	973	4,080	6,420	1,206	7,626	2,282	568	2,850	12,009	2,824	14,833	3,243	7,647
Dover street . . . . .	5	1	6	1,619	736	2,355	1,326	231	1,557	532	179	711	3,482	1,147	4,629	1,702	3,750
Essex street . . . . .	3	1	4	123	11	134	608	31	639	236	8	244	970	51	1,021	204	666



Federal street . . . . .	4	2	6	1,991	1,026	3,017	1,880	381	2,261	£90	226	816	4,465	1,635	6,100	1,964	4,937
Granite . . . . .				81	1	82	217	3	220	37		37	335	4	339	60	227
L. street . . . . .	4		4	515	163	678	2,223	531	2,754	1,136	339	1,535	3,878	1,093	4,971	798	2,341
Malden . . . . .	6	2	8	324	36	360	1,084	142	1,226	508	66	574	1,922	246	2,168	430	1,367
Meridian street . . . . .	35	12	47	779	67	846	3,448	582	4,030	1,745	343	2,088	6,007	1,004	7,011	1,639	4,083
Mt. Washington avenue . . . . .	72	15	87	2,395	1,037	3,432	3,875	907	4,782	1,593	653	2,246	7,935	2,612	10,547	2,774	6,042
Neponset . . . . .				94	11	105	215	9	224	38	2	40	347	22	369	69	250
No. Beacon street . . . . .																	
No. Harvard street . . . . .				62	2	64	157	11	168	31	5	36	250	18	268	50	170
Warren . . . . .	31	32	63	1,112	969	2,081	1,496	628	2,124	1,152	547	1,699	3,791	2,176	5,967	1,731	4,376
Western avenue to Cambridge,	2		2	90	5	95	399	27	426	140	13	153	631	45	676	117	426
Western avenue to Walestown,				6	1	7	28		28	19	1	20	53	2	55	11	52
Totals . . . . .	493	174	667	17,876	6,921	24,797	33,132	6,143	39,275	15,051	4,100	19,151	66,552	17,338	83,890	21,255	54,151

NOTE. — West Boston, Prison Point, Canal (or Craigie's), and Harvard bridges are not included in these tables, being in the care of commissioners representing the two cities (Boston and Cambridge), connected by these bridges.

## APPENDIX A2.

**Table showing the Widths of Openings for Vessels in all Bridges provided with Draws, in the City of Boston, January 31, 1895.**

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Boston & Maine R.R., Eastern Division . . . . .	Boston to Charlestown . . . . .	1	39 feet 8 inches.
Boston & Maine R.R., Eastern Division . . . . .	Over Miller's river . . . . .	1	35 " 6 "
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 " 3 "
Cambridge street . . . . .	Brighton to Cambridge . . . . .	1	36 " 3 "
Canal (or Craigie's) . . . . .	Boston to East Cambridge . . . . .	1	36 " 1 "
Charles river . . . . .	Boston to Charlestown . . . . .	1	36 " 0 "
Chelsea (south channel) . . . . .	Charlestown to Chelsea . . . . .	1	38 " 9 "
Chelsea (north channel) . . . . .	" " " " . . . . .	1	44 " 10 "
Chelsea st. (East Boston side) . . . . .	East Boston to Chelsea . . . . .	2	36 " 0 "
" " (Chelsea side) . . . . .	" " " " . . . . .	..	36 " 0 "
Commercial point (or Tenean) . . . . .	Dorchester . . . . .	1	24 " 0 "
Congress street (Boston side) . . . . .	Over Fort Point channel, . . . . .	2	43 " 3 "
" " (South Boston side) . . . . .	" " " " . . . . .	..	43 " 11 "
Dover street . . . . .	" " " " . . . . .	..	36 " 10 "
Essex street . . . . .	Brighton to Cambridge . . . . .	1	35 " 9 "
Federal street . . . . .	Over Fort Point channel, . . . . .	1	41 " 10 "
Fitchburg R.R. . . . .	Boston to Charlestown . . . . .	1	36 " 0 "
" " (for teaming freight) . . . . .	" " " " . . . . .	1	36 " 0 "

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

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Grand Junction R.R. . . . .	Brighton to Cambridge .	1	35 feet 9 inches.
“ “ “ . . . . .	East Boston to Chelsea .	1	34 “ 6 “
Granite . . . . .	Dorchester to Milton . .	1	36 “ 0 “
Harvard (Boston side) . . . . .	Boston to Cambridge . .	2	36 “ 6 “
“ (Cambridge side) . . . . .	“ “ “ . . . . .	36	“ 8 “
L street . . . . .	Over Reserved channel, South Boston . . . . .	1	40 “ 0 “
Malden . . . . .	Charlestown to Everett .	1	43 “ 4 “
Meridian st. (East Boston side) . .	East Boston to Chelsea .	2	59 “ 2 “
“ “ (Chelsea side) . . . . .	“ “ “ “ . . . . .	59	“ 0 “
Mt. Washington ave. (Boston side) .	Over Fort Point channel,	2	42 “ 3 “
“ “ “ (South Boston side) . . . . .	“ “ “ “ . . . . .	42	“ 3 “
Neponset . . . . .	Dorchester to Quincy . .	1	36 “ 0 “
New York & New England R.R. (Boston side) . . . . .	Over Fort Point channel,	2	41 “ 10 “
New York & New England R.R. (South Boston side) . . . . .	“ “ “ “ . . . . .	40	“ 11 “
New York & New England R.R. .	Over South Bay . . . . .	1	28 “ 4 “
North Beacon street . . . . .	Brighton to Watertown .	1	30 “ 2 “
North Harvard street . . . . .	Brighton to Cambridge .	1	36 “ 0 “
New York, New Haven, & Hart- ford R.R. . . . .	Over Fort Point channel,	1	36 “ 4 “
New York, New Haven, & Hart- ford R.R. . . . .	Dorchester to Quincy . .	1	36 “ 0 “
Prison Point . . . . .	Charlestown to Cam- bridge . . . . .	1	36 “ 0 “
Warren . . . . .	Boston to Charlestown .	1	36 “ 2 “
West Boston (Boston side) . . . . .	Boston to Cambridge . .	2	36 “ 6 “
“ “ (Cambridge side) . . . . .	“ “ “ . . . . .	36	“ 1 “
Western avenue . . . . .	Brighton to Cambridge .	1	36 “ 0 “
“ “ . . . . .	Brighton to Watertown,	1	35 “ 10 “

## APPENDIX A3.

Table showing Width of Bridges, kind of Roadways, Sidewalks, etc., on Tide-water Bridges, January 31, 1895.

NAME OF BRIDGE.	Width of Bridge.		ROADWAY.		SIDEWALKS.	
	Width.	Kind of roadway.	No.	Width.	Kind of walks.	
						<i>Ft. In.</i>
Broadway . . . . .	60 0	40 0	Plank . . . . .	2 10 0	Coal-tarconcrete.	
Cambridge street . . . . .	40 0	33 2	“ . . . . .	1 6 0	Plank.	
Canal . . . . .	64 0	48 0	Paved . . . . .	2 8 0	Brick.	
Charles river . . . . .	50 0	34 0	“ . . . . .	2 8 0	“	
Chelsea, North . . . . .	49 0	40 0	“ . . . . .	1 8 0	Coal-tarconcrete.	
“ South . . . . .	50 0	37 0	“ . . . . .	2 6 6	“ “	
“ street . . . . .	30 0	23 2	Plank . . . . .	1 6 0	Plank.	
Commercial point . . . . .	about 34 0	about 27 0	“ . . . . .	0		
Congress street . . . . .	60 0	44 0	Paved . . . . .	2 8 0	Coal-tarconcrete.	
Dover street (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 . . . . .	40 0	32 0	“ . . . . .	1 7 0	Coal-tarconcrete.	
Meridian street . . . . .	50 0	36 0	“ . . . . .	2 7 0	“ “	
Mt. Washington avenue . . . . .	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 . . . . .	28 2	26 7	“ . . . . .			
Prison Point . . . . .	50 0	36 0	{ Plank part } { Paved part }	2 7 0	Coal-tarconcrete.	
Warren . . . . .	80 0	60 0	Paved . . . . .	2 10 0	“ “	
W. avenue to Cambridge . . . . .	33 2	26 3	Plank . . . . .	1 6 0	Plank.	
“ “ “ Watertown . . . . .	33 0	24 2	“ . . . . .	1 8 0	“	
Winthrop . . . . .	24 2	19 10	“ . . . . .	1 3 7	“	
West Boston . . . . .	50 0	36 0	Paved . . . . .	2 7 0	Brick.	

## APPENDIX A4.

## List of Culverts and Small Bridges.

Those marked with (\*) are over Stony brook.

LOCATION.	Span. Feet.	Height of Opening. Feet.	Length. Feet.	Side-walls.	Covering.	Depth of Covering. Feet.
Adams street, south of Park, Dorchester . . . . .	5.0	4.0	57	Stone . . . . .	Stone . . . . .	5.0
*Amory street, near Centre, West Roxbury . . . . .	each 9.0	each 8.0	35	Double stone arch	Stone . . . . .	8.0
*Ashland and Canterbury streets, West Roxbury . . . . .	7.0	4.0	25	Stone arch . . . . .	Stone . . . . .	3.0
*Ashland street and Canterbury, West Roxbury . . . . .	7.6	5.5	75	Stone . . . . .	Wood.	
Ashland street, near Florence, West Roxbury . . . . .	3.0	3.0	50	Stone . . . . .	Stone . . . . .	6.0
Ashland street, 200 feet from Canterbury, West Roxbury . . . . .	3.0	3.0	50	Stone . . . . .	Stone . . . . .	3.0
Back street, near Morton, Dorchester . . . . .	5.0	4.0	30	Stone . . . . .	Stone . . . . .	2.0
Baker street, at Brook farm, West Roxbury . . . . .	15.0	5.0	30	Stone . . . . .	Wood.	
Baker street, opposite Prospect avenue, West Roxbury . . . . .	2.67	2.67	60	Stone . . . . .	Stone . . . . .	1.0
Beech street, near Abawan avenue, West Roxbury . . . . .	4.0	4.0	50	Stone . . . . .	Wood.	
Beech street, near Poplar, West Roxbury . . . . .	1.5	2.5	40	Stone . . . . .	Stone . . . . .	5.0
Blue Hill avenue, Dorchester . . . . .	2.75	1.67	225	Stone . . . . .	Stone . . . . .	2.0
Blue Hill avenue, near Morton street, Dorchester . . . . .	9.0	7.0	60	Stone . . . . .	Wood.	
*Boylston avenue, West Roxbury . . . . .	15.0	9.5	30	Stone . . . . .	Wood.	

## List of Culverts and Small Bridges. — Continued.

LOCATION.	Span. <i>Feet.</i>	Height of Opening <i>Feet.</i>	Length. <i>Feet.</i>	Side-walls.	Covering.	Depth of Covering. <i>Feet.</i>
*Boylston street, at Boylston Station, West Roxbury . . . . .	each 7.0	9.0 & 8.0	47	Double brick arch.	Brick.	1.25
Brighton avenue, west of Babcock street, Brighton . . . . .	3.5	3.0	50	Stone . . . . .	Stone . . . . .	8.0
Brighton avenue, west of Essex street, Brighton . . . . .	3.0	3.0	50	Wood . . . . .	Wood and earth.	4.0
Canterbury street, near Morton, West Roxbury . . . . .	2.0	3.0	40	Stone . . . . .	Stone . . . . .	3.0
Canterbury street, near Neponset avenue, West Roxbury . . . . .	10.0	5.0	42	Stone arch . . . . .	Stone . . . . .	8.5
Canterbury street, near Poplar, West Roxbury . . . . .	2.5	2.5	50	Stone . . . . .	Stone . . . . .	3.0
Centre street, near Spring, West Roxbury . . . . .	4.0	4.0	50	Stone . . . . .	Stone . . . . .	5.0
Centre street, near Waller, West Roxbury . . . . .	2.5	3.0	50	Stone . . . . .	Stone . . . . .	4.0
Centre street, at Williams farm, West Roxbury . . . . .	4.0	4.0	50	Stone arch . . . . .	Stone . . . . .	5.0
Centre street, at Williams farm, West Roxbury . . . . .	1.5	3.0	50	Stone . . . . .	Stone . . . . .	4.5
Centre street, corner of Willow, West Roxbury . . . . .	2.5	2.5	60	Stone . . . . .	Stone . . . . .	3.0
Church street, west of Weld, West Roxbury . . . . .	2.67	4.5	65	Stone . . . . .	Stone . . . . .	2.0
Corey street, near Highland station, West Roxbury . . . . .	2.5	3.0	45	Stone . . . . .	Stone . . . . .	2.0
Everett street, near B. & A. R.R., Brighton . . . . .	3.0	2.0	65	Stone . . . . .	Stone . . . . .	2.5
Fancuil street, junction of Brooks, Brighton . . . . .	3.5	3.5	130	Stone . . . . .	Stone . . . . .	4.0
Fancuil, west of Parsons, Brighton . . . . .	4.0	4.83	50	Stone arch . . . . .	Stone . . . . .	

Gardner street, near Cow island, West Roxbury . . . . .	5.0	5.5	33	Wood . . . . .	Wood.	
*Green street, at Brookside avenue, West Roxbury . . . . .	each 10.0	7.0 & 8.0	260	Double stone arch,	Stone . . . . .	4.0
Harvard avenue, near Washburn street, Brighton . . . . .	2.67	3.0	58	Stone . . . . .	Stone . . . . .	6.0
Harvard avenue, south of Washburn street, Brighton . . . . .	2.75	3.75	55	Stone . . . . .	Stone . . . . .	4.0
*Hyde Park avenue and Washington street, West Roxbury . . . . .	each 8.0	each 7.0	361 & 93 each, 451	Double stone and brick arch . . . . .	Brick and stone,	5.0
*Hyde Park avenue, West Roxbury . . . . .	19.5	5.0	50	Stone . . . . .	Wood.	
La Grange street, corner of Pleasant, West Roxbury . . . . .	3.0	2.0	70	Stone . . . . .	Stone . . . . .	1.0
La Grange street, north-east of Weld, West Roxbury . . . . .	3.0	1.5	90	Stone . . . . .	Stone . . . . .	1.5
La Grange street, opp. Mt. Benedict cemetery, West Roxbury . . . . .	2.0	2.5	50	Stone . . . . .	Stone . . . . .	2.0
La Grange street, south-east of Weld, West Roxbury . . . . .	2.0	3.0	50	Stone . . . . .	Stone . . . . .	3.0
Lake street, opposite Chandler's pond, Brighton . . . . .	4.5	4.92	43.85	Stone (double) .	Stone . . . . .	2.0
Lake street, south of Washington, Brighton . . . . .	5.5	5.92	40	Stone (double) .	Stone . . . . .	1.2
Mill street, Dorchester . . . . .	each 6.75	each 9.5	50	Double stone arch,	Stone . . . . .	5.0
Morton street, near Austin farm, West Roxbury . . . . .	4.0	5.0	50	Stone . . . . .	Stone . . . . .	2.0
*Morton street, near Washington, West Roxbury . . . . .	15.0	10.0	50	Stone arch . . . . .	Stone . . . . .	4.0
*Mount Hope street, West Roxbury . . . . .	each 8.0	each 5.0	40	Double stone arch,	Stone . . . . .	3.0
Mount Hope street, West Roxbury . . . . .	5.0	4.0	40	Stone arch . . . . .	Stone . . . . .	2.0
Neponset avenue, Dorchester . . . . .	2.5	2.5	60	Wood . . . . .	Earth and wood,	7.17
Neponset avenue, 500 feet from Hyde Park avenue, West Roxbury . . . . .	5.0	4.0	40	Stone arch . . . . .	Stone . . . . .	2.0
*Neponset avenue, West Roxbury . . . . .	14.0	6.0	45	Stone arch . . . . .	Stone . . . . .	2.5

## List of Culverts and Small Bridges. — Concluded.

LOCATION.	Span. Feet.	Height of Opening. Feet.	Length. Feet.	Side-walls.	Covering.	Depth of Covering. Feet.
North Harvard street, near Franklin, Brighton . . . . .	4.0	2.67	40	Stone . . . . .	Stone . . . . .	3.0
Oakland street, south of Faucuil, Brighton . . . . .	6.0	5.5	39.5	Stone (double) . . . . .	Stone and brick,	1.6
Park street, west of Dorchester avenue, Dorchester . . . . .	5.0	3.67	50	Stone . . . . .	Wood.	
Park street, west of N.Y., N.H., & H. R.R., Dorchester . . . . .	8.5	5.0	50	Stone . . . . .	Wood.	
Parsons street, north of Faucuil, Brighton . . . . .	4.0	4.0	40	Stone . . . . .	Stone . . . . .	15.0
Perkins street, near Jamaica pond, West Roxbury . . . . .	5.0	4.0	40	Stone arch . . . . .	Stone . . . . .	4.0
Poplar street, 500 feet from Beech, West Roxbury . . . . .	3.0	1.5	110	Stone . . . . .	Stone . . . . .	4.5
Poplar street, Roslindale, West Roxbury . . . . .	7.0	4.0	40	Stone arch . . . . .	Stone . . . . .	2.0
Preston street, Dorchester . . . . .	9.0	5.08	40	Wood . . . . .	Wood and earth,	4.3
River street and Blue Hill avenue, Dorchester . . . . .	2.17	2.75	140	Stone . . . . .	Stone . . . . .	4.67
River street, Dorchester . . . . .	3.25	2.5	50	Stone . . . . .	Stone . . . . .	1.25
Saratoga street, East Boston . . . . .	5.0	6.0	50	Oval brick . . . . .	Brick . . . . .	6.0
South street, at Arnold Arboretum, West Roxbury . . . . .	4.5 & 2.0	3.5 & 1.5	30	Double stone . . . . .	Brick . . . . .	1.5 & 3.5
Spring street, near Spring-street station, West Roxbury . . . . .	2.67	2.67	63	Stone . . . . .	Wood.	
Summer street, near Spring-street station, West Roxbury . . . . .	4.0	4.5	40	Stone . . . . .	Wood.	
Tenean street, near Fulton, Dorchester . . . . .	6.25	6.25	40	Wood . . . . .	Earth and wood,	6.5



*Texas street, off Tremont street . . . . .	14.0	about 8.0	20	Stone . . . . .	Wood . . . . .	3.0
Walk Hill street, near Canterbury street, West Roxbury . . . . .	8.0	4.0	50	Stone arch . . . . .	Stone . . . . .	3.0
Walter street, north of Bussey park, West Roxbury . . . . .	3.0	4.0	60	Stone . . . . .	Stone . . . . .	3.0
Washington street, corner Beaumont avenue, Brighton . . . . .	3.0	3.5	65	Stone . . . . .	Stone . . . . .	3.0
*Washington street (Musk-rat Village), West Roxbury . . . . .	14.0	6.0	40	Stone arch . . . . .	Stone . . . . .	4.5
Washington street, near Poplar street, West Roxbury . . . . .	14.0	5.0	38	Stone . . . . .	Wood . . . . .	3.4
*Washington street, near Williams, West Roxbury . . . . .	each 7.0	each 7.0	70	Double stone arch, . . . . .	Stone . . . . .	4.5
Weld street, near La Grange, West Roxbury . . . . .	2.0	4.0	30	Stone . . . . .	Stone . . . . .	4.0
Western avenue, near North Harvard street, Brighton . . . . .	4.0	3.0	60	Stone . . . . .	Stone . . . . .	4.0
*Williams street, West Roxbury . . . . .	15.5	8.0	40	Stone . . . . .	Wood . . . . .	
Williams street, West Roxbury . . . . .	5.0	5.0	50	Wood . . . . .	Wood . . . . .	

APPENDIX A4. — (Supplement.) — Continued.  
List of Culverts and Small Bridges built in 1891.

LOCATION.	Span. <i>Feet.</i>	Height of Opening. <i>Feet.</i>	Length. <i>Feet.</i>	Side-walls.	Covering.	Depth of Covering. <i>Feet.</i>
DORCHESTER.						
Blue Hill avenue, near Harvard street . . . . .	5.0	4.42	85	Stone . . . . .	Stone . . . . .	1.5
Harvard street, near Blue Hill avenue . . . . .	5.0	4.42	45	Stone . . . . .	Stone . . . . .	2.0
Bailey street, near Hillside terrace . . . . .	4.0	3.42	40	Stone . . . . .	Stone . . . . .	2.5
Fuller street, " " . . . . .	4.0	3.42	40	Stone . . . . .	Stone . . . . .	1.5
Dorchester avenue, near Van Winkle street . . . . .	4.0	3.42	60	Stone . . . . .	Stone . . . . .	1.5
" " " King street . . . . .	4.5	4.92	60	Stone . . . . .	Stone . . . . .	1.5
Carruth street, near Codman street . . . . .	51.0	5.0	72	Stone . . . . .	Stone . . . . .	1.5
Centre street, near Seaborn street . . . . .	3.0	3.42	40	Stone . . . . .	Stone . . . . .	2.0
WEST ROXBURY.						
Sycamore and Florence streets . . . . .	4.0	3.92	73	Stone . . . . .	Stone . . . . .	2.0
Allandale street, near the spring . . . . .	3.5	3.92	40	Stone . . . . .	Stone . . . . .	2.0
" " " lower brook . . . . .	1.5	1.5	40	Pipe . . . . .	Pipe . . . . .	2.5
Cornell street, near Washington street . . . . .	4.0	3.42	41	Stone . . . . .	Stone . . . . .	2.5
BRIGHTON.						
Hobart street, near Faneuil street . . . . .	6.0	7.5	44	Stone . . . . .	Brick . . . . .	1.5
Dustin street, near North Beacon street . . . . .	5.0	5.0	40	Stone . . . . .	Stone . . . . .	1.2

## List of Culverts and Small Bridges built in 1892.

LOCATION.	Span. <i>Feet.</i>	Height of Opening. <i>Feet.</i>	Length. <i>Feet.</i>	Side-walls.	Covering.	Depth of Covering. <i>Feet.</i>
<b>DORCHESTER.</b>						
Armadine street, 350 ft. from Washington street . . . . .	2.0	2.0	61.00	Pipe . . . . .	Pipe . . . . .	2.0
Ashmont street, 250 ft. west of Adams street . . . . .	3.0	3.3	50.00	Stone . . . . .	Stone . . . . .	2.0
Park street, between Bournside and Upland avenues . . . . .	3.0	3.0	41.00	Stone . . . . .	Stone . . . . .	2.0
Rill street, 165 ft. from Hancock street . . . . .	3.0	3.3	40.00	Stone . . . . .	Stone . . . . .	2.0
Trull street, 165 ft. from Hancock street . . . . .	3.0	3.3	41.00	Stone . . . . .	Stone . . . . .	2.0
<b>WEST ROXBURY.</b>						
Call street, 200 ft. from Keyes street . . . . .	6.0	4.0	44.00	Stone . . . . .	Stone . . . . .	2.0
Hawthorn street and Sycamore street . . . . .	3.5	3.3	83.00	Stone . . . . .	Stone . . . . .	2.0
Sycamore street, near Prospect street . . . . .	4.0	3.0	200.00	Stone . . . . .	Stone . . . . .	2.0
<b>BRIGHTON.</b>						
Commonwealth avenue, 550 ft. east of Malvern street . . . . .	6.0	6.0	160.00	Stone . . . . .	Stone . . . . .	12.5
Commonwealth avenue, 650 ft. west of Essex street . . . . .	7 0	7.0	304.64	Stone . . . . .	Stone . . . . .	10.0

APPENDIX A4. — (Supplement.) — Concluded.  
 List of Culverts and Small Bridges built in 1893.

LOCATION.	Span. <i>Feet.</i>	Height of Opening. <i>Feet.</i>	Length. <i>Feet.</i>	Side-walls.	Covering.	Depth of Covering. <i>Feet.</i>
DORCHESTER.						
Armadine street, 500 ft. from Washington street . . . . .	Double culvert of 18- inch double-thick pipe . . . . .	. . . . .	43.45	. . . . .	. . . . .	2.00
Stockton street, 475 ft. from Washington street . . . . .	24-inch double-thick pipe . . . . .	. . . . .	52.70	. . . . .	. . . . .	2.00
Rockwell street, 525 ft. from Washington street . . . . .	24-inch double-thick pipe . . . . .	. . . . .	41.41	. . . . .	. . . . .	3.00
Grove street, 100 ft. from Centre street . . . . .	3.00	3.00	46.90	Stone . . . . .	Stone . . . . .	3.50
WEST ROXBURY.						
Forest Hills street, between Peter Parley and Washington streets . . . . .	24-inch pipe . . . . .	. . . . .	40.80	. . . . .	. . . . .	4.00
South street, 300 ft. south-west from Walter street . . . . .	3.00	5.33	60.00	Stone . . . . .	Stone . . . . .	3.50
BRIGHTON.						
Commonwealth avenue, near Reedsdale street . . . . .	3.00	4.33	150.00	Stone . . . . .	Stone . . . . .	3.00
Commonwealth avenue, between Griggs and Allston streets . . . . .	3.00	4.33	240.00	Stone . . . . .	Stone . . . . .	5.00
	3.00	3.33	330.00	Stone . . . . .	Stone . . . . .	5.00

## List of Culverts and Small Bridges built in 1894.

LOCATION.	Span. Feet.	Height of Opening. Feet.	Length. Feet.	Side-walls.	Covering.	Depth of Covering. Feet.	Remarks.
DORCHESTER.							
Wheatland ave., between Millet and Spencer sts. . . . .	6.00	3.33	741.50	Concrete . . . .	Concrete . . . .	3.00	
Spencer st., between Wheatland ave. and Park st., . . . .							
Millet st., between Wheatland and Talbot aves. . . . .	4.66	3.50	56.00	Concrete . . . . .	Concrete . . . . .	3.00	Rebuilt.
WEST Roxbury.							
Sycamore st., between Hawthorn and Ashland sts. . . . .	2.00	3.00	30.10	Stone . . . . .	Stone . . . . .	2.00	Rebuilt double stone culvert.
Brighton.							
Parsons street, near Fanueil street . . . . .	6.00	7.75	47.20	Concrete . . . . .	Concrete . . . . .	7.50	Rebuilt.
Faneuil street, near Hobart street . . . . .	6.50	8.00	45.30	Concrete . . . . .	Brick . . . . .	2.50	Rebuilt.
Fairbanks street, near Washington street . . . . .	5.50	8.50	48.72	Concrete . . . . .	Brick . . . . .	2.50	
Washington street, near Fairbanks street . . . . .	5.50	6.00	70.00	Stone . . . . .	Stone . . . . .	4.33	Rebuilt double stone culvert.
Commonwealth avenue, between Brighton and Warren street . . . . .	2.00	3.17	111.00	Stone . . . . .	Stone . . . . .	11.50	Extension of old cul- verts to north line of the avenue.

## APPENDIX A5.

**Statement of Traffic on Monday, October 8, 1894,  
between the hours of 6 A.M. and 7 P.M.**

## NORTH BRIDGES.

NAME OF BRIDGE.	Foot-passengers from Boston.	Foot-passengers to Boston.	Teams from Boston.	Teams to Boston.	Street cars from Boston.	Street cars to Boston.
Charles river . . . . .	4,485	4,670				
Chelsea (North) . . . . .	733	862	693	737	284	288
Chelsea (South) . . . . .	1,799	2,113	1,002	1,092	287	294
Meridian street . . . . .	2,415	2,260	1,320	1,325	109	106
Warren . . . . .	8,647	8,210	5,983	5,424	1,146	1,167

## SOUTH BRIDGES.

Broadway . . . . .	8,885	9,700	2,505	2,375	208	200
Congress street . . . . .	4,000	6,250	3,337	2,950		
Dover street . . . . .	4,043	4,225				
Federal street . . . . .	7,575	9,625	1,650	2,080	478	489
Mt. Washington avenue . . .	2,651	2,709	1,492	1,647		

## APPENDIX A6.

DRAW-TENDERS' REPORTS.<sup>1</sup>

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, during the Years 1891, 1892, 1893, and 1894.

NAME OF BRIDGE.	Steamers.			Sailing-vessels.			Tugs.			All others.			Total number of Vessels.			Totals. Feb. 1, 1891, to Feb. 1, 1893.				
	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893					
Broadway . . . . .	4	8	6	3,325	3,118	2,959	2,800	1,374	1,709	1,840	1,935	455	634	795	5,158	5,461	5,471	5,536	21,626	
Cambridge street . . . . .	2	. . . . .	. . . . .	325	236	149	109	775	733	608	523	312	269	205	1,414	1,338	943	837	4,432	
Charles river . . . . .	44	29	30	3,271	2,800	2,690	2,503	2,907	2,854	3,175	2,942	2,144	2,010	2,352	2,271	8,326	7,693	8,247	7,750	32,016
Chelsea (North) . . . . .	124	35	57	981	717	898	1,141	4,109	2,899	3,422	3,841	2,503	1,205	1,697	1,631	7,717	4,856	6,074	6,679	25,326
Chelsea (South) . . . . .	8	85	80	1,016	1,037	1,130	850	3,023	2,923	2,540	1,810	1,460	986	1,328	1,083	5,507	5,031	5,078	3,794	19,410
Chelsea street . . . . .	. . . . .	. . . . .	6	. . . . .	4	14	57	. . . . .	36	35	159	32	14	20	110	32	54	69	338	493
Commercial Point . . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	1	. . . . .	. . . . .	. . . . .	. . . . .	2	4	. . . . .	1	2	4	. . . . .	2	8
Congress street . . . . .	294	298	361	277	5,132	4,806	4,671	4,080	7,647	7,411	7,626	2,522	2,834	2,684	2,850	15,012	15,075	15,137	14,833	60,667
Dover street . . . . .	13	10	6	6	2,652	2,557	2,415	2,355	1,211	1,505	1,574	425	544	618	711	4,301	4,616	4,613	4,629	18,159
Essex street . . . . .	4	13	23	4	403	247	180	134	1,054	704	717	639	537	287	244	1,998	1,251	1,138	1,021	5,408
Federal street . . . . .	2	10	9	6	3,538	3,295	3,199	3,017	1,660	2,044	2,231	690	646	703	816	5,890	5,995	6,142	6,100	24,127

<sup>1</sup> West Boston, Prison Point, Canal (or Craigie's), and Harvard Bridges not included in these tables, being in the care of commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

Draw-Tenders' Reports. — Concluded.

NAME OF BRIDGE.	Steamers.				Sailing-Vessels.				Tugs.				All others.				Total number of Vessels.				Totals.	
	1891	1892	1893	1894	1891	1892	1893	1894	1891	1892	1893	1894	1891	1892	1893	1894	1891	1892	1893	1894		
Granite street . . . . .					82	219	184	237	220	37	19	24	37	356	294	370	389	1,659				
L street . . . . .					678				2,754				1,535				4,971					
Malden . . . . .	2	3	5	8	352	215	290	1,107	1,236	453	473	478	574	2,074	1,670	1,850	2,168	7,762				
Meridian street . . . . .	84	74	44	47	737	851	771	3,736	4,030	1,137	1,432	1,746	2,088	4,499	5,708	6,297	7,011	23,515				
Mt. Washington avenue . . . . .	89	70	79	87	4,102	3,923	3,822	4,741	4,782	1,824	2,199	2,089	2,246	10,790	11,286	10,731	10,547	43,354				
Neponset . . . . .					167	193	131	244	224				31	404	391	406	369	1,570				
North Beacon street . . . . .						1		3	1													
North Harvard street . . . . .					138	120	64	272	131	168	23	36	36	404	431	221	268	1,324				
Warren . . . . .	47	17	7	63	3,108	2,796	2,655	1,940	1,983	1,757	1,470	1,520	1,699	6,862	6,223	6,165	5,967	25,217				
Western avenue to Cambridge . . . . .	2			2	236	211	132	481	426	278	228	137	153	1,107	1,058	750	676	3,591				
Watertown avenue to Watertown . . . . .					5	12	6	18	28	14	14	20	37	28	38	56	158					
Totals . . . . .	719	654	710	667	29,508	27,319	26,245	24,797	34,969	35,709	36,232	39,275	16,065	15,285	16,555	19,151	81,891	78,967	79,742	83,890	324,490	

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## APPENDIX B.

REPORT OF DEPUTY SUPERINTENDENT OF  
PAVING DIVISION.

OFFICE PAVING DIVISION,  
ROOM 41, CITY HALL, BOSTON, February 1, 1895.

B. T. WHEELER, *Superintendent of Streets*:

DEAR SIR: The following report is submitted, showing the expenditures of this division from February 1, 1894, to January 31, 1895, the nature of the work, the number and variety of permits issued, and the details of expenditures involved in paving, macadamizing, and regulating the various streets.

The following list shows the total yearly expenditures of the Paving Division, according to the report of the Superintendent of Streets, for the last thirty-nine years, the expenditures being from January 1 to December 31, inclusive, of each year, except of 1891, that year extending to January 31, 1892, making a period of thirteen months, the years after extending from February 1 to January 31:

1856 . . .	\$192,458 48	1877 . . .	\$1,077,475 81
1857 . . .	201,528 49	1878 . . .	644,821 76
1858 . . .	187,160 92	1879 . . .	727,340 05
1859 . . .	186,295 77	1880 . . .	1,015,063 06
1860 . . .	197,170 63	1881 . . .	966,366 49
1861 . . .	176,978 76	1882 . . .	1,088,551 14
1862 . . .	175,981 68	1883 . . .	934,656 58
1863 . . .	151,130 27	1884 . . .	1,310,172 16
1864 . . .	156,959 65	1885 . . .	1,018,693 39
1865 . . .	173,258 13	1886 . . .	1,170,863 01
1866 . . .	244,953 55	1887 . . .	1,260,530 03
1867 . . .	283,641 56	1888 . . .	1,043,475 52
1868 . . .	407,053 89	1889 . . .	1,051,460 18
1869 . . .	667,817 90	1890 . . .	1,061,722 40
1870 . . .	804,384 89	1891 . . .	1,991,524 28
1871 . . .	923,312 37	1892 . . .	1,972,857 88
1872 . . .	1,010,508 48	1893 . . .	1,552,913 17
1873 . . .	931,019 01	1894 . . .	1,642,491 48
1874 . . .	1,683,848 67		
1875 . . .	1,062,408 55	Total . . .	\$32,329,591 46
1876 . . .	980,741 42		

## STREET NUMBERING.

Numbers have been assigned to the estates in the different districts as follows:

City Proper . . . . .	7 streets and parts of	47 streets
South Boston . . . . .	1 street and parts of	20 streets
East Boston . . . . .	1 street and parts of	17 streets
Roxbury . . . . .	5 streets and parts of	47 streets
West Roxbury . . . . .	4 streets and parts of	38 streets
Brighton . . . . .	1 street and parts of	20 streets
Dorchester . . . . .	15 streets and parts of	53 streets
Charlestown . . . . .	parts of	14 streets
Totals . . . . .		34 streets and parts of 256 streets

## PERMITS.

Permits have been issued to make openings in the streets of the city between February 1, 1894, and January 31, 1895, as follows :

Company.	Permit.	Feet.
American Telegraph Co. . . . .	1	4
Boston Electric Light Co. . . . .	479	30,543
Boston Gas Light Co. . . . .	645	23,817
Boston Water Dept. (Eastern Division) . . . . .	4,111	113,675
Boston Water Dept. (Mystic Division) . . . . .	142	3,649
Brookline Gas Light Co. . . . .	5,521	423,599
Boston Transit Co. . . . .	37	588
Boston & Maine R.R. Co. . . . .	15	2,286
Boston, Revere Beach, & Lynn R.R. . . . .	1	60
Barber Asphalt Co. . . . .	16	1,320
Charlestown Gas and Electric Light Co. . . . .	58	1,698
Dorchester Gas Light Co. . . . .	486	14,510
Edison Electric Illuminating Co. . . . .	399	18,941
East Boston Gas Light Co. . . . .	248	8,311
Fire Alarm Department . . . . .	102	3,021
Jamaica Plain Gas Co. . . . .	335	24,464
Lamp Department . . . . .	10	143
Lynn & Boston R.R. Co. . . . .	14	1,125
Metropolitan Construction Co. . . . .	14	4,325
Metropolitan Sewerage Commission . . . . .	3	3,600
N.E. Telephone and Telegraph Co. . . . .	1,426	59,536
Norfolk Suburban R.R. Co. . . . .	211	2,040
N.Y., N.H., & H. R.R. Co. . . . .	5	58
N.Y. & N.E. R.R. Co. . . . .	8	281
Postal Telegraph Cable Co. . . . .	40	6,763
Park Department . . . . .	15	14,263
Police Department. . . . .	6	63
Quincy & Boston Street R.R. Co. . . . .	17	364
Quincy Market Cold Storage Co. . . . .	2	200
Roxbury Gas Light Co. . . . .	376	14,655
Sewer Division . . . . .	158	35,090
South Boston Gas Light Co. . . . .	294	6,839
Standard Oil Co. . . . .	18	246
United States Government . . . . .	1	600
Union Freight Railway Co. . . . .	1	150
West End Street Railway Co. . . . .	1,107	153,215

Company.	Permit.	Feet.
Western Union Telegraph Co. . . . .	154	770
Miscellaneous . . . . .	2,076	75,497

Total openings, 18,552, aggregating 1,050,309 feet, or 198.8 miles.

In addition to the foregoing there have been issued ninety-nine (99) emergency permits to the various departments and corporations. On these permits 2,576 openings were made, at an average of about six feet each.

Permits other than for opening streets have been issued as follows :

Advertising by man wearing hat and coat lettered . . . . .	26
Cleaning snow from roofs . . . . .	124
Driving cattle . . . . .	16
Distributing sand . . . . .	56
Feeding or baiting horses on the streets . . . . .	1,055
Erecting, repairing, and removing awnings . . . . .	4,264
Erecting and repairing buildings . . . . .	6,816
Moving buildings . . . . .	53
Occupying sidewalks for loading and unloading goods . . . . .	35
Pedlers (four different classes) . . . . .	877
Raising and lowering safes, machinery, etc. . . . .	560
Special for various purposes . . . . .	354
Watering carts . . . . .	140
	<hr/>
Making a total of . . . . .	14,376
	<hr/>
Or a grand total of . . . . .	32,928

There have been 12,070 notices sent to the various foremen, to repair defects in the streets, which have been reported by the police, or from other sources; also 1,934 to private parties, to repair work which had been improperly done by them, where they have received permits to open the streets, and to owners of estates where there are coal-holes or Hyatt lights.

In accordance with section 8, chapter 36, Revised Ordinances of 1892, 1,653 notices have been sent to the foremen of the several districts, directing them to make necessary repairs where parties making openings have neglected to attend to them within a specified time, after being notified to do so.

Three hundred and eighty-nine notices have been sent to departments, corporations, and abutters, regarding proposed street improvements during the year. There have been 307 new bonds filed during the year; also 591 applications referred to the Police Department, asking for information regarding locations where persons have asked for permits to sell fruit, etc., from windows, bulkheads, and areas, and the granting or refusal has generally been governed by the recommendations received. The same course has been pursued in cases of individuals desiring to occupy sidewalks for more than ten minutes to load or unload goods.

## Streets Laid Out or Extended.

DATE.	Street.	Location.	Length, Lin. ft.
Mar. 30,	Newbury st. ....	(Formerly West Newbury st.) from Charlesgate, west, to Brookline ave.	1,258.21
April 6,	Wilkes st. ....	(Formerly Wells pl.) from Washington st. to Bradford st. ....	247.19
April 21,	Franklin st. ....	Footway under the tracks of the B. & A. R.R. Company.	
April 30,	Buena Vista st. ...	(Formerly Buena Vista ave.) from Walnut ave. to Warren st. ....	460.43
May 8,	Lyndhurst st. ...	From Washington st. to Allston st. ...	1,237.39
May 8,	Bellflower st. ....	From Dorchester ave. to Boston st. ...	670.07
June 9,	Varney st. ....	(Formerly Yale st.) from Wenham st. to Wachusett st. ....	279.26
June 12,	Arundel st. ....	From Beacon st. to Mountfort st. ....	255.77
June 12,	Mountfort st. ...	From Ivy st. to Audubon road. ....	428.06
June 12,	Ivy st. ....	From St. Mary's st. to Mountfort st.,	777.47
June 22,	Algonquin st. ....	From Harvard st. to Washington st. ...	929.94
June 22,	Bradlee st. ....	From School st. to Washington st. ...	756.01
June 22,	Plymouth st. ....	From Longwood ave. to Bernier st. ...	396.50
July 26,	Mishawum st. ....	(Formerly Ham's court) from Main st. to Rutherford ave. ....	304.31
July 26,	Rice st. ....	(Formerly Wood st.) from Walnut st. to Taylor st. ....	143.00
July 26,	Victor st. ....	(Formerly Granville pl.) from Brook ave. to Dean st.	
Aug. 10,	Evergreen st. ....	(Formerly Atwood ave.) from Day st.	553.84
Aug. 10,	Batchelder st. ...	From Marshfield st. to Pontine st. ...	167.82
Aug. 10,	Glenway st. ....	(Formerly Glen road) from Glen ave. to Harvard st. ....	1,338.54
Sept. 14,	Norway st. ....	(Formerly Caledonia st.) from Falmouth st. to Massachusetts ave. ...	582.92
Sept. 14,	St. Germain st. ...	(Formerly Cromwell st.) from Massachusetts ave. to Dalton st. ....	722.33
Sept. 14,	Temple st. ....	From Mt. Vernon st. to Baker st. ...	959.97
Sept. 22,	Arklow st. ....	From Walden st. to Gay Head st. ....	173.00
Oct. 4,	Boylston st. ....	From Back Bay Fens to Brookline ave.	2,094.00
Oct. 4,	Cunard st. ....	From Tremont st. to Cabot st. ....	172.07
Oct. 4,	Kenwood st. ...	From Washington st. to Allston st. ...	1,275.31
Oct. 4,	Wrentham st. ...	From Dorchester ave. to Shelton st. ...	1,008.50
Oct. 12,	Moss Hill road ...	From Pond st. to Woodland road. ...	834.61
Oct. 12,	Woodland road. ...	From Moss Hill road. ....	472.17
Oct. 16,	McLellan st. ....	From Erie st. to White st. ....	765.48
Oct. 16,	Sydney st. ....	From Harbor View st. to Crescent ave.	834.47
Oct. 20,	Sherborn st. ...	From Commonwealth ave. to Charles river. ....	472.71
Oct. 20,	Burbank st. ....	(Formerly Buckingham pl.) from Buckingham st. ....	269.02
Nov. 5,	Wren st. ....	From Rutledge st. to Oriole st. ....	1,247.88
Nov. 16,	Turner st. ....	From Haviland st. to Astor st. ....	731.70
Nov. 16,	Montello st. ....	(Formerly Grace ave.) from Robinson st. to Arcadia st. ....	352.94
Dec. 14,	Fairbury st. ....	From Blue Hill ave. to Rand st. ....	308.72
Dec. 12,	Kenmore st. ....	From Commonwealth ave. to Newbury st. ....	211.00
		<i>Carried forward.</i> .....	23,692.61

Streets Laid Out or Extended. — *Concluded.*

DATE.	Street.	Location.	Length, Lin. ft.
Dec. 14,	Ridgemont st....	<i>Brought forward</i> .....	23,692 61
		(Formerly Ridgemont ave.) from All- ston Heights to West Eleanor st. . .	891.48
Dec. 14,	Eleanor st.....	From Cambridge st. to Ridgemont st.,	155.61
Dec. 14,	Bicknell st.....	(Formerly Bicknell ave.) from Har- vard st. to White st.....	833.71
1895.			
Jan. 4,	Columbus ave. . .	From Northampton st. to Franklin park .....	5,750.00
Jan. 5,	Commonw'th ave.	From Chestnut Hill ave. to Newton boundary line.....	1,336.00
			32,659.41
Extensions total .....			1,208.61
Discontinued total .....			31,450.80
Total.....			Or 5.956 miles.

## Streets Widened and Relocated.

DATE.	Street.	Location.	Sq. ft.
April 11,	Parker st.....	From Westland ave. to Huntington ave. ....	16,092
April 12,	Congress st.....	Between State st. and Congress sq. . .	241
April 21,	Franklin st.....	Between Cambridge st. and Lincoln st.	4,080
April 16,	Bunker Hill.....	Between Vine st. and Moulton st. . .	5,008
Aug. 10,	Ruggles st.....	South-westerly side between Auburn st. and Westminster st. ....	198
Sept. 8,	Saratoga st.....	Between Bennington st. and the Bos- ton, Revere Beach, and Lynn Rail- road .....	7,934
Oct. 3,	Salem st. ....	Near, and north of Parmenter st. ....	75
Oct. 4,	Cunard st. ....	South-westerly side between Tremont st. and Berlin st. ....	4,032
Oct. 20,	Harvard ave....	From Commonwealth ave. to the Brookline boundary line.....	10,568
Nov. 2,	Boylston st. ....	Easterly side, junct'on of Lamartine st.	1,262
Nov. 5,	Blue Hill ave....	From Washington st., Roxbury, to River st., Dorchester .....	696,213
Nov. 5,	South st. ....	Southerly side at and near Poplar st.	266
Nov. 16,	Brookford st. . .	At and near Rand st. ....	41
Dec. 5,	Seaver st.....	From Blue Hill ave. to Walnut ave.	83,502
Dec. 14,	Cambridge st. . .	Between Harvard ave. and Charles river.....	3,601
1895.			
Jan. 5,	Huntington ave..	From Copley sq. to Brookline bound- ary line.....	192,216
			1,025,329

## Streets Discontinued.

DATE.	Street.	Location.	Lin. ft.	Sq. ft.
April 12,	Congress sq.	Easterly side, adjoining estate of R. Worthington.....		295
June 22,	Revere st...	Between S. Russell st. and Irving st. ....	74.80	2,195
Oct. 3,	Salem st. . .	Part near and north of Parmenter st. adjoining estate of Mark Lewis and Meyer Berman. ....		3
1895.				
Jan. 4,	Pierpont st.	From Station st. to Prentiss st.	503.65	15,110
Jan. 4,	Cary st....	From Terry st. to Culvert st....	542.84	21,714
Jan. 4,	Terry st....	Part of, near Columbus ave....	39.30	1,084
Jan. 4,	Riverside st.	Part of, near Columbus ave....	48.02	1,585
Jan. 4,	Chapel st...	Part of, near Sarsfield st. ....		580
Jan. 5,	Beacon st...	Building line established on the southerly side from Arlington st. to Massachusetts ave.		
Jan. 5,	Beacon st. .	Building line established on the northerly side from River st. to Massachusetts ave.		
			1,208.61	42,566

The records of the Street Commissioners for the year 1894 show the following results :

Streets laid out or extended	. . . . .	32,659.41 lin. ft.
Streets widened and relocated	. . . . .	1,025,329 sq. ft.
Streets discontinued	. . . . .	42,566 sq. ft. or 1,208.61 lin. ft.
Increase in mileage	. . . . .	5.956 miles.

## FINANCIAL STATEMENT.

Appropriation for 1894-95 . . . . .	\$800,000 00
Amount collected by City Collector for repairs made by Paving Division for different com- panies, etc. . . . .	7,702 30
	<hr/>
	\$807,702 30
Amount of expenditures from Feb- ruary 1, 1894, to January 31, 1895 . . . . .	\$715,608 62
Transferred to Central Office . . . . .	1,000 00
Transferred to Bridge Division . . . . .	5,787 21
Transferred to Sanitary Division . . . . .	1,959 02
Transferred to Street-Cleaning Division . . . . .	21,240 44
Transferred to Sewer Division . . . . .	1,638 66
Transferred to New Lunatic Hos- pital . . . . .	18,000 00
Transferred to County of Suffolk . . . . .	30,000 00
Transferred to New Buildings, Long Island . . . . .	10,000 00
Transferred to Police Station House No. 13, land and addition to . . . . .	1,371 97
Transferred to Grammar School, Pierce District . . . . .	777 98
Transferred to Primary School- House, Oak Square, etc. . . . .	218 40
Transferred to Primary School- House, Emerson District . . . . .	100 00
	<hr/>
	<u>\$807,702 30</u>
Total expenditures from regular appropriation . . . . .	\$715,608 62
Total expenditures from street-watering appro- priation . . . . .	87,169 08
Total expenditures from special appropriations . . . . .	839,713 78
	<hr/>
Grand total (regular and special) . . . . .	<u>\$1,642,491 48</u>

## INCOME.

Statement showing the amount of bills deposited with the City Collector from February 1, 1894, to February 1, 1895, on account of the Paving Division :

Sidewalk construction assessments (Law of 1892),	\$1,359 35
Edgestone and sidewalk assessments (Law of 1893)	6,998 07
Repairs of streets (Rev. Ord. 1892)	2,112 52
Old paving blocks	5,429 45
Rent of part of Fort Hill Wharf	500 00
Miscellaneous	869 02
	<hr/>
	\$17,268 41

The amount paid into the city treasury during the year on account of the Paving Division is as follows :

Sidewalk construction assessments (Law of 1892),	\$32,334 14
Edgestone and sidewalk assessments (Law of 1893)	15,546 89
Repairs of streets (Rev. Ord. 1892)	3,600 50
Rent of part of Fort Hill Wharf	500 00
Miscellaneous	854 57
	<hr/>
	\$52,836 10

In addition to the above amount, there was an income from street-watering of . . . . .

\$906 77



Table showing Expenses paid from the Regular Appropriation, classified by Districts, from February 1, 1894, to January 31, 1895.

DISTRICTS.	Repairs.	Show.	Edgestones, Sidewalks, and Crossings.	Fences and Plank-walks.	A. Miscellaneous.	B. Executions of Court.	C. In Excess of Special Appropriation	D. New Work.	Total.
1. South Boston.....	\$24,479 99	\$7,367 47	\$6,997 55	\$1,905 04	.....	.....	\$284 35	.....	\$41,034 40
2. East Boston.....	11,330 30	4,453 08	6,191 35	719 10	.....	.....	.....	.....	22,693 83
3. Charlestown .....	15,422 43	6,199 51	4,411 47	717 80	.....	.....	.....	.....	26,751 21
4. Brighton.....	50,510 08	5,524 99	1,326 63	1,423 22	.....	.....	7,967 43	.....	66,752 35
5. West Roxbury.....	48,409 32	5,940 98	1,506 04	2,293 92	.....	.....	.....	.....	58,150 26
6. Dorchester .....	73,085 57	9,789 88	4,692 73	1,039 25	.....	.....	11,348 63	\$2,174 40	102,150 46
7. Roxbury.....	74,842 23	6,248 42	11,644 26	1,748 81	.....	.....	755 70	.....	95,239 42
8, 9, 10. City proper....	134,174 56	29,787 50	27,150 61	4,622 83	.....	.....	2,794 01	2,044 42	200,573 93
11. Roxbury and West Roxbury.....	27,213 60	3,069 88	4,048 69	305 44	.....	.....	.....	.....	34,637 61
					\$53,438 50	\$14,186 65	.....	.....	53,438 50
Totals .....	\$459,468 08	\$78,381 71	\$67,969 33	\$14,795 41	\$53,438 50	\$14,186 65	\$23,150 12	\$4,218 82	\$715,608 62

A. See Schedule A for items.

B. See Schedule B for items.

C. This schedule shows amount of money spent in excess of the special appropriation, and taken from the maintenance appropriation; for items, see Special Appropriations.

D. This schedule shows streets where the repairs have exceeded \$2,000; for items, see Schedule D.

## SCHEDULE A.

## EXPENDITURES. (DETAILS.)

Salary of Charles R. Cutter, Deputy Superintendent of Streets, February 1, 1894, to December 9, 1894, and from January 13, 1895, to January 30, 1895,	\$3,147 88
Salaries of office clerks . . . . .	9,487 53
Salaries of permit office clerks . . . . .	3,761 47
Advertising in and subscribing for daily papers . . . . .	341 95
Horses, carts, and harnesses (new) . . . . .	6,133 33
Printing and stationery . . . . .	2,576 12
Printing and stationery (permit office) . . . . .	550 46
Repairing stables, sheds, etc. . . . .	2,751 73
Sundries . . . . .	7,776 35
Street signs and numbering . . . . .	1,189 68
Telephones, expense of . . . . .	1,552 49
Tools, cost of keeping the same in repair, etc. . . . .	13,427 51
Removal of permit office to Old Court House . . . . .	742 00
	<hr/>
	\$53,438 50

## SCHEDULE B.

## EXECUTIONS OF COURT, ETC.

Bouge, Alfred F. O. and Emilie A., damage to property . . . . .	\$151 44
Chandler, Lucinda, personal injuries . . . . .	126 77
Cochran, Agnes L., " . . . . .	94 79
Corkey, John F., Adm., " . . . . .	150 00
Cross, Michael, " . . . . .	76 83
Donahue, Nellie E., " . . . . .	125 00
Dowd, John, grade damages . . . . .	857 86
Dunaken, Lucinda C., personal injuries . . . . .	300 00
Farrell, James, " . . . . .	65 00
Fay, Ann, damage to property . . . . .	400 00
Finnegan, Fred. C., personal injuries . . . . .	100 00
Ford, Daniel W., " . . . . .	250 00
Gray, Rachel B., grade damages . . . . .	227 10
Jordan, Sarah, personal injuries . . . . .	526 19
Keohane, Cornelius, " . . . . .	126 83
Kelley, Henry, damage to property . . . . .	501 44
Kneeland, Frank, " " . . . . .	462 43
Lane, Mary A., Adm., personal injuries . . . . .	100 00
Lane, Patrick, damage to coupé . . . . .	152 00
McDowell, Gordon, personal injuries . . . . .	100 00
McManus, Catherine A., " . . . . .	500 00
Milliken, Caroline, " . . . . .	170 56
Murphy, Peter, " . . . . .	50 00
	<hr/>
<i>Carried forward,</i>	\$5,614 24

<i>Brought forward,</i>	\$5,614 24
Norton, Martin, personal injuries . . . .	1,906 42
Orcutt, Ira A., " . . . .	350 00
Pratt, Isaac, Jr., abatement sidewalk assessment . . . .	2,222 78
Purcell, James, personal injuries . . . .	254 24
Quincy, W. H., damage to property . . . .	250 00
Richmond, Mary L., personal injuries . . . .	100 00
Russell, Mary A., " . . . .	527 43
Sterling, Andrew W., " . . . .	330 07
Sweeney, Catherine, " . . . .	150 00
Tucker, Florence E., <i>et als.</i> , damage to estate . . . .	1,661 75
Weatherbee, Marguerite, personal injuries . . . .	326 44
Whalley, William, damage to coach . . . .	25 00
Woodward, Joseph, damage to property . . . .	468 28
	<hr/>
	\$14,186 65

## SCHEDULE C.

The following schedule shows the expenditure from the maintenance appropriation of this division in excess of special appropriations :

**Vale street, Ward 15.**

In excess of special appropriation . . . . \$284 35

**Commonwealth avenue, between St. Paul street and Brighton avenue.**

In excess of special appropriation . . . . 7,967 43

**Blakeville street, Ward 24.**

In excess of special appropriation . . . . 569 01

**Bushnell street, Ward 24.**

In excess of special appropriation . . . . 1,363 33

**Duncan street, Ward 24.**

In excess of special appropriation . . . . 407 85

**Glenway street, Ward 24.**

In excess of special appropriation . . . . 268 95

**Greenheys street, Ward 24.**

In excess of special appropriation . . . . 186 90

**King street, Adams street to Neponset avenue.**

In excess of special appropriation . . . . 4,082 44

**Lyndhurst street, Ward 24.**

In excess of special appropriation . . . . 4,026 30

**Park street, Adams street to Upland street.**

In excess of special appropriation . . . . 443 85

**Thwing street, Ward 21.**

In excess of special appropriation . . . . 755 70

*Carried forward,* 

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 \$20,356 11

<i>Brought forward,</i>	\$20,356 11
<b>Albany street,</b> at Northampton and between Massachusetts avenue.	
In excess of special appropriation . . . . .	896 00
<b>Charles street,</b> Cambridge to Pinckney streets.	
In excess of special appropriation . . . . .	64 11
<b>Commonwealth avenue,</b> between cross-roads and St. Paul street.	
In excess of special appropriation . . . . .	120 00
<b>Harcourt street,</b> Retaining-wall.	
In excess of special appropriation . . . . .	1,713 90
	<hr/>
	<u>\$23,150 12</u>

## SCHEDULE D.

## NEW WORK.

<b>Stockton street,</b> Washington street to Milton avenue.	
Labor . . . . .	\$286 88
Teaming . . . . .	97 00
Gravel . . . . .	894 00
Steam-roller . . . . .	180 00
Stone . . . . .	716 52
	<hr/>
	\$2,174 40
<b>Bay State road,</b> south side, between Raleigh and Beacon streets.	
Labor . . . . .	\$295 88
Teaming . . . . .	226 00
Blocks . . . . .	140 34
Steam-roller . . . . .	90 00
Stone . . . . .	1,292 20
	<hr/>
	2,044 42
	<hr/>
	<u>\$4,218 82</u>

## REMOVAL OF SNOW.

South Boston . . . . .	\$7,367 47
East Boston . . . . .	4,453 08
Charlestown . . . . .	6,199 51
Brighton . . . . .	5,524 99
West Roxbury . . . . .	5,940 98
Dorchester . . . . .	9,789 88
Roxbury . . . . .	6,248 42
City Proper . . . . .	29,787 50
Roxbury and West Roxbury (District XI.) . . . . .	3,069 88
	<hr/>
	<u>\$78,381 71</u>

## STREET-WATERING.

South Boston . . . . .	\$6,471 95
East Boston . . . . .	5,411 95
Charlestown . . . . .	5,316 95
Brighton . . . . .	9,629 45
West Roxbury . . . . .	12,368 90
Dorchester . . . . .	12,083 90
Roxbury . . . . .	12,448 88
City Proper . . . . .	23,437 10
	<hr/>
	\$87,169 08

## DETAIL OF EXPENDITURES MADE UNDER SPECIAL APPROPRIATIONS.

**Baker street**, Ward 23, Baker place to Mt. Vernon street, grading and gravelling.

Labor . . . . .	\$930 82
Teaming . . . . .	522 00
Gravel . . . . .	189 00
Sundries . . . . .	10 08
	<hr/>
	\$1,651 90

Amount of special appropriation . . . . .	\$1,350 40
Amount paid out of Street Improvements, Aldermanic District No. 11 . . . . .	102 50
Amount paid out of Street Improvements, Wards 23 and 25 . . . . .	199 00
	<hr/>
	\$1,651 90

**Bellflower street**, Dorchester avenue to Boston street. Filling to sub-grade.

Labor . . . . .	\$46 25
4.075 cubic yards filling . . . . .	2,241 25
750 double loads filling . . . . .	712 50
	<hr/>
	\$3,000 00

Amount of special appropriation . . . . .	\$3,000 00
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**Blakeville street**, Ward 24. Grading and macadamizing; edge-stones set; gutters paved; sidewalks gravelled.

Labor . . . . .	\$970 30
Teaming . . . . .	400 00
Gravel . . . . .	486 75
Stone . . . . .	220 50
Rolling . . . . .	60 00
Paving . . . . .	198 46
Advertising . . . . .	6 00
	<hr/>

*Carried forward,* \$2,342 01

<i>Brought forward,</i>		\$2,342 01
Amount of special appropriation . . . . .	\$1,500 00	
Amount paid out of Street Improvements,		
Ward 24 . . . . .	273 00	
Amount paid out of Paving Division . . . . .	569 01	
	<hr/>	<u>\$2,342 01</u>

**Blue Hill avenue,** Dudley street to within 80 feet of Dalmatia street, grading and reconstructing street, edgestone set, brick sidewalks laid, crosswalks paved, roadway paved with large granite blocks, catch-basins built.

8,146 sq. yds. granite block paving.

Labor . . . . .	\$5,944 61
Teaming . . . . .	4,706 50
Gravel . . . . .	5,763 00
Sand . . . . .	1,225 80
Stone . . . . .	540 75
Advertising . . . . .	35 63
46,000 paving-bricks . . . . .	575 00
207,035 large granite blocks . . . . .	13,866 92
2,664 feet of flagging . . . . .	2,130 57
1,150 feet of edgestone, and nine large corners . . . . .	798 39

Amount paid to D. N. Payson :

5,811 sq. yds. block-paving laid, at 25 cts. . . . .	\$1,452 75	
3,344 feet edgestone set, at 8 cts. . . . .	267 52	
2,005.5 sq. yds. brick-paving laid, at 18 cts. . . . .	360 99	
295 sq. yds. flagging crosswalks laid, at 25 cts. . . . .	73 75	
	<hr/>	2,155 01
Work done by the Sewer Division . . . . .		439 79

\$38,181 97

Amount of special appropriation . . . . .	\$25,000 00	
Amount paid out of street improvements,		
Ward 20 . . . . .	8,160 58	
Amount paid out of street improvements,		
Ward 21 . . . . .	5,021 39	
	<hr/>	<u>\$38,181 97</u>

**Bumstead lane** (now St. Alphonsus street), Tremont street to Huntington avenue, grading and widening, edgestone set, brick sidewalks laid, gutters paved, heavy Telford-Macadam roadway built, crosswalks laid, catch-basins built, fences built, and retaining-walls constructed. Length, 1,173 feet; width, 40 feet.

Labor . . . . .	\$1,725 91
Teaming . . . . .	1,788 00
Gravel . . . . .	2,878 10

*Carried forward,* \$6,392 01

<i>Brought forward,</i>	\$6,392 01
Stone . . . . .	4,491 11
Sand . . . . .	478 80
1,500 large granite blocks . . . . .	105 00
2,123 $\frac{7}{8}$ feet edgestone, and 12 small corners . . . . .	1,424 43
280.4 feet of flagging . . . . .	224 32
Retaining-wall . . . . .	50 00
Rolling . . . . .	190 00
Sundries . . . . .	4 23

Amount paid to M. Kiernan :		
682 $\frac{1}{2}$ days' labor, at \$1.75 . . . . .	\$1,194 37	
Plus 15% . . . . .	179 15	
	<hr/>	1,373 52

Amount paid to A. A. Libby & Co. :		
388.1 feet old edgestone reset, at 8 cts. . . . .	\$31 05	
2,218 feet new edgestone set, at 8 cts. . . . .	177 44	
769.8 sq. yds. block-paving laid, at 25 cts. . . . .	192 45	
826 sq. yds. round-stone paving laid, at 25 cts. . . . .	206 50	
204.3 sq. yds. brick sidewalks relaid at 18 cts. . . . .	36 78	
965.9 sq. yds. brick sidewalks laid (new), at 18 cts. . . . .	173 86	
	<hr/>	818 08

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**\$15,551 50**

Amount of special appropriation . . . . .	\$7,327 00	
Amount paid out of street improvements, Aldermanic District No. 9 . . . . .	8,059 32	
Amount paid out of street improvements, Wards 19 and 22 . . . . .	165 18	
	<hr/>	\$15,551 50

<b>Bunker Hill, Vine, and Moulton streets</b> (work unfinished), grading.	
Labor . . . . .	\$141 45
Gravel . . . . .	11 70
Filling . . . . .	219 00
	<hr/>
	<b>\$372 15</b>

<b>Bushnell street</b> (now Peabody square), Ashmont street to Dorchester avenue, grading and macadamizing, edgestones set, crosswalks laid, gutters paved, catch-basin built.	
Labor . . . . .	\$998 60
Teaming . . . . .	390 50
Gravel . . . . .	201 30
Stone . . . . .	331 50
Rolling . . . . .	30 00
5,125 large paving blocks . . . . .	358 75

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*Carried forward,* \$2,310 65

<i>Brought forward,</i>		\$2,310 65
157 $\frac{1}{2}$ feet park edgestone . . . . .		408 42
88 $\frac{3}{4}$ feet circular edgestone . . . . .		80 95
29 $\frac{7}{8}$ feet straight edgestone . . . . .		19 23
604 feet flagging . . . . .		544 08
		<hr/>
		\$3,363 33
Amount of special appropriation . . . . .	\$2,000 00	
Amount paid out of Paving Division . . . . .	1,363 33	
		<hr/>
		\$3,363 33

**Charter street** (work not started).

Advertising . . . . .		\$9 20
		<hr/>

**Commonwealth avenue**, construction, Beacon street to Chestnut Hill avenue.

Labor, including engineering and inspection . . . . .		\$39,017 64
Teaming . . . . .		8,977 50
Gravel . . . . .		12,250 45
Loam . . . . .		6,846 31
Gravel filling . . . . .		18,544 67
Stone . . . . .		50,962 05
Rolling . . . . .		2,980 00
Cement . . . . .		7 50
Powder and fuse . . . . .		126 00
Fuel . . . . .		76 65
Hardware, tools, etc. . . . .		282 56
177,128 large granite blocks . . . . .		12,980 32
6,935 large granite blocks (culls) . . . . .		381 85
8,780 $\frac{1}{2}$ feet straight edgestone . . . . .		5,707 26
273 $\frac{1}{2}$ feet circular edgestone . . . . .		279 31
29 large corners and 6 small corners . . . . .		182 50
Lumber . . . . .		247 45
Advertising . . . . .		95 58
Land damages . . . . .		30,275 00
Building Inspector's shanty . . . . .		228 38
Sundries . . . . .		904 00

Amount paid to A. McMurtry :		
348 cu. yds. rock excavating, at \$1.75 . . . . .	\$609 00	
Grading off slopes . . . . .	125 00	
		<hr/>
		734 00

Amount paid to R. A. Davis :		
Final payment for work done under contract in 1893,		661 87
Amount paid to Boston Contracting Co. :		
43,509 cu. yds. gravel filling, at 41 cts., \$17,838 69		
Less amount paid to laborers, . . . . .	477 92	
		<hr/>
		\$17,360 77

Less amount drawn on the City Treasurer but not paid . . . . .	5,633 05	
		<hr/>
		11,727 72

*Carried forward,* \$204,476 57



<i>Brought forward,</i>	\$204,476 57
Executions of Court for services rendered by laborers to the Boston Contracting Co. . . . .	660 06
Amount paid to Fidelity and Deposit Co. :	
14,166 cu. yds. gravel filling, at 41 cts. . . . .	5,808 06
Amount paid to F. H. Cowin :	
Final payment for work done under contract in 1893 . . . . .	\$783 83
4,052 sq. yds. block paving laid, at 35 cts.,	1,418 20
6,014 feet edgestone set, at 8 cts. . . . .	481 12
Extra labor, as ordered . . . . .	19 55
	2,702 70
Amount paid to H. Gore & Co. :	
1,626 sq. yds. block paving laid, at 35 cts.,	\$569 10
854 sq. yds. block paving laid, at 25 cts.,	213 50
3,205 feet edgestone set, at 8 cts. . . . .	256 40
	1,039 00
Amount paid to Leavitt, Daily, & Crockett :	
Building abutments to Cottage Farm bridge, contract price . . . . .	\$40,150 50
Extra work and material, relaying wall :	
3 $\frac{3}{10}$ days, foreman, at \$4 . . . . .	13 20
3 days, mason, at \$3.50 . . . . .	10 50
6 $\frac{9}{10}$ days, mason tender, at \$1.50 . . . . .	10 35
3 $\frac{3}{10}$ days, engineer, at \$3 . . . . .	9 90
3 $\frac{3}{10}$ days, derrick, at \$1.50 . . . . .	4 95
3 $\frac{3}{10}$ days, engine, at \$2 . . . . .	6 60
12 barrels cement, at \$1.15 . . . . .	13 80
	40,219 80
Work done by the Bridge Division . . . . .	2,954 15
Work done by the Sewer Division . . . . .	46,400 65
	\$304,260 99
Amount paid out of appropriation for Commonwealth avenue . . . . .	\$296,173 56
Amount paid out of Paving Division . . . . .	8,087 43
	\$304,260 99
<b>Congress and L streets (work uncompleted).</b>	
Labor . . . . .	\$282 00
Fence . . . . .	276 00
	\$558 00
<b>Cranston street, Ward 23 (unfinished work from 1893).</b>	
Labor . . . . .	\$425 00
Teaming . . . . .	96 00
Carpentering . . . . .	34 00
Powder and fuse . . . . .	13 75
	\$568 75
Amount of special appropriation . . . . .	\$568 75

**Dartmouth street, Boylston to Newbury street, asphalted.**

Labor . . . . .	\$232 36
Lumber . . . . .	84 26
Paving . . . . .	98 62
Amount paid to J. J. Sullivan for excavating 359 cu. yds., excavation, at 97 cts. . . . .	348 23
Amount paid to Metropolitan Construction Co., 274.4 cu. yds., cement concrete base, at \$5.00 . . . . .	1,372 00
Amount paid to Barber Asphalt Paving Co., 1,646.3 sq. yds. Trinidad asphalt pavement, at \$2.25 . . . . .	3,704 18
	<hr/>
	<u>\$5,839 65</u>

**Day street, Centre to Heath street, graded, heavy Telford-Macadam road built, edgestones set, sidewalks gravelled, gutters paved, crosswalks laid, fences built, catch-basins built.**

Labor . . . . .	\$1,677 30
Teaming . . . . .	1,506 00
Gravel . . . . .	2,461 60
Stone and stone screenings . . . . .	3,991 62
Lumber . . . . .	71 83
2,958 ft. straight edgestones, 2 large and 10 small corners, 1,967 40	
177 $\frac{7}{8}$ ft. circular edgestone . . . . .	230 88
Sundries . . . . .	10 75
Amount paid to T. H. & S. D. Payson :	
3,702 ft. edgestone set, at 8 cts. . . . .	\$288 16
1,458.8 sq. yds. block paving laid, at 25 cts. . . . .	364 70
56.3 sq. yds brick paving laid, at 18 cts., 132 days labor . . . . .	10 13 265 65
	<hr/>
	928 64
	<hr/>
	\$12,846 02

Amount of special appropriation . . . . .	\$7,500 00
Amount paid out of Street Improvements, Wards 19 and 22 . . . . .	4,948 33
Amount paid out of Street Improvements, Aldermanic District No. 9 . . . . .	397 69
	<hr/>
	<u>\$12,846 02</u>

**Fay street, asphalted.**

Advertising . . . . .	\$7 00
Amount paid to H. Gore & Co. :	
250 sq. yds. cobble paving dug out and relaid, at 75 cts . . . . .	\$187 50
529.7sq. yds. Sicilian rock asphalt laid, at \$2.25 . . . . .	1,214 32
	<hr/>
	\$1,401 82
	<hr/>
	\$1,408 82
Amount of special appropriation . . . . .	\$1,408 82
	<hr/>

**Lewis-street extension**, graded, paved with large granite blocks, edgestones set, brick sidewalks laid.

Labor . . . . .	\$417 85
Teaming . . . . .	367 00
Gravel . . . . .	111 34
464 ft. straight edgestone . . . . .	301 60
75.8 ft. flagging . . . . .	60 64
10,520 large granite blocks . . . . .	701 68
1,000 paving brick . . . . .	13 00

Amount paid to P. W. Hernan :

658.4 sq. yds. block paving, at 25 cts. . . . .	\$164 60
448 ft. edgestone set, at 8 cts. . . . .	35 84
112.6 sq. yds. brick paving laid, at 18 cts., . . . . .	20 28
45 sq. yds. flagging crosswalks laid, at 25 cts. . . . .	11 25
	231 97

Work done by the Sewer Division . . . . .	114 21
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\$2,319 29

Amount paid out of appropriation for

Lewis street . . . . .	\$1,834 79
Amount paid out of Street Improvements, Ward 6 . . . . .	484 50
	\$2,319 29

**Mill street**, Ward 24, Houghton street to railroad, macadamized.

Labor . . . . .	\$336 65
Teaming . . . . .	126 50
Gravel . . . . .	272 25
Stone . . . . .	1,620 50
Rolling . . . . .	80 00
Work done by the Sewer division . . . . .	131 10

\$2,567 00

Amount of special appropriation . . . . .	\$2,000 00
Amount paid out of Street Improvements, Ward 24 . . . . .	567 00
	\$2,567 00

**Millett street**, Ward 24, culvert.

Labor . . . . .	\$50 50
Work done by the Sewer Division . . . . .	545 38

\$595 88

Amount of special appropriation . . . . .	\$595 88
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**Montview street**, Ward 23, graded, macadamized.

Labor . . . . .	\$1,933 02
Teaming . . . . .	1,275 00

\$3,208 02

*Carried forward,*

<i>Brought forward,</i>		\$3,208 02
Gravel . . . . .		443 88
Stone . . . . .		543 00
Advertising . . . . .		18 38
		<hr/>
		\$4,213 28
Amount of special appropriation . . . . .	\$1,273 05	
Amount paid out of Street Improvements, Aldermanic District No. 11 . . . . .	2,618 55	
Amount paid out of Street Improvements, Wards 23 and 25 . . . . .	321 68	
		<hr/>
		<u>\$4,213 28</u>

**Mt. Vernon street, Ward 24, grade damages.**

Amount paid to O.C. R.R. Co. :

Judgment paid by the railroad company in settlement of personal injuries sustained at the pumping-station crossing . . . . .		\$1,325 00
Amount of special appropriation . . . . .		\$1,325 00
		<hr/>

**Newport Street, Ward 24, Crescent avenue to Harbor View street, macadamized, edgestones set, gutters paved.**

Labor . . . . .		\$240 95
Teaming . . . . .		130 50
Gravel . . . . .		107 25
Filling . . . . .		115 50
Stone . . . . .		1,044 59
Rolling . . . . .		80 00
Paving . . . . .		76 11
Work done by the Sewer Division . . . . .		109 22
		<hr/>
		\$1,904 12
Amount of special appropriation . . . . .		\$1,904 12
		<hr/>

**Oak street, Washington street to Harrison avenue, paved with large granite blocks, edgestone reset, brick sidewalks relaid.**

810 sq. yds. block paving.

Labor . . . . .		\$916 89
Teaming . . . . .		732 00
Gravel . . . . .		200 30
52 feet of edgestone . . . . .		33 80
6,650 paving-brick . . . . .		86 45
18,125 large paving-blocks . . . . .		1,208 94
40 feet flagging . . . . .		32 00
Masonry . . . . .		92 00
Advertising . . . . .		11 00
		<hr/>
		\$3,313 38
Amount of special appropriation . . . . .		<u>\$3,313 38</u>

**Park street,** Charlestown, City square to Henley street, widened, paved with large granite blocks.

Labor . . . . .	\$327 10
Teaming . . . . .	111 50
Gravel . . . . .	170 49
4,182 large paving-blocks . . . . .	294 89
Advertising . . . . .	5 00
Amount paid to Patrick Brennan:	
917 sq. yds. block paving . . . . .	229 25

\$1,138 23  
\$1,138 23

Amount of special appropriation . . . . .

**Preston street,** Ward 24, graded, macadamized, culvert built.

Labor . . . . .	\$980 67
Teaming . . . . .	339 50
Gravel . . . . .	631 95
Filling . . . . .	154 00
Stone . . . . .	2,464 00
Rolling . . . . .	120 00

Amount paid to P. J. Lyons:

Building culvert . . . . .	700 00
	<u>\$5,390 12</u>

Amount of special appropriation . . . \$5,000 00

Amount paid out of Street Improvements,

Ward 24 . . . . . 390 12

\$5,390 12

**Ruth street,** East Boston, extended to Marginal street, graded, heavy granite retaining wall on westerly side, wall, steps, platform, fences, and iron hand-rails built.

Labor . . . . .	\$1,721 55
Teaming . . . . .	289 50
Stone . . . . .	252 07
Sand . . . . .	17 00
Lumber . . . . .	147 25
Edgestone . . . . .	23 00
Paint and oil . . . . .	43 14
Cement . . . . .	29 00
Masonry . . . . .	248 50
Pipe . . . . .	26 44

Amount paid to Simpson Bros.:

Building granite, cement, wall, and steps.

1,946.3 cu. ft. wall, at 36 cts. . . . .	\$700 66
768.8 sq. ft. surfacing, at 10 cts. . . . .	76 88
691.3 lin. ft. steps, at \$1.15 . . . . .	794 99
1,020 4 sq. ft. platforms, at 30 cts. . . . .	306 12

Carpenter work, as ordered:

Labor, \$121.50; plus 15%, \$18.22 . . . . .	139 72
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*Carried forward,*

\$2,018 37      \$2,797 45

<i>Brought forward,</i>	\$2,018 37	\$2,797 45
Lumber, nails, and leading, \$90.93; plus, 15%, \$13.63 . . . . .	104 56	
		2,122 93
Amount paid to Geo. T. McLauthlin & Co.:		
Putting up fence and painting . . . . .	\$335 00	
Extra work, as ordered . . . . .	221 97	
		556 97
Work done by the Sewer Division . . . . .		109 36
		<u>5,586 71</u>
Amount paid out of appropriation for Ruth street . . . . .	\$5,029 74	
Amount paid out of Street Improvements, Wards 1 and 2 . . . . .	556 97	
		<u>\$5,586 71</u>

**Second street, I to L street, paved with large granite blocks.**

Labor . . . . .		\$1,284 95
Teaming . . . . .		543 00
Gravel . . . . .		524 54
53,442 large paving-blocks . . . . .		3,564 58
23,000 paving-brick . . . . .		287 50
Wharfage . . . . .		160 68
Amount paid to H. Gore & Co.:		
2,391 sq. yds. block paving laid, at 25 cts.,	\$597 75	
73 feet edgestone set, at 8 cts. . . . .	5 84	
470 sq. yds. brick paving laid, at 18 cts.,	84 60	
49 sq. yds. block stone crossings, at 25c.,	12 25	
		700 44
		<u>\$7,065 69</u>

**STREET IMPROVEMENTS, ALDERMANIC  
DISTRICT NO. 1.**

**Bennington street, Wordsworth to Saratoga street, filled to  
grade.**

Labor . . . . .		\$1,533 10
Teaming . . . . .		2,204 00
Gravel . . . . .		308 02
Advertising . . . . .		5 50
Paving . . . . .		115 56
		<u>\$4,166 18</u>
Amount paid out of Street Improvements, Aldermanic District No. 1 . . . . .	\$3,861 81	
Amount paid out of Street Improvements, Wards 1 and 2 . . . . .	304 37	
		<u>\$4,166 18</u>

**Chelsea street, Porter street to Chelsea bridge, macadamized.**

Labor . . . . .	\$2,986 55
Teaming . . . . .	1,347 50
Stone . . . . .	3,023 55
Gravel . . . . .	747 84
Rolling . . . . .	940 00
Advertising . . . . .	5 00
	<hr/>
	\$9,050 44

Amount paid out of Street Improvements, Aldermanic District No. 1 . . . . .	\$4,563 93	
Amount paid out of Street Improvements, Wards 1 and 2 . . . . .	4,486 51	
	<hr/>	\$9,050 44

**Moore street, Bennington to Cowper street, filled and gravelled.**

Labor . . . . .	\$259 75
Teaming . . . . .	236 50
Gravel . . . . .	407 93
	<hr/>
	\$904 18

Amount paid out of Street Improvements, Aldermanic District No. 1 . . . . .	\$853 70	
Amount paid out of Street Improvements, Wards 1 and 2 . . . . .	50 48	
	<hr/>	\$904 18

**New edgestones, sidewalks, and gutters.**

Labor . . . . .	\$461 82
Teaming . . . . .	63 00
Gravel . . . . .	13 88
Sand . . . . .	11 00
	<hr/>
	\$549 70

Amount paid out of street improvements, Aldermanic District No. 1 . . . . .	\$549 70
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**Work done by the Sewer Division . . . . .** \$2,370 86

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
NO. 2.

**Alford street, paving, edgestone set.**

Labor . . . . .	\$620 64
Teaming . . . . .	72 00
Gravel . . . . .	323 47

Amount paid to P. Brennan :

1,215 feet of edgestone set, at 8 cts. . . . .	\$97 20	
1,290 sq.yds. block paving laid, at 25 cts., . . . . .	322 50	
	<hr/>	\$419 70
<i>Carried forward,</i>		\$4,016 11

<i>Brought forward,</i>	\$419 70	\$1,016 11
24 sq. yds. brick paving laid, at 18 cts.,	4 32	
	<hr/>	424 02
		<hr/>
		\$1,440 13

Amount paid out of street improvements, Aldermanic District No. 2 . . . . .		\$1,440 13
		<hr/>

**Austin street,** Washington street to the railroad, paved with large granite blocks, edgestones set, brick sidewalks laid.

Labor . . . . .		\$824 25
Teaming . . . . .		232 50
Gravel . . . . .		532 35
Sundries . . . . .		2 97
11,000 paving-brick . . . . .		132 00
377 feet of granite flagging . . . . .		290 29
32,625 large paving-blocks . . . . .		2,316 37

Amount paid to John Turner & Co. :		
2,646 sq. yds. block paving laid, at 25 cts.,	\$661 50	
787 feet edgestone reset, at 8 cts. . . . .	62 96	
512 sq. yds. brick paving laid, at 18 cts.,	92 16	
67 sq. yds. crosswalks laid, at 25 cts. . . . .	16 75	
	<hr/>	
		\$833 37

Less 10,000 old blocks, at \$10 . . . . .	100 00	
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		733 37
		<hr/>
		\$5,064 10

Amount paid out of street improvements, Aldermanic District No. 2 . . . . .	\$1,179 97	
Amount paid out of street improvements, Ward 5 . . . . .	3,884 13	
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		\$5,064 10
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**Chapman street,** Rutherford avenue to Austin street, paved with large granite blocks, edgestones set, brick sidewalks relaid.

Labor . . . . .		\$385 23
Teaming . . . . .		415 10
Gravel . . . . .		343 20
Masonry . . . . .		10 00
430 feet granite crossing stone . . . . .		331 10
35,775 large paving-blocks . . . . .		2,540 03

Amount paid to John Turner & Co. :		
1,431 sq. yds. block paving, at 25 cts. . . . .	\$357 75	
5.8 feet edgestone, at 65 cts. . . . .	3 77	
654.5 feet edgestone reset, at 8 cts. . . . .	52 36	
506 sq. yds. brick paving relaid, at 18 cts.,	91 08	
111.7 sq. yds. crosswalks laid, at 25 cts.,	27 93	
	<hr/>	
		532 89
		<hr/>

*Carried forward,* . . . . . \$4,557 55



<i>Brought forward,</i>	\$4,557 55
Amount paid out of street improvements, Aldermanic District No. 2 . . . . .	\$3,536 50
Amount paid out of street improvements, Ward 5 . . . . .	1,021 05
	<hr/>
	\$4,557 55

**Charles street, Ward 4, paved with large granite blocks, edge-stone reset, brick sidewalks relaid, crosswalks relaid.**

Labor . . . . .	\$374 90
Teaming . . . . .	94 50
Gravel . . . . .	112 86
11,400 large paving-blocks . . . . .	760 38
	<hr/>
	\$1,342 64

**Main street, crossing.**

Labor . . . . .	\$29 90
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**Medford street, work done by the West End Street Railway Co.**

9,000 large paving-blocks . . . . .	\$585 00
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**Phipps street, paved with large granite blocks, edgestones reset, brick sidewalks relaid, crosswalks relaid.**

Labor . . . . .	\$299 00
Teaming . . . . .	78 50
Gravel . . . . .	71 28
11,210 large paving-blocks . . . . .	755 06
2,000 paving-brick . . . . .	24 00
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	\$1,227 84

**Rutherford avenue, Devens to Chapman street, paved with large granite blocks, brick sidewalks laid, edgestones reset, crosswalks laid.**

Labor . . . . .	\$1,516 50
Teaming . . . . .	441 50
Gravel . . . . .	589 38
Sand . . . . .	27 90
Advertising . . . . .	18 00
54,034 large granite blocks . . . . .	3,701 81
9,000 paving-brick . . . . .	108 00
	<hr/>
	\$6,403 09

**Thompson street, macadamized, edgestones reset, brick sidewalks relaid, gutters paved.**

Labor . . . . .	\$161 00
Teaming . . . . .	46 50
Gravel . . . . .	41 68
1,500 paving-brick . . . . .	18 00
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	\$267 18

<b>Work done by the Sewer Division . . . . .</b>	<b>\$1,173 50</b>
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STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 3.

**Chambers street**, Ashland to Brighton street, widened, graded, paved with large granite blocks, edgestones set, brick sidewalks laid, crosswalks laid.

Labor . . . . .	\$1,687 74
Teaming . . . . .	949 50
Gravel . . . . .	372 40
Sand . . . . .	45 00
Lumber . . . . .	12 20
Advertising . . . . .	6 00
243.5 feet. of flagging . . . . .	219 15
621 feet edgestone, 4 large and 4 small corners . . . . .	432 75
35,650 large granite blocks . . . . .	2,377 86
33,500 paving-brick . . . . .	418 75

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\$6,521 35

Amount paid out of Street Improvements, Aldermanic District No. 3 . \$1,038 80

Amount paid out of Street Improvements, Ward 8 . . . . . 5,482 55

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\$6,521 35

**Work done by the Sewer Division . . . . .** \$77 18

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 4.

**Court Square**, asphalted on a concrete base.

Labor . . . . .	\$173 20
Teaming . . . . .	130 00

Amount paid to Barber Asphalt Paving Co., 1,020.7 sq. yds. Trinidad asphalt paving, at \$2.25 . . . . . \$2,296 58

1,222.5 cu. ft. asphalt concrete binder, at 32.1 cts. . . . . 392 42

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2,689 00

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\$2,992 20

Amount paid out of Street Improvements, Aldermanic District No. 4 . \$2,457 35

Amount paid out of Street Improvements, Wards 9 and 10 . . . . . 507 25

Amount paid out of Street Improvements, Ward 10 . . . . . 27 60

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\$2,992 20

**Harrison avenue**, Essex to Beach street, graded, widened, paved with large granite blocks, partly on a concrete and partly on a gravel base, with pitch joints; edgestone reset, sidewalks laid and relaid, crosswalks relaid.

Labor . . . . .	\$2,148 61
Teaming . . . . .	871 00
Gravel . . . . .	306 60
Pebbles . . . . .	122 51
Masonry . . . . .	126 00
Fuel . . . . .	12 75
Templets . . . . .	38 82
Advertising . . . . .	41 00
6,115 paving-brick . . . . .	79 50
7,404 gallons road-pitch . . . . .	666 36
16 $\frac{5}{12}$ feet circular edgestone . . . . .	21 34
91 $\frac{1}{2}$ feet straight edgestone . . . . .	59 80
15,583 large paving-blocks . . . . .	1,039 39
165.7 cu. yds. concrete base . . . . .	828 50
182 feet of flagging . . . . .	134 62
	<hr/>
	\$6,496 80

Amount paid out of Street Improvements, Aldermanic District No. 4 . . . \$308 20

Amount paid out of Street Improvements, Wards 9 and 10 . . . 6,188 60

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\$6,496 80

**Mason street**, asphalted over old cobblestones.

Labor . . . . .	\$157 84
Teaming . . . . .	24 00
Templets . . . . .	7 94
Gravel . . . . .	9 10
Masonry . . . . .	14 00
1,550 paving-brick . . . . .	20 15
117 $\frac{1}{2}$ feet edgestone . . . . .	76 27
1 large and 1 small corner . . . . .	8 95

Amount paid to H. Gore & Co. :

479.8 sq. yds. Sicilian rock asphalt, at \$2.25 . . . . .	\$1,079 55
Extra work as ordered . . . . .	137 24
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1,216 79

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\$1,535 04

Amount paid out of Street Improvements, Aldermanic District No. 4 . . . \$1,481 06

Amount paid out of Street Improvements, Wards 9 and 10 . . . 53 98

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\$1,535 04

**Pemberton square**, graded, asphalted on a concrete base, granolithic sidewalks laid, new edgestones set, crosswalks laid.

Labor . . . . .		\$1,555 52
Teaming . . . . .		1,020 50
Gravel . . . . .		41 30
Templets . . . . .		12 10
5,000 large paving-blocks . . . . .		333 50
46 $\frac{8}{12}$ feet edgestone . . . . .		106 79
Amount paid to Metropolitan Construction Co. :		
227.9-cu. yds. cement concrete base, at \$5 . . . . .		1,139 50
Amount paid to H. Gore & Co. :		
1,373 sq. yds. Sicilian rock asphalt, at \$2.25 . . . . .		3,089 25
Amount paid to Simpson Bros. :		
4,360.7 sq. yds. artificial stone sidewalk, at 25 cts. . . . .		1,090 17
Amount paid to James Grant & Co. :		
226 sq. yds. block paving tar joints laid at 90 cts. . . . .	\$203 40	
27 sq. yds. crosswalks laid, at 90 cts. . . . .	24 30	
28 feet edgestone set, at 8 cts. . . . .	2 24	
Labor, and material furnished in setting edgestone and steps . . . . .	315 85	
		<u>545 79</u>
		\$8,934 42

Amount paid out of street improvements, Aldermanic District No. 4 . . . . .	\$7,034 66	
Amount paid out of street improvements, Wards 9 and 10 . . . . .	1,899 76	

\$8,934 42

**Washington street**, Essex to Kneeland street, paved with large granite blocks on a concrete base, edgestone reset, sidewalks relaid, crosswalks laid.

Labor . . . . .		\$2,946 50
Teaming . . . . .		1,558 00
Gravel . . . . .		339 10
Templets . . . . .		26 27
Sundries . . . . .		89 44
1,620 feet of flagging . . . . .		1,296 00
53 $\frac{11}{12}$ feet circular edgestone . . . . .		70 09
219 ft. straight edgestone . . . . .		142 35
1 large corner . . . . .		5 60
10,500 paving-brick . . . . .		131 25
52,825 large granite blocks . . . . .		3,523 43
1,290 sq. yds. block paving removed . . . . .		185 35
Amount paid to Metropolitan Construction Co. :		
371.8 cu. yds. cement concrete base at \$5.00 . . . . .		1,859 00
Amount paid to H. Gore & Co. :		
2,221.8 sq. yds. block paving, pitch joints, at 90 cts. . . . .	\$1,999 62	

*Carried forward,*

\$1,999 62      \$12,172 38

<i>Brought forward,</i>	\$1,999 62	\$12,172 38
1,095 sq. yds. block paving, pitch joints, at \$1.25 . . . . .	1,368 75	
265.7 sq. yds. block paving, pitch joints, at 90 cts. . . . .	239 13	
56.8 sq. yds. block paving, gravel joints, at 25 cts. . . . .	14 20	
563.6 ft. edgestone set at 8 cts. . . . .	45 09	
360 sq. yds. brick paving at 18 cts. . . . .	64 80	
	<hr/>	3,731 59
		<hr/>
		\$15,903 97
Less amount paid by J. H. Pray's Sons & Co. . . . .	63 00	
Less amount paid by West End Street Railway Co. . . . .	4,999 17	
	<hr/>	5,062 17
		<hr/>
		\$10,841 80
Amount paid out of Street Improvements, Aldermanic District No. 4 . . . . .	\$3,276 75	
Amount paid out of Street Improvements, Ward 10 . . . . .	4,186 80	
Amount paid out of Street Improvements, Wards 9 and 10. . . . .	3,378 25	
	<hr/>	\$10,841 80
		<hr/>
<b>Work done by the Sewer Division . . . . .</b>		<b>\$479 41</b>
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STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
NO. 5.

<b>Harcourt street, retaining-wall built.</b>		
Labor and inspection . . . . .		\$160 00
Advertising . . . . .		22 88
Sundries . . . . .		2 50
Amount paid to J. S. Jacobs & Son. :		
Building retaining-wall, as per contract . . . . .		1,974 00
		<hr/>
		\$2,159 38
Amount paid out of Street Improvements, Aldermanic District No. 5 . . . . .	\$445 48	
Amount paid out of Paving Division . . . . .	1,713 90	
	<hr/>	\$2,159 38
		<hr/>
<b>Work done by the Sewer Division. . . . .</b>		<b>\$92 34</b>
		<hr/>

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
NO. 6.

**Ash street** (work not finished).

Amount paid to H. Gore &amp; Co. :

5 hours labor, stone-cutter, at \$4.50 . . . . .	\$2 50
3,000 paving brick, at \$12.50 . . . . .	37 50
71 sq. yds. cobblestone paving laid, at 50 cts. . . . .	35 50
415 feet edgestone reset, at 15 cts. . . . .	62 25
236 sq. yds. brick paving relaid, at 43 cts. . . . .	101 48
	\$239 23

**Essex street**, Chauncy to South street. Paved with large granite blocks on gravel, partly with pitch, and partly with gravel joints. Widened, graded, edgestone reset, sidewalks relaid, crosswalks laid.

Labor . . . . .	\$2,618 56
Teaming . . . . .	2,636 22
Gravel . . . . .	718 96
Masonry . . . . .	377 00
43 $\frac{1}{2}$ feet circular edgestone . . . . .	57 09
71 $\frac{8}{12}$ feet straight edgestone and 2 small corners . . . . .	53 28
40,700 paving brick . . . . .	508 75
594.5 feet flagging . . . . .	429 88
19,175 large granite blocks . . . . .	1,278 97

Amount paid to A. A. Libby &amp; Co. :

1,698 sq. yds. block paving, pitch joints, at 90 cts. . . . .	\$1,528 20
497 feet edgestone set, at 8 cts. . . . .	39 76
41 sq. yds. brick paving laid, at 18 cts. . . . .	7 38
68 sq. yds. flagging crosswalks laid, pitch joints, at 90 cts. . . . .	61 20
1,256 sq. yds. block paving, gravel joints, at 25 cts. . . . .	314 00
6 sq. yds. brick paving, herring-bone, at 36.1 cts. . . . .	2 17
	1,952 71

Amount paid to Doherty &amp; O'Leary :

1,442 sq. yds. block paving, pitch joints, at 90 cts. . . . .	\$1,297 80
652 feet edgestone set, at 8 cts. . . . .	52 16
531 sq. yds. brick paving, at 18 cts. . . . .	95 58
70 sq. yds. flagging crossings, pitch joints, at 90 cts. . . . .	63 00
7 sq. yds. cobble-stone repaving, at 25c., . . . . .	1 75
	1,510 29

\$12,136 71**Essex and Lincoln streets**, (Burnt district).

Amount paid to A. A. Ellston :

Taking down walls, as per contract . . . . .	\$1,455 00
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**Foundry street**, Division to W. Fourth street. Paved with large granite blocks. Work done by the Brookline Gas Light Co.

Labor . . . . .	\$7 87
Teaming . . . . .	252 00
37,495 large granite blocks . . . . .	2,500 92
	<u>\$2,760 79</u>

**Tufts street.**

Labor . . . . .	\$240 35
Teaming . . . . .	104 00
	<u>\$344 35</u>

**Work done by the Bridge Division . . . . .** \$6,586 70

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 7.

**Boston street**, Andrew square to Mt. Vernon street. Macadamized.

Labor . . . . .	\$2,076 61
Teaming . . . . .	523 50
Gravel . . . . .	53 50
Stone . . . . .	6,251 97
1,420 small blocks . . . . .	75 26
500 paving-brick . . . . .	6 50
Crossing-blocks . . . . .	325 00
Rolling . . . . .	475 00
Advertising . . . . .	11 00
	<u>\$9,798 34</u>

Amount paid out of Street Improvements, Aldermanic District No. 7 . . . \$3,130 77

Amount paid out of Street Improvements, Ward 15 . . . . . 6,667 57

\$9,798 34

**Work done by the Sewer Division . . . . .** \$215 52

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 8.

**Albany street**, at Massachusetts avenue. Repaved; edgestones reset; sidewalks relaid.

Labor . . . . .	\$1,444 72
Teaming . . . . .	749 00
Gravel . . . . .	442 64
348 ft. flagging . . . . .	278 40
12,800 large paving-blocks . . . . .	896 00
	<u>\$3,810 76</u>

<i>Brought forward,</i>		\$3,810 76
Amount paid out of Street Improve- Aldermanic District No. 8 . . . . .	\$2,057 45	
Amount paid out of Street Improve- ments, Wards 17 and 18 . . . . .	857 31	
Amount paid out of Paving Division . . . . .	896 00	
	<hr/>	<u>\$3,810 76</u>

**Massachusetts avenue, Albany to Washington street.** Work unfinished. Sicilian rock asphalt on a concrete base, edgestone reset, sidewalks relaid, granolithic sidewalks built in front of hospital buildings.

Labor . . . . .		\$1,341 93
Teaming . . . . .		678 50
Gravel . . . . .		260 02
Stone . . . . .		340 90
Advertising . . . . .		8 40
Sundries . . . . .		189 62
262 ft. flagging . . . . .		209 60
688 ft. straight edgestone . . . . .		447 19
104 ft. circular edgestones . . . . .		135 20
7 large and 2 small corners . . . . .		45 90
1,000 large paving-blocks . . . . .		70 00
900 paving-brick . . . . .		11 70
Amount paid to J. J. Sullivan :		
876 cu. yds. earth excavated, at 75 cts. . . . .	\$657 00	
566 sq. yds. cobble-stones removed, at 12.2 cts. . . . .	70 75	
	<hr/>	727 75

Amount paid to Metropolitan Construction Co. :		
693 cu. yds. cement concrete base, at . . . . .		
\$5.00 . . . . .	\$3,465 00	
Extra work as ordered . . . . .	17 80	
	<hr/>	3,482 80

Amount paid to H. Gore & Co. :		
525 sq. yds. Sicilian rock asphalt, at \$2.25 . . . . .	\$1,181 25	
less 15% retained . . . . .	177 19	
	<hr/>	1,004 06
1,979 ft. edgestone reset, at 18 cts. . . . .	\$356 22	
98 sq. yds. brick paving laid, at 43 cts. . . . .	42 14	
221 sq. yds. brick paving laid, at 28 cts. . . . .	61 88	
60.5 sq. yds. flagging crossing laid, at 40 cts. . . . .	24 20	
68 sq. yds. block paving laid, at 35 cts. . . . .	23 80	
10 $\frac{1}{5}$ days stone-cutter . . . . .	45 25	
3 $\frac{3}{8}$ days labor cementing joints . . . . .	6 66	
2 $\frac{1}{2}$ barrels American cement . . . . .	3 13	
373 sq. ysd. block paving dug and laid . . . . .	130 55	
	<hr/>	693 83
		<hr/>
<i>Carried forward,</i>		\$9,647 40



<i>Brought forward,</i>	\$9,647 40
Amount paid to Simpson Bros. :	
4,608 sq. ft. artificial stone sidewalk . . . . .	1,152 00
	<hr/>
	\$10,799 40
Amount paid out of Street Improve- ments, Aldermanic District No. 8 . . . . .	\$7,529 93
Amount paid out of Street Improve- ments, Wards 17 and 18 . . . . .	3,269 47
	<hr/>
	\$10,799 40
<b>Work</b> done by the Sewer Division . . . . .	<u>\$581 91</u>

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 9.

**Brookline avenue,** Longwood avenue to Bellevue street.  
Widened, graded, macadamized.

Labor . . . . .	\$349 60
Teaming . . . . .	190 00
Filling . . . . .	416 50
Stone . . . . .	766 50
Rolling . . . . .	180 00
	<hr/>
	\$1,902 60

**Heath street,** Tremont to Day street. Widened, graded,  
macadamized, edgestone set, brick sidewalks laid, sidewalks  
gravelled, crosswalks laid, fences built.

Labor . . . . .	\$2,571 98
Teaming . . . . .	2,250 50
Gravel . . . . .	2,864 50
Sand . . . . .	543 60
Stone . . . . .	5,733 75
Rolling . . . . .	220 00
181 $\frac{2}{3}$ feet circular edgestone . . . . .	217 95
1,155 feet straight edgestone . . . . .	751 13
14 small corners . . . . .	46 90
4,000 paving brick . . . . .	50 00
1,000 large granite blocks . . . . .	70 00
4,327 small granite blocks . . . . .	53 38
161 feet flagging . . . . .	114 31
Amount paid to T. H. & S. D. Payson :	
2,497 feet edgestone set, at 8 cts. . . . .	\$199 76
508 sq. yds. block paving laid, at 25 cts., . . . . .	127 00
1,193 sq. yds. round-stone paving laid, at 25 cts. . . . .	298 25
723 sq. yds. brick paving laid, at 18 cts., . . . . .	130 14
Extra labor, as ordered . . . . .	122 50
	<hr/>
	877 65
	<hr/>
	\$16,365 65

**Sewall street.** Graded, macadamized, edgestone set, brick sidewalks laid, gutters paved.

Labor . . . . .	\$269 19
Teaming . . . . .	226 50
Gravel . . . . .	300 90
Sand . . . . .	97 20
Stone . . . . .	108 90
Rolling . . . . .	40 00
382 $\frac{8}{12}$ feet edgestone . . . . .	248 73
4 small corners . . . . .	13 40
7,500 paving-brick . . . . .	93 75

Amount paid to Payson & Co. :

668 feet edgestone reset, at 8c. . . . .	\$53 44
209 sq. yds. block paving laid, at 25c. . . . .	52 25
16.3 sq. yds. round paving laid, at 25c. . . . .	4 07
303 sq. yds. brick sidewalks laid, at 18c , . . . . .	54 54

164 30

\$1,562 87

**Work done by the Sewer Division . . . . .** \$4,225 75

**STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
NO. 11.**

**Henshaw street** (work done in 1893).

1,725 gutter-blocks . . . . . \$48 30

**Lagrange street**, Washington to Centre street (unfinished work from 1893). Graded, macadamized, sidewalks gravelled, culverts built, fences built.

Labor . . . . .	\$2,378 40
Teaming . . . . .	1,080 50
Gravel . . . . .	1,287 36
Stone . . . . .	491 00
Powder and fuse . . . . .	93 00
Lumber . . . . .	32 38
Fuel . . . . .	2 33

\$5,364 97

**Sycamore street.**

Labor . . . . . \$46 00

**Washington street**, Lagrange street to Dedham line, graded, macadamized.

Labor . . . . .	\$251 70
Teaming . . . . .	809 00
Gravel . . . . .	1,663 20

*Carried forward,*

\$2,723 90

<i>Brought forward,</i>	\$2,723 90
Filling . . . . .	1,618 35
Stone . . . . .	2,167 00
Lumber . . . . .	121 04
Advertising . . . . .	7 95
	<u>\$6,638 24</u>
Amount paid out of Street Improvements, Aldermanic District No. 11 . . . . .	\$3,549 07
Amount paid out of Street Improvements, Wards 23 and 25 . . . . .	3,089 17
	<u>6,638 24</u>
 <b>Wilson square.</b> Concrete sidewalks.	
Amount paid to Simpson Bros. :	
1162.3 sq. yds. new concrete sidewalks, at \$1 . . . . .	\$1,162 30
26.5 sq. yds. concrete sidewalks resur- faced, at 65c. . . . .	17 22
	<u>\$1,179 52</u>
<b>Work done by the Bridge Division . . . . .</b>	<u>\$344 93</u>
<b>Work done by the Sewer Division . . . . .</b>	<u>\$2,013 20</u>

STREET IMPROVEMENTS, ALDERMANIC DISTRICT  
No. 12.

<b>Park street.</b> Macadamizing.	
Labor . . . . .	\$465 21
Teaming . . . . .	129 50
Gravel . . . . .	677 10
Stone . . . . .	2,175 63
Rolling . . . . .	170 00
Paving . . . . .	68 55
Advertising . . . . .	7 50
	<u>\$3,693 49</u>
Amount paid out of Street Improve- ments, Aldermanic District No. 12 . . . . .	\$1,673 54
Amount paid out of Street Improve- ments, Ward 24 . . . . .	1,576 10
Amount paid out of Paving Division . . . . .	443 85
	<u>\$3,693 49</u>
<b>Work done by the Sewer Division . . . . .</b>	<u>\$217 15</u>

## STREET IMPROVEMENTS, WARDS 1 AND 2.

## New Edgestones, Sidewalks and Gutters.

Teaming . . . . .	\$409 50
Gravel . . . . .	748 33
Sand . . . . .	90 00
Paid to J. B. O'Rourke & Co.:	
1,397.4 sq. yds. block paving laid, at 25 cts. . . . .	\$349 36
1,186.7 sq. yds. cobble-stone paving laid, at 25 cts. . . . .	296 68
206 days' labor . . . . .	414 57
	<hr/>
	1,060 61
	<hr/>
	<u>\$2,308 44</u>
<b>Work done by the Sewer Division . . . . .</b>	<u>2,791 92</u>

## STREET IMPROVEMENTS, WARD 3.

**Sprague street.** Graded, macadamized, edgestone set, brick sidewalks laid, gutters paved.

Labor . . . . .	\$1,069 50
Teaming . . . . .	314 50
Gravel . . . . .	294 12
Stone . . . . .	809 92
Lumber . . . . .	23 84
1 small corner . . . . .	3 75
Advertising . . . . .	16 20
	<hr/>
	<u>\$2,531 83</u>
<b>Work done by the Sewer Division . . . . .</b>	<u>\$16 75</u>

## STREET IMPROVEMENTS, WARD 5.

**Charles-river bridge.** Electric signals to notify when the draw is off.

Labor . . . . .	\$266 34
Teaming . . . . .	55 50
Gravel . . . . .	61 85
9,000 paving-brick . . . . .	108 00
Masonry . . . . .	4 00
Electric signals . . . . .	400 00
	<hr/>
	<u>\$895 69</u>
<b>Work done by the Sewer Division . . . . .</b>	<u>\$308 19</u>

## STREET IMPROVEMENTS, WARD 6.

**Batterymarch street, at Milk street.** Graded, widened, paved.

Labor . . . . .	\$437 45
Teaming . . . . .	130 00
Gravel . . . . .	74 80
Pebbles . . . . .	33 00
Pitch . . . . .	78 84
21 ft. flagging . . . . .	16 80
2,100 large granite blocks . . . . .	147 00
500 paving-brick . . . . .	6 50
	<hr/>
	\$924 39

**Charter street, Hanover to Unity street.** Asphalted over round stone paving, edgestone reset, sidewalks relaid.

Labor . . . . .	\$658 35
Teaming . . . . .	277 50
8,600 paving-brick . . . . .	107 50
Amount paid to Barber Asphalt Paving Co. : 631.3 sq. yds. Trinidad asphalt pavement laid, at \$2.25 . . . . .	1,420 43
Amount paid to James Grant & Co. : 671 sq. yds. round-stone paving laid, at 25 cts. . . . .	\$167 75
688.5 ft. edgestone set, at 8 cts. . . . .	55 08
8.6 sq. yds. brick paving laid, herring- bone, at 18 cts. . . . .	59 22
40 sq. yds. crosswalks laid at 25 cts. . . . .	10 00
	<hr/>
	295 15

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**\$2,758 93**

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**Work done by the Sewer Division . . . . .** \$681 20

## STREET IMPROVEMENTS, WARD 7.

**Bowker street, Chardon to Sudbury street.** Paved with large granite blocks on a gravel base, with pitch joints, edgestone reset, brick sidewalks relaid, crosswalks laid.

Labor . . . . .	\$819 18
Teaming . . . . .	774 50
Gravel . . . . .	186 60
201 ft. edgestone . . . . .	130 65
4 small corners . . . . .	15 00
122 ft. flagging . . . . .	97 60
10,000 paving-brick . . . . .	125 00
31,432 large granite blocks . . . . .	2,096 51
Advertising . . . . .	18 38
Sundries . . . . .	21 50
	<hr/>

*Carried forward,*

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**\$4,284 92**

<i>Brought forward,</i>		\$4,284 92
Amount paid to James Grant & Co. :		
1,477.4 sq. yds. block paving, pitch joints, at 90 cts. . . . .	\$1,329 66	
686 ft. edgestone set, at 8 cts. . . . .	54 88	
419 sq. yds. brick paving laid, at 18 cts. . . . .	75 42	
	<hr/>	1,459 96
		<hr/>
		\$5,744 88
Less amount paid by West End Street Railway Company . . . . .	\$325 50	
Less amount paid by Bowker, Torrey, & Co. . . . .	200 00	
Less amount paid by James W. Tufts . . . . .	35 00	
	<hr/>	560 50
		<hr/>
		\$5,184 38
Amount paid out of Street Improvements, Ward 7 . . . . .	\$4,730 82	
Amount paid out of Street Improvements, Wards 7 and 8 . . . . .	453 56	
	<hr/>	\$5,184 38
<b>Causeway street, Haverhill to Nashua street.</b> Paved with large granite blocks on a concrete base, with pitch joints, edgestone reset, granolithic sidewalks built, brick sidewalks relaid, crosswalks laid.		
Labor . . . . .		\$2,948 24
Teaming . . . . .		2,522 50
Gravel . . . . .		543 97
Sand . . . . .		90 00
Templets . . . . .		18 22
Advertising . . . . .		9 90
Pebbles . . . . .		85 80
Sundries . . . . .		33 00
87,100 large granite blocks . . . . .		5,809 58
1,968.3 ft. of flagging . . . . .		1,701 12
228 ft. of edgestone . . . . .		148 20
2 small corners . . . . .		6 70
9,832 paving-brick . . . . .		120 48
Amount paid to Metropolitan Construction Co. :		
686 cu. yds. cement concrete base, at \$5.00 . . . . .		3,430 00
Amount paid to Warner H. Jenkins & Co. :		
2,414.4 sq. ft. artificial stone sidewalk, at 16 cts. . . . .		342 62
Amount paid to James Grant & Co. :		
4,512 sq. yds. block paving, pitch joints, at 90 cts. . . . .	\$4,060 80	
810 ft. edgestone set, at 8 cts. . . . .	64 80	
343 sq. yds. brick-paving laid, at 18 cts., . . . . .	61 74	
731 sq. yds. block paving laid, at 35 cts., . . . . .	255 85	
	<hr/>	4,443 19
		<hr/>
		\$22,253 52
<i>Carried forward,</i>		

<i>Brought forward,</i>		\$22,253 52
Less amount paid by the West End Street Railway Co. . . . .	\$2,390 73	
Less amount paid by the Boston & Maine Railroad Co. . . . .	292 81	
Less amount paid by the Brookline Gas Light Co. . . . .	109 17	
	<hr/>	2,792 71
		<hr/>
		\$19,460 81
Amount paid out of Street Improvements, Ward 7 . . . . .	\$13,339 87	
Amount paid out of Street Improvements, Wards 7 and 8 . . . . .	6,120 94	
	<hr/>	\$19,460 81
		<hr/>

**North Margin street. Graded.**

Labor . . . . .		\$71 30
Teaming . . . . .		30 00
		<hr/>
		\$101 30
		<hr/>

**Salt lane, Union street to Creek square. Paved with granite blocks taken from Causeway street, on a gravel base, with pitch joints, brick sidewalks laid, edgestone reset.**

Labor . . . . .		\$232 10
Teaming . . . . .		105 00
Pitch . . . . .		48 87
Pebbles . . . . .		13 20
1,500 paving-brick . . . . .		19 50
Sundries . . . . .		2 00
		<hr/>
		\$420 67
		<hr/>

**Work done by the Sewer Division . . . . .** \$75 88

STREET IMPROVEMENTS, WARD 8.

**Barton court, Barton to Brighton street. Asphalted over cobblestones, edgestone reset, brick sidewalks laid.**

Labor . . . . .		\$165 60
Teaming . . . . .		99 00
3,000 paving-brick . . . . .		37 50
Advertising . . . . .		5 00
Amount paid to Barber Asphalt Paving Co.:		
180.6 cu. yds. Trinidad asphalt laid, at \$2.25 . . . . .		406 35
		<hr/>
		\$713 45

Amount paid out of Street Improvements, Ward 8 . . . . .	\$693 13	
Amount paid out of Street Improvements, Wards 7 and 8 . . . . .	20 32	
	<hr/>	\$713 45
		<hr/>

**Cambridge street, Joy street to Bowdoin square.** Paved with large granite blocks on a concrete base with pitch joints, edgestone reset, brick sidewalks relaid, crosswalks laid.

Labor . . . . .	\$1,277 36
Teaming . . . . .	644 50
Advertising . . . . .	31 40
Gravel . . . . .	318 60
Sand . . . . .	99 00
Pebbles . . . . .	44 55
Templets . . . . .	9 10
57,516 large granite blocks . . . . .	3,836 32
23,000 paving-brick . . . . .	280 00
40 feet edgestone . . . . .	28 80
1 large corner . . . . .	5 60
704 feet flagging . . . . .	698 72

Amount paid to Metropolitan Construction Co. :  
431 cu. yds. cement concrete base, at \$5 . . . . . 2,155 00

Amount paid to S. & R. J. Lombard :  
427 cu. yds. earth excavation, at 15 cts., \$64 05  
1,928 sq. yds. pavement removed. 289 20  

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353 25

Amount paid to H. Gore & Co. :  
1,991 sq. yds. block paving pitch joints,  
at 90 cts. . . . . \$1,791 90  
1,222 feet edgestone reset, at 8 cts. . . . . 97 76  
756 sq. yds. brick paving relaid, at 18 cts., 136 08  
752 sq. yds. block paving,  
pitch joints, at 1.087 . . . . . \$817 42  
14 sq. yds. block paving,  
gravel joints, at .217. . . . . 3 04  
53 feet edgestone reset, at  
.652 . . . . . 34 56  
51 $\frac{4}{9}$  days stone-cutter, at  
.3913 . . . . . 201 30  
2 $\frac{2}{9}$  days rammer, at \$2.17 . . . . . 4 82  
2 $\frac{2}{9}$  days laborer, at \$1.74 . . . . . 3 86

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\$1,065 00  
Add 15% . . . . . 159 75  

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1,224 75  

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3,250 49  

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\$13,032 69

Amount paid by the Brookline Gas Light  
Co. . . . . \$2,272 07  
Amount paid by the West End Street  
Railway Company . . . . . 2,105 60  

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4,377 67  

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\$8,655 02



Amount paid out of Street Improvements, Ward 8 . . . . .	\$3,077 21	
Amount paid out of Street Improvements, Wards 7 and 8 . . . . .	5,577 81	
	<hr/>	\$8,655 02

**Chambers street, Green to Poplar street. Asphalted over cobblestones.**

Labor . . . . .		\$271 34
Teaming . . . . .		188 00
Sand . . . . .		34 20
Templets . . . . .		7 12
Amount paid to Barber Asphalt Paving Co. :		
1,098.7 sq. yds. Trinidad asphalt laid, at \$2.25 . . . . .	\$2,472 07	
12.1 sq. yds. asphalt repairs, at \$2.50 . . . . .	30 25	
	<hr/>	2,502 32
		<hr/>
		\$3,002 98

Amount paid out of Street Improvements, Ward 8 . . . . .	\$2,879 38	
Amount paid out of Street Improvements, Wards 7 and 8 . . . . .	123 60	
	<hr/>	\$3,002 98

**Work done by the Sewer Division . . . . .** \$867 73

STREET IMPROVEMENTS, WARDS 7 AND 8.

**Work done by the Sewer Division . . . . .** \$151 85

STREET IMPROVEMENTS, WARD 10.

**Work done by the Sewer Division . . . . .** \$785 60

STREET IMPROVEMENTS, WARDS 9 AND 10.

**Derne street, Hancock to Temple street. Paved with asphalt blocks, edgestone reset, brick sidewalks relaid.**

Labor . . . . .		\$250 73
Teaming . . . . .		134 00
Amount paid to John Turner & Co. :		
135 sq. yds. asphalt blocks on a concrete base, at \$1.40 . . . . .	\$189 00	
224 ft. edgestone set, at 25 cts. . . . .	56 00	
131 sq. yds. brick paving, at 45 cts. . . . .	58 95	
3½ days' pavers, rammers, and tenders, at \$8 . . . . .	\$28 00	
½ days' stone-cutter, at \$4 . . . . .	2 00	
	<hr/>	<hr/>
<i>Carried forward,</i>	\$30 00	\$303 95
		<hr/>
		\$384 73

<i>Brought forward,</i>	\$30 00	\$303 95	\$384 73
1 double load of gravel . . . . .	2 00		
19.2 ft. edgestone and circles, at \$1.13 . . . . .	21 70		
179.6 ft. straight edgestone, at .626 . . . . .	112 43		
2 small corners, at \$3.13 . . . . .	6 26		
3,968 paving-brick, at \$8.696, 459 sq. yds. asphalt blocks on cracked stone and gravel bed, at \$1.087 . . . . .	498 93		
	<hr/>		
	\$705 83		
Add 15% . . . . .	105 87		
	<hr/>		
		811 70	
		<hr/>	\$1,115 65
			<hr/>
			\$1,500 38
			<hr/>

**Charles street, Cambridge to Pinckney street (westerly side).**  
Paved with large granite blocks on a concrete base, with pitch joints, edgestones reset, sidewalks relaid.

Labor . . . . .		\$1,487 79
Teaming . . . . .		557 00
Gravel . . . . .		224 20
Sand . . . . .		96 30
Templets . . . . .		9 74
Advertising . . . . .		26 85
36,773 large granite blocks . . . . .		2,452 76
8,000 paving brick . . . . .		100 00
254 ft. flagging . . . . .		223 52
Amount paid to Metropolitan Construction Co.:		
327.2 cu. yds. cement concrete base, at \$5 . . . . .		1,636 00
Amount paid to F. H. Cowin:		
1,000 ft. edgestone set, at 18 cts. . . . .	\$180 00	
1,512 sq. yds. block paving pitched joints, at 90 cts. . . . .	1,360 80	
391 sq. yds. block paving, gravel joints, at 25 cts. . . . .	97 75	
757 sq. yds. brick paving, at 28 cts. . . . .	211 96	
13 $\frac{5}{8}$ days' stone cutter, at \$4.50 . . . . .	61 00	
	<hr/>	1,911 51
		<hr/>
		\$8,725 67
Less amount paid by West End Street Railway Co. . . . .	\$1,596 66	
Less amount paid by Brookline Gas Light Co. . . . .	1,118 76	
	<hr/>	2,715 42
		<hr/>
		\$6,010 25

Amount paid out of Street Improvements, Wards 9 and 10 . . . . .	\$5,946 14	
Amount paid out of Paving Division . . . . .	64 11	
	<hr/>	\$6,010 25
<b>Work done by the Sewer Division . . . . .</b>		<u>\$525 64</u>

STREET IMPROVEMENTS, WARD 12.

<b>Work done by the Sewer Division . . . . .</b>		<u>\$124 26</u>
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STREET IMPROVEMENTS, WARD 14.

**East Eighth street, G to H street.** Paved with large granite blocks, edgestone set, brick sidewalks laid.

Labor . . . . .		\$2,729 81
Teaming . . . . .		797 50
Gravel . . . . .		668 47
Lumber . . . . .		15 41
Wharfage . . . . .		157 26
66,629 large granite blocks . . . . .		4,444 15
43,700 paving-brick . . . . .		546 25
117 recut crossing-blocks . . . . .		58 50
Amount paid to H. Gore & Co. :		
3,242 sq. yds. block paving laid, at 25 cts. . . . .	\$810 50	
2,202 ft. edgestone reset, at 8 cts. . . . .	176 16	
1,467 sq. yds. brick paving laid, at 18 cts. . . . .	264 06	
	<hr/>	1,250 72
		<u>\$10,668 07</u>

New edgestones, sidewalks, and gutters :

Labor . . . . .		\$171 35
Teaming . . . . .		78 00
		<hr/>
		<u>\$249 35</u>

**Story street.**

Labor . . . . .		\$50 60
Teaming . . . . .		18 00
		<hr/>
		<u>\$68 60</u>

<b>Work done by the Bridge Division . . . . .</b>		<u>\$291 58</u>
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<b>Work done by the Sewer Division . . . . .</b>		<u>\$25 85</u>
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## STREET IMPROVEMENTS, WARD 15.

New edgestones, sidewalks, and gutters :	
Labor . . . . .	\$178 15
Teaming . . . . .	76 00
	<hr/>
	\$254 15
<b>Vale street. Filling.</b>	
Filling . . . . .	\$711 15
Amount paid out of Street Improvements, Ward 15 . . . . .	\$426 80
Amount paid out of Paving Division . . . . .	284 35
	<hr/>
	\$711 15
<b>Work done by the Sewer Division . . . . .</b>	<b>\$18 68</b>
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## STREET IMPROVEMENTS, WARDS 17 AND 18.

**Dartmouth street, Tremont street to Warren avenue.** Paved with granite blocks taken from Dover and Albany streets, edgestone reset, brick sidewalks relaid, crosswalks laid.

Labor . . . . .	\$1,993 37
Teaming . . . . .	1,080 00
Gravel . . . . .	192 90
Masonry . . . . .	125 50
Stone . . . . .	84 15
193 ft. flagging . . . . .	137 03
6,950 paving-brick . . . . .	90 35
3,000 large granite blocks . . . . .	210 00
1,488 sq. yds. granite blocks taken from Albany and Dover streets . . . . .	2,232 00
	<hr/>
	\$6,145 30
	<hr/>

**Ivanhoe street, Dedham to Canton street.** Cobblestone removed and roadway resurfaced with crack stone, edgestone reset, brick sidewalk laid, gutters paved.

Labor . . . . .	\$200 56
Teaming . . . . .	188 50
Gravel . . . . .	21 52
Stone . . . . .	133 00
360 small blocks . . . . .	19 08
427 ft. flagging . . . . .	38 43
1,800 paving-brick . . . . .	23 40
	<hr/>
	\$624 49
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**Wilkes street.** Graded.

Labor . . . . .	\$49 60
Teaming . . . . .	12 00
Masonry . . . . .	70 00
	<hr/>
	\$131 60

**Work done by the Sewer Division . . . . .** \$1,313 77

STREET IMPROVEMENTS, WARDS 19 AND 22.

**Edge Hill street, Gay Head to Round Hill street.** Resurfaced.

Labor and material . . . . .	\$710 80
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**Evergreen street.** Resurfaced, sidewalks gravelled.

Labor . . . . .	\$65 22
Teaming . . . . .	72 00
Gravel . . . . .	278 80
Stone . . . . .	313 50
Paving . . . . .	24 70
	<hr/>
	\$754 22

**Mountfort street, Beacon to Arundel street, graded, gravelled, edgestone set, brick sidewalks laid, gutters paved, crosswalks laid.**

Labor . . . . .	\$701 80
Teaming . . . . .	199 00
Gravel . . . . .	2,430 80
Lumber . . . . .	32 83
168 $\frac{5}{12}$ ft. edgestone . . . . .	109 47
2 large and 5 small corners . . . . .	27 95
88 ft. flagging . . . . .	70 40
Amount paid to James Grant & Co. :	
870 ft. edgestone set, at 8 cts. . . . .	\$69 60
309 sq. yds. brick paving laid, at 25 cts., . . . . .	77 25
	<hr/>
	146 85
	<hr/>
	\$3,719 10

New edgestones, sidewalks and gutters :

Labor . . . . .	\$18 40
Gravel . . . . .	693 60
Sand . . . . .	246 60
	<hr/>
	\$958 60

**Work done by the Bridge Division . . . . .** \$2,541 74

**Work done by the Sewer Division . . . . .** \$1,202 03

## STREET IMPROVEMENTS, WARD 20.

New edgestones, sidewalks and gutters :

Labor . . . . .	\$119 99
Gravel . . . . .	331 50
Sand . . . . .	187 20
	<hr/>
	\$638 69

**Norfolk avenue.** Graded.

Labor and material . . . . .	\$187 70
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<b>Work done by the Sewer Division . . . . .</b>	<b>\$376 22</b>
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## STREET IMPROVEMENTS, WARD 21.

**Catawba street.** Edgestones set, gutters paved, brick sidewalks laid.

Labor . . . . .	\$466 90
Teaming . . . . .	232 50
Sand . . . . .	52 20
Gravel . . . . .	45 90

Amount paid to A. A. Libby &amp; Co. :

642 feet edgestone set, at 8 cts. . . . .	\$51 36
220 sq. yds. round-stone paving, at 25 cts. . . . .	55 00
523 sq. yds. brick sidewalks laid, at 18 cts. . . . .	94 14
	<hr/>
	200 50
	<hr/>
	\$998 00

**Centre street,** Eliot square to Pynchon street. Resurfaced.

Labor . . . . .	\$381 90
Teaming . . . . .	272 50
Gravel . . . . .	185 30
	<hr/>
	\$839 70

**Holland street.** Graded.

Filling . . . . .	\$434 25
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New edgestone, sidewalks, and gutters :

Labor . . . . .	\$497 09
Teaming . . . . .	685 50
Gravel . . . . .	1,207 00
Sand . . . . .	946 80
Paving . . . . .	593 14

\$3,929 53

**Thwing street.** Edgestone set, brick sidewalks laid, gutters paved.

Labor . . . . .	\$112 70
Teaming . . . . .	304 00
Gravel . . . . .	387 00
566.3 feet edgestone . . . . .	368 10
Paving . . . . .	125 43
	<hr/>
	<u>\$1,297 83</u>

Amount paid out of Street Improvements, Ward 21 . . . . .	\$542 13	
Amount paid out of Paving Division . . . . .	755 70	
	<hr/>	<u>\$1,297 83</u>

STREET IMPROVEMENTS, WARDS 23 AND 25.

**Brookfield street, Ward 23.** Graded, macadamized.

Labor . . . . .	\$468 05
Teaming . . . . .	237 00
Stone . . . . .	207 50
Gravel . . . . .	157 68
Lumber . . . . .	12 40
Advertising . . . . .	24 25
	<hr/>
	<u>\$1,106 88</u>

**Cambridge street, Ward 25.** Concrete sidewalks.

Amount paid to Simpson Bros.:	
745 sq. yds. concrete walks laid . . . . .	\$745 00
	<hr/>

**Catharine street, Ward 23.** (Work unfinished.)

Labor . . . . .	\$773 50
	<hr/>

**Concrete sidewalks, Ward 23.**

Amount paid to Simpson Bros.:	
444.1 sq. yds. new concrete walks . . . . .	\$444 10
111.9 sq. yds. resurfaced concrete walks, . . . . .	72 73
	<hr/>
	<u>\$516 83</u>

**Elko street, Cambridge to Sparkawk street.** Graded, macadamized, sidewalks gravelled.

Labor . . . . .	\$276 60
Teaming . . . . .	83 50
Gravel . . . . .	505 40
Advertising . . . . .	9 80
	<hr/>
	<u>\$875 30</u>

**Farrington avenue, Ward 25.** Concrete sidewalks.

Labor . . . . .	\$21 00
83.9 sq. yds. concrete sidewalks laid . . . . .	83 90
	<hr/>
	<u>\$104 90</u>

**Highgate street,** Farrington avenue to Cambridge street.  
Graded, macadamized, edgestone set, gutters paved, concrete sidewalks laid.

Labor . . . . .	\$903 51
Teaming . . . . .	350 00
Gravel . . . . .	651 35
Loam . . . . .	278 53
Stone . . . . .	54 00
Sand . . . . .	5 85
4.968 large granite blocks . . . . .	367 63
4 small corners . . . . .	13 40

Amount paid to Simpson Bros. :	
453.4 sq. yds. new concrete sidewalks laid . . . . .	453 40
	<hr/>
	\$3,077 67

Amount paid out of Street Improvements, Wards 23 and 25 . . . . .	\$2,721 46
Amount paid out of Street Improvements, Ward 25 . . . . .	356 21
	<hr/>
	\$3,077 67

**Landseer street,** Ward 23. Graded, macadamized.

Labor . . . . .	\$604 90
Teaming . . . . .	298 00
Gravel . . . . .	154 44
Stone . . . . .	274 20
Lumber . . . . .	56 29
	<hr/>
	\$1,387 83

**Linden street,** Ward 25. Graded, crosswalks laid.

Labor . . . . .	\$499 73
Teaming . . . . .	129 50
Gravel . . . . .	189 35
190 ft. of flagging . . . . .	134 90
	<hr/>
	\$953 48

**New edgestone, sidewalks, and gutters :**

Labor . . . . .	\$32 90
Teaming . . . . .	181 50
Gravel . . . . .	335 39
Sand . . . . .	154 80
Paving . . . . .	348 36

Paid to W. A. Murtfeldt :	
5,253 feet artificial stone sidewalk . . . . .	315 18
	<hr/>
	\$1,368 13



**Ophir street**, Washington street to Brookline avenue (work unfinished). Graded, widened, macadamized, sidewalks gravelled.

Labor . . . . .	\$112 00
Teaming . . . . .	103 00
Filling . . . . .	381 00
Stone . . . . .	381 50
	<hr/>
	\$978 00

**Pond street**, Ward 23. — Concrete gutters.

Amount paid to Simpson Bros.:

1,448.7 sq. yds. concrete gutters . . . . .	<u>\$2,173 05</u>
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**Roberts street**, Ward 23. Graded.

Labor . . . . .	\$47 50
Teaming . . . . .	51 00
Gravel . . . . .	73 44
Stone . . . . .	29 50
	<hr/>
	<u>\$201 44</u>

**Washington street**, Ward 25, Oak square to the Newton line.

Graded, gravelled, concrete gutters laid.

Labor . . . . .	\$697 65
Teaming . . . . .	525 50
Gravel . . . . .	1,581 30

Amount paid to Simpson Bros.:

1,355 sq. yds. concrete gutters laid, at \$1.50 . . . . .	\$2,032 50
Labor, excavating, grading, etc. . . . .	373 62
	<hr/>
	2,406 12
	<hr/>
	<u>\$5,210 57</u>

**Work done by the Bridge Division . . . . .** \$759 24

**Work done by the Sewer Division . . . . .** \$1,514 77

#### STREET IMPROVEMENTS, WARD 24.

**Brent street.**

Labor . . . . .	\$10 00
Teaming . . . . .	10 50
Tile . . . . .	16 57
500 paving-brick . . . . .	6 00
	<hr/>
	<u>\$43 07</u>

**Clarkson street.** Edgestone set, brick sidewalks laid, gutters paved.

Labor . . . . .	\$23 00
Teaming . . . . .	92 50
Gravel . . . . .	42 90
Sand . . . . .	37 80
Paving . . . . .	105 96
	<hr/>
	\$302 16

**Crescent avenue,** Dorchester avenue to railroad. Macadamized, edgestone set and reset, sidewalks laid and relaid, gutters paved.

Labor . . . . .	\$166 62
Teaming . . . . .	285 00
Gravel . . . . .	509 85
Filling . . . . .	341 00
Stone . . . . .	1,076 75
528 feet straight edgestone . . . . .	343 20
22 $\frac{1}{2}$ feet circular edgestone . . . . .	29 03
2 small corners . . . . .	6 70
	<hr/>
	\$2,758 15

**Duncan street.** Filling.

Labor . . . . .	\$38 25
Teaming . . . . .	36 00
Gravel . . . . .	333 60
Filling . . . . .	232 50
	<hr/>
	\$640 35

Amount paid out of Street Improvements, Ward 24 . . . . .	\$232 50
Amount paid out of Paving Division . . . . .	407 85

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\$640 35

**Glenway street.** Graded, macadamized.

Labor . . . . .	\$809 00
Teaming . . . . .	437 00
Stone . . . . .	2,977 00
Gravel . . . . .	153 45
	<hr/>
	\$4,376 45

Amount paid out of Street Improvements, Ward 24 . . . . .	\$4,107 50
Amount paid out of Paving Division . . . . .	268 95

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\$4,376 45

**Greenheys street.** (Work unfinished).

Labor . . . . .	\$74 65
Teaming . . . . .	15 00

*Carried forward,*

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\$89 65

<i>Brought forward,</i>		\$89 65
Stone . . . . .		48 00
Gravel . . . . .		67 65
		<hr/>
		\$205 30
Amount paid out of Street Improve- ments, Ward 24 . . . . .	\$18 40	
Amount paid out of Paving Division . . . . .	186 90	
	<hr/>	\$205 30

**King street,** Adams street to Dorchester avenue. Macadamized, concrete sidewalks laid, crosswalks laid.

Labor . . . . .		\$509 55
Teaming . . . . .		15 00
Gravel . . . . .		532 95
Stone . . . . .		2,688 75
Rolling . . . . .		210 00
214 ft. flagging . . . . .		151 92
Amount paid to Simpson Bros. :		
436.3 sq. yds. concrete sidewalks (new), at \$1.00 . . . . .	\$436 30	
128.5 sq. yds. concrete sidewalks (resur- faced), at 65 cts. . . . .	83 52	
	<hr/>	519 82
		<hr/>
		\$4,627 99

Amount paid out of Street Improve- ments, Ward 24 . . . . .	\$545 55	
Amount paid out of Paving Division . . . . .	4,082 44	
	<hr/>	\$4,627 99

**Lawrence avenue.** Granolithic sidewalks laid.

Labor . . . . .		\$694 60
Teaming . . . . .		9 00
Stone . . . . .		558 00
Gravel . . . . .		94 05
		<hr/>
		\$1,355 65

**Lyndhurst street,** (work uncompleted). Macadamized, artificial stone gutters and sidewalks laid.

Labor . . . . .		\$332 35
Teaming . . . . .		51 00
Gravel . . . . .		90 75
Stone . . . . .		1,069 25
Tile drain . . . . .		108 38

Amount paid to W. H. Jenkins Co. 19,644.3 sq. ft. digging and filling, at 6 cts. . . . .	\$1,178 65	
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<i>Carried forward,</i>	<hr/>	\$1,178 65	<hr/>	\$1,651 73
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<i>Brought forward,</i>	\$1,178 65	\$1,651 73
7,407 sq. ft. artificial stone gutters, at		
20 cts. . . . .	1,481 40	
	<u>          </u>	2,660 05
		<u>          </u>
		\$4,311 78

Amount paid out of Street Improve-		
ments, Ward 24 . . . . .	285 48	
Amount paid out of Paving Division .	4,026 30	
	<u>          </u>	\$4,311 78
		<u>          </u>

**Mayfield street.** Granolithic sidewalks laid.

Labor . . . . .		\$46 00
Teaming . . . . .		37 50
Gravel . . . . .		363 00
Sand . . . . .		25 20
		<u>          </u>
		\$471 70
		<u>          </u>

**New edgestone, sidewalks and gutters:**

Labor . . . . .		\$639 25
Teaming . . . . .		10 00
Sand . . . . .		39 60
Gravel . . . . .		92 40
		<u>          </u>
		\$781 25
		<u>          </u>

**Sagamore street.** Granolithic sidewalks laid.

Labor . . . . .		\$25 30
Teaming . . . . .		16 50
Gravel . . . . .		108 90
		<u>          </u>
		\$150 70
		<u>          </u>

**Spencer street.** Filling.

Teaming . . . . .		\$97 50
		<u>          </u>

**Virginia street.** Brick sidewalks laid.

Labor . . . . .		\$40 25
Teaming . . . . .		18 00
Sand . . . . .		25 20
		<u>          </u>
		\$83 45
		<u>          </u>

**Willis street.** Graded, macadamized.

Labor . . . . .		\$411 15
Teaming . . . . .		209 50
Stone . . . . .		1,601 25
Rolling . . . . .		170 00
		<u>          </u>
		\$2,391 90
		<u>          </u>

<b>Work</b> done by the Bridge Division . . . .	\$792 82
<b>Work</b> done by the Sewer Division . . . .	<u>\$7,908 87</u>

## STREET IMPROVEMENTS, WARD 25.

**Brighton avenue.** Concrete sidewalks laid.

$\frac{1}{2}$ cost of concrete sidewalk . . . . .	\$61 80
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**Talbot avenue,** Washington street to Dorchester avenue. (Work uncompleted.)

Labor . . . . .	\$2,479 71
Teaming . . . . .	1,329 50
Stone . . . . .	884 75
Gravel . . . . .	1,495 05
Lumber . . . . .	16 16
Tools, etc. . . . .	235 26
Advertising . . . . .	94 80
468.3 ft. circular edgestone . . . . .	608 77
2,264 $\frac{3}{4}$ ft. straight edgestone . . . . .	1,471 77
1,000 paving-brick . . . . .	11 50
1,829 sq. yds. old blocks taken from Foundry and Division streets . . . . .	731 60
34,221 small granite blocks . . . . .	1,197 74
Amount paid to Citizens' Relief Company: 6,270 cu. yds. excavation, at 80 cts. . . . .	\$5,016 00
Tools, etc. . . . .	120 00
	<u>\$5,136 00</u>

Less 111 $\frac{1}{2}$  days' labor, Paving

Division men, at \$2.25 . . . . .	\$250 87
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## Less 4 days, single team, at

\$3.00 . . . . .	12 00
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Tools and lumber . . . . .	251 42
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<u>514 29</u>
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4,621 71
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## Amount paid to William McEleney:

1,615.9 ft. edgestone set, at 8 cts. . . . .	\$129 27
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250.4 ft. edgestone reset, at 8 cts. . . . .	20 03
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687 sq. yds. block paving laid, at 25 cts. . . . .	171 75
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<u>321 05</u>
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Work done by the Sewer Division . . . . .	3,002 04
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<u>\$18,501 41</u>
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**Thetford street.** Graded, macadamized.

Labor . . . . .	\$1,422 55
Teaming . . . . .	238 00
Gravel . . . . .	843 15
Stone . . . . .	3,102 84

<i>Carried forward,</i>	<u>\$5,606 54</u>
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<i>Brought forward,</i>	\$5,606 54
Rolling . . . . .	220 00
Advertising . . . . .	31 50
Work done by the Sewer Division . . . . .	9 09

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\$5,867 13

Amount of special appropriation . . . . .	\$3,000 00
Amount paid out of Street Improvements, Ward 24 . . . . .	2,867 13

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\$5,867 13

**Utica street, Harvard to Kneeland street.** Paved with granite blocks, taken from Swan, Albany, and Dover streets, edgestone reset, brick sidewalks relaid, crosswalks laid.

Labor . . . . .	\$1,327 05
Teaming . . . . .	760 50
Gravel . . . . .	208 86
Masonry . . . . .	80 00
138 ft. edgestone . . . . .	89 70
1 large and 1 small corner . . . . .	8 95
145 ft. flagging . . . . .	102 95
1,554.3 sq. yds. blocks, taken from Swan, Albany, and Dover streets . . . . .	2,331 45

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\$4,909 46

Amount of special appropriation . . . . .	\$4,909 46
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\$4,909 46

**Utica street, Kneeland to Beach street.** Repaved, edgestone reset, brick sidewalks relaid, crosswalks laid.

Labor . . . . .	\$388 96
Teaming . . . . .	163 50
Gravel . . . . .	60 86
Masonry . . . . .	98 00
4,300 paving-brick . . . . .	55 90
38.1 feet flagging . . . . .	27 06

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\$794 28

Amount of special appropriation . . . . .	\$794 28
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\$794 28

**Van Renssalaer place.** Paved.

Amount paid to Payson & Co. :	
Paving laid as per agreement . . . . .	\$450 00

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\$450 00

**Washington street, Brighton, Oak square to Winship street.**  
Widened. (Work uncompleted.)

Labor . . . . .	\$412 40
Teaming . . . . .	956 00
Gravel . . . . .	543 55
Filling . . . . .	1,314 72

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\$3,226 67

*Carried forward,*

<i>Brought forward,</i>		\$3,226 67
Drain tile . . . . .		11 90
Lumber . . . . .		88 89
Amount paid to Michael Kiernan :		
Cutting away bank and building stone wall.		
8 days foreman, at \$3.00 . . . . .	\$24 00	
24 days labor, at \$2.00 . . . . .	48 00	
19 days mason, at \$3.20 . . . . .	60 80	
18 days double team, at \$5.00 . . . . .	90 00	
		222 80
Work done by the Sewer Division . . . . .		3,298 62
		<u>\$6,848 88</u>
<b>Whiting street.</b> Excavated.		
Teaming and labor . . . . .		\$121 00
Amount paid to John J. Nawn :		
882 cu. yds. rock excavation, at \$2.00, . . . . .	\$1,764 00	
250 cu. yds. earth excavation, at \$1.00, . . . . .	250 00	
		2,014 00
		<u>\$2,135 00</u>
Amount of special appropriation . . . . .		<u>\$2,135 00</u>

*SUMMARY OF EXPENDITURES UNDER SPECIAL  
APPROPRIATIONS.*

	TOTAL AMOUNT EXPENDED.	
Baker street . . . . .		\$1,651 90
Bellflower street . . . . .		3,000 00
Blakeville street . . . . .		2,342 01
Blue Hill avenue . . . . .		38,181 97
Bumstead lane . . . . .		15,551 50
Bunker Hill street . . . . .		372 15
Bushnell street . . . . .		3,363 33
Charter street . . . . .		9 20
Commonwealth avenue . . . . .	304,260 99	
Congress and L streets . . . . .	558 00	
Cranston street . . . . .	568 75	
Dartmouth street . . . . .	5,839 65	
Day street . . . . .	12,846 02	
Fay street . . . . .	1,408 82	
Lewis street . . . . .	2,319 29	
Mill street . . . . .	2,567 00	
Millet street . . . . .	595 88	
Montview street . . . . .	4,213 28	
Mount Vernon street . . . . .	1,325 00	
Newport street . . . . .	1,901 12	
Oak street . . . . .	3,313 38	
		<u>\$106,192 24</u>
<i>Carried forward,</i>		

<i>Brought forward,</i>	\$406,192	24
Park street . . . . .	1,138	23
Preston street . . . . .	5,390	12
Ruth street . . . . .	5,586	71
Second street . . . . .	7,065	69
Street Improvements, Aldermanic District No. 1 :		
Bennington street . . . . .	4,166	18
Chelsea street . . . . .	9,050	44
Moore street . . . . .	904	18
New edgestone, sidewalks, and gutters . . . . .	549	70
Sewers . . . . .	2,370	86
Street Improvements, Aldermanic District No. 2 :		
Alford street . . . . .	1,440	13
Austin street . . . . .	5,064	10
Chapman street . . . . .	4,557	55
Charles street . . . . .	1,342	64
Main street crossing . . . . .	29	90
Medford street . . . . .	585	00
Phipps street . . . . .	1,227	84
Rutherford avenue . . . . .	6,403	09
Thompson street . . . . .	267	18
Sewers . . . . .	1,173	50
Street Improvements, Aldermanic District No. 3 :		
Chambers street, Ashland to Brighton street . . . . .	6,521	35
Sewers . . . . .	77	18
Street Improvements, Aldermanic District No. 4 :		
Court square . . . . .	2,992	20
Harrison avenue, Essex to Beach street . . . . .	6,496	80
Mason street . . . . .	1,535	04
Pemberton square . . . . .	8,934	42
Washington street, Eliot to Kneeland street . . . . .	10,841	80
Sewers . . . . .	479	41
Street Improvements, Aldermanic District No. 5 :		
Harcourt street . . . . .	2,159	38
Sewers . . . . .	92	34
Street Improvements, Aldermanic District No. 6 :		
Ash street . . . . .	239	23
Essex street, Chauncy to South street . . . . .	12,136	71
Essex and Lincoln streets . . . . .	1,455	00
Foundry street . . . . .	2,760	79
Tufts street . . . . .	344	35
Bridges . . . . .	6,586	70
Street Improvements, Aldermanic District No. 7 :		
Boston street . . . . .	9,798	34
Sewers . . . . .	215	52
Street Improvements, Aldermanic District No. 8 :		
Albany street . . . . .	3,810	76
Massachusetts avenue . . . . .	10,799	40
Sewers . . . . .	581	91
<i>Carried forward,</i>	\$553,363	91



<i>Brought forward,</i>	\$553,363 91
Street Improvements, Aldermanic District No. 9 :	
Brookline avenue . . . . .	1,902 60
Heath street . . . . .	16,365 65
Sewall street . . . . .	1,562 87
Sewers . . . . .	4,225 75
Street Improvements, Aldermanic District No. 11 :	
Henshaw street . . . . .	48 30
Lagrange street . . . . .	5,364 97
Sycamore street . . . . .	46 00
Washington street (Roslindale) . . . . .	6,638 24
Wilson square . . . . .	1,179 52
Bridges . . . . .	344 93
Sewers . . . . .	2,013 20
Street Improvements, Aldermanic District No. 12 :	
Park street . . . . .	3,693 49
Sewers . . . . .	217 15
Street Improvements, Wards 1 and 2 :	
New edgestone, sidewalks, and gutters . . . . .	2,308 44
Sewers . . . . .	2,791 92
Street Improvements, Ward 3 :	
Sprague street . . . . .	2,531 83
Sewers . . . . .	16 75
Street Improvements, Ward 5 :	
Charles-river and Warren bridges . . . . .	895 69
Sewers . . . . .	308 19
Street Improvements, Ward 6 :	
Batterymarch street . . . . .	924 39
Charter street . . . . .	2,758 93
Sewers . . . . .	681 20
Street Improvements, Ward 7 :	
Bowker street . . . . .	5,184 38
Causeway street . . . . .	19,460 81
North Margin street . . . . .	101 30
Salt lane . . . . .	420 67
Sewers . . . . .	75 88
Street Improvements, Ward 8 :	
Barton court . . . . .	713 45
Cambridge street . . . . .	8,655 02
Chambers street, Green to Poplar street . . . . .	3,002 98
Sewers . . . . .	867 73
Street Improvements, Wards 7 and 8 :	
Sewers . . . . .	151 85
Street Improvements, Ward 10 :	
Sewers . . . . .	785 60
Street Improvements, Wards 9 and 10 :	
Charles street . . . . .	6,010 25
Derne street . . . . .	1,500 38
Sewers . . . . .	525 64
Street Improvements, Ward 12 :	
Sewers . . . . .	124 26
<i>Carried forward,</i>	<hr/> \$657,764 12

<i>Brought forward</i>	\$657,764 12
Street Improvements, Ward 14 :	
East Eighth street . . . . .	10,668 07
New edgestone, sidewalks, and gutters . . . . .	249 35
Story street . . . . .	68 60
Bridges . . . . .	291 58
Sewers . . . . .	25 85
Street Improvements, Ward 15 :	
New edgestone, sidewalks, and gutters . . . . .	254 15
Vale street . . . . .	711 15
Sewers . . . . .	18 68
Street Improvements, Wards 17 and 18 :	
Dartmouth street . . . . .	6,145 30
Ivanhoe street . . . . .	624 49
Wilkes street . . . . .	131 60
Sewers . . . . .	1,313 77
Street Improvements, Wards 19 and 22 :	
Edge Hill street . . . . .	710 80
Evergreen street . . . . .	754 22
Mountfort street . . . . .	3,719 10
New edgestone, sidewalks, and gutters . . . . .	958 60
Bridges . . . . .	2,541 74
Sewers . . . . .	1,202 03
Street Improvements, Ward 20 :	
New edgestone, sidewalks, and gutters . . . . .	638 69
Norfolk avenue . . . . .	187 70
Sewers . . . . .	376 22
Street Improvements, Ward 21 :	
Catawba street . . . . .	998 00
Centre street . . . . .	839 70
Holland street . . . . .	434 25
Howland street . . . . .	203 80
New edgestone, sidewalks, and gutters . . . . .	3,725 73
Thwing street . . . . .	1,297 83
Street Improvements, Wards 23 and 25 :	
Brookfield street . . . . .	1,106 88
Cambridge street . . . . .	745 00
Catharine street . . . . .	773 50
Concrete sidewalks . . . . .	516 83
Elko street . . . . .	875 30
Farrington avenue . . . . .	104 90
Highgate street . . . . .	3,077 67
Landscer street . . . . .	1,387 83
Linden street . . . . .	953 48
New edgestone, sidewalks, and gutters . . . . .	1,368 13
Ophir street . . . . .	978 00
Pond street . . . . .	2,173 05
Roberts street . . . . .	201 44
Washington street (Brighton) . . . . .	5,210 57
Bridges . . . . .	759 24
Sewers . . . . .	1,514 77
<i>Carried forward,</i>	\$718,601 71

<i>Brought forward,</i>	\$718,601 71
Street Improvements, Ward 24 :	
Brent street . . . . .	43 07
Clarkson street . . . . .	302 16
Crescent avenue . . . . .	2,758 15
Duncan street . . . . .	640 35
Glenway street . . . . .	4,376 45
Greenheys street . . . . .	205 30
King street . . . . .	4,627 99
Lawrence avenue . . . . .	1,355 65
Lyndhurst street . . . . .	4,311 78
Mayfield street . . . . .	471 70
New edgestone, sidewalks, and gutters . . . . .	781 25
Sagamore street . . . . .	150 70
Spencer street . . . . .	97 50
Virginia street . . . . .	83 45
Willis street . . . . .	2,391 90
Bridges . . . . .	792 82
Sewers . . . . .	7,908 87
Street Improvements, Ward 25 :	
Brighton avenue . . . . .	61 80
Talbot avenue . . . . .	18,501 41
Thetford street . . . . .	5,867 13
Utica street, Harvard to Kneeland street . . . . .	4,909 46
Utica street, Kneeland to Beach street . . . . .	794 28
Van Renssalaer place . . . . .	450 00
Washington street, Brighton . . . . .	6,848 88
Whiting street . . . . .	2,135 00
Laying Out and Construction of Highways :	
Sewer construction . . . . .	2,883 58
Arundel street . . . . .	3,048 26
Batavia street . . . . .	411 02
Bay State road . . . . .	3,589 90
Boylston street . . . . .	9,604 43
Deerfield street . . . . .	2,658 19
Huntington avenue . . . . .	10 25
Ivy street . . . . .	8,302 22
Miner street . . . . .	255 19
Mountfort street . . . . .	4,367 24
Newbury street . . . . .	14,536 86
Norway street . . . . .	151 35
Parker street . . . . .	21,805 37
St. Germain street . . . . .	1,747 53
Sherborn street . . . . .	10 75
Turner street . . . . .	13 00
Total . . . . .	\$862,863 90
Less amount paid out of appropriation for Paving Division . . . . .	23,150 12
Total . . . . .	<u>\$839,713 78</u>

## LAYING OUT AND CONSTRUCTION OF HIGHWAYS.

## Sewer construction :

Labor . . . . .	\$1,800 16
Teaming . . . . .	682 50
Gravel . . . . .	400 92
	<hr/>
	\$2,883 58

**Arundel street, Beacon to Mountfort street.**

Labor . . . . .	\$278 46
Stone . . . . .	557 70
Advertising . . . . .	99 37
447 ft. straight edgestone . . . . .	290 55
42 $\frac{6}{2}$ ft. circular edgestone . . . . .	55 25
1 large and 3 small corners . . . . .	15 65

## Amount paid to H. Gore &amp; Co. :

122 cu. yds. sub-grading, at 25 cts. . . . .	\$30 50
796 sq. yds. macadam, at 20 cts. . . . .	159 20
228.8 sq. yds. gutters, at \$2.35 . . . . .	537 68
579.5 ft. edgestone set, at 30 cts. . . . .	173 85
411.7 sq. yds. brick paving, at \$1.05 . . . . .	432 29
48.4 sq. yds. flagging crossings, at \$4 . . . . .	193 60
246.5 cu. yds. gravel, at \$1.20 . . . . .	295 80
10.5 sq. yds. gutters repaved, at 85 cts. . . . .	8 93

## Work at Beacon street, moving shanty, etc. :

$\frac{1}{2}$ day, single team, at \$3 . . . . .	\$1 50
7 hours' labor, at \$1.75 . . . . .	1 36
$\frac{1}{2}$ day double caravan, at \$7 . . . . .	3 50
8 hours' labor, at \$1.75 . . . . .	1 56
5 hours' stone-cutter, at \$3.91 . . . . .	2 17

10 09

Add 15 per cent. . . . . 1 51

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11 60

1,843 45

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\$3,140 43

Amount retained from H. Gore &amp; Co. . . . .

92 17

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\$3,048 26**Batavia street, St. Stephen to Parker street.**

Amount retained from James Grant &amp; Co. for work done under contract in 1893 . . . . .

\$411 02

**Bay State road, Raleigh to Sherborn street.**

Labor . . . . . \$52 00

*Carried forward,*

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\$52 00

*Brought forward,*

\$52 00

Amount paid to James Killian :

542 cu. yds. sub-grading, at 35 cts. . . . .	\$189 70
4,647 sq. yds. macadam, at 48 cts. . . . .	2,230 56
1,069 sq. yds. gutters paved, at \$2 60 . . . . .	2,779 40
2,616 lin. ft. edgestone set. at 98 cts. . . . .	2,563 68
3,209 sq. yds. gravel sidewalks, at 46 cts. . . . .	1,476 14
183.4 sq. yds. cross-walks laid, at \$1.20, . . . . .	220 08
4,682 cu. yds. gravel filling, at 84 cts. . . . .	3,932 88

Resetting edgestone, gutters, and crosswalks :

5 $\frac{1}{4}$ days, foreman, at \$5 . . . . .	\$26 25
12 days, paver, at \$4.00 . . . . .	48 00
12 $\frac{1}{2}$ days, rammer, at \$2.25 . . . . .	29 06
35 $\frac{1}{2}$ days, laborers, at \$2.00 . . . . .	71 00
14 $\frac{5}{8}$ lin. ft. circ. edgestone, at 55 cts. . . . .	79 75
11 double loads crushed stone, at \$4.00 . . . . .	44 00
2 $\frac{5}{9}$ days' labor at \$2.00 . . . . .	5 22

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\$303 28

Plus 15 per cent. . . . . 45 49 348 77

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\$13,741 21

Amount paid in 1393 . . . . . 10,203 31

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3,537 90

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\$3,589 90**Boylston street, Brookline avenue to Boylston road. (Work unfinished.)**

Labor . . . . .	\$613 60
Advertising . . . . .	171 02

Amount paid to John O'Brien :

16,602 cu. yds. filling at 62.5 cts. . . . .	\$10,376 25
15% retained . . . . .	1,556 44

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8,819 81

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\$9,604 43**Deerfield street, Commonwealth avenue to Charles river.**

Labor . . . . .	\$230 00
Fence . . . . .	87 50
54 lin. ft. granite coping . . . . .	324 00

Amount paid to James Killian :

87 cu. yds. sub-grading, at 35 cts. . . . .	\$30 45
1,983 sq. yds. macadam, at 47 cts. . . . .	932 01
342 sq. yds. gutters paved, at \$2 60 . . . . .	889 20
998 lin. ft. edgestone set, at 97 cts. . . . .	968 06

*Carried forward,*

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\$2,819 72

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\$641 50

<i>Brought forward,</i>	\$2,819 72	\$641 50
900 sq yds. gravel sidewalks, at 46 cts.	414 00	
7.2 sq. yds. crosswalks laid, at \$1.20 .	8 64	
1,741 cu. yds. gravel filling, at 84 cts .	1,462 44	
Resetting edgestone, gutters, and crosswalks :		
1 day, foreman . . . . .	\$5 00	
4 $\frac{3}{4}$ days, paver, at \$4.00 . . . . .	19 00	
4 days, rammer, at \$2.25 . . . . .	9 00	
10 days, laborer, at \$2.00 . . . . .	20 00	
5.4 lin. ft. circular edgestone, at 55 cts. . . . .	2 97	
17 double loads stone, at \$4.00 . . . . .	68 00	
3 days' labor at \$2.00 . . . . .	6 00	
	<u>\$129 97</u>	
Plus 15% . . . . .	19 50	
	<u>149 47</u>	
	\$4,854 27	
Less 1 day's use of steam-roller . . . . .	15 00	
	<u>\$4,839 27</u>	
Amount paid in 1893 . . . . .	2,822 58	
		<u>2,016 69</u>
		\$2,658 19

**Huntington avenue.** (Work not started.)

Labor . . . . .	\$10 25
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**Ivy street, St. Mary's to Mountfort street.**

Labor . . . . .	\$214 50
Stone . . . . .	1,393 03
Advertising . . . . .	7 20
1,465 ft. straight edgestone . . . . .	952 25
83 $\frac{1}{2}$ ft. circular edgestone . . . . .	108 12
Amount paid to James Grant & Co. :	
70 cu. yds. sub-grading, at 25 cts. . . . .	\$17 50
2,380 sq. yds. macadam, at 4 cts. . . . .	95 20
512 sq. yds. gutters laid, at \$2.32 . . . . .	1,187 84
1,528 ft. edgestone set, at 25 cts. . . . .	382 00
1,124 sq. yds. brick paving, at \$1.10 . . . . .	1,236 40
3,896 cu. yds. gravel, at 95 cts. . . . .	3,701 20
	<u>6,620 14</u>

Amount retained from James Grant & Co. . . . .	\$9,295 24
	<u>993 02</u>
	\$8,302 22

**Miner street, Beacon street to Boston and Albany Railroad.**

Labor . . . . .	\$10 00
Amount retained from Doherty and O'Leary, for work done in 1893 . . . . .	245 19
	<hr/>
	\$255 19

**Mountfort street, Audubon road to Ivy street.**

Labor . . . . .	\$163 37
Stone . . . . .	1,098 81
764 $\frac{10}{12}$ ft. straight edgestone . . . . .	497 14
68 $\frac{7}{12}$ ft. circular edgestone . . . . .	89 16
5 small corners . . . . .	16 75
2 large corners . . . . .	11 20
Advertising . . . . .	64 00
Sundries . . . . .	4 33

Amount paid to H. Gore &amp; Co.

133.7 cu. yds. sub-grading, at 25 cts. . . . .	\$33 43
1,349 sq. yds. macadam, at 20 cts. . . . .	269 80
303 sq. yds. gutters paved, at \$2.35 . . . . .	712 05
768 ft. edgestone set, at 30 cts. . . . .	230 40
627.5 sq. yds. block paving, at \$1.05 . . . . .	658 88
9 sq. yds. flag crossings, at \$4.00 . . . . .	36 00
455 cu. yds. gravel, at \$1.20 . . . . .	546 00
25 sq. yds. gutters relaid, at 85 cts. . . . .	21 25
19 sq. yds. brick paving relaid, at 65 cts. . . . .	12 35
9 sq. yds. flagging crosswalks relaid, at 50 cts. . . . .	4 50
115 ft. edgestone reset, at .157 . . . . .	\$18 06
1 day, stone-cutter . . . . .	3 91
	<hr/>
	\$21 97
Add 15% . . . . .	3 30
	<hr/>
	25 27

2,549 93

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\$4,494 74

Amount retained from H. Gore &amp; Co. . . . . 127 50

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\$4,367 24**Newbury street, Charles-Gate West to Brookline avenue.**

Labor . . . . .	\$769 63
Stone . . . . .	1,825 99
Filling . . . . .	383 20
Printing . . . . .	59 62
Advertising . . . . .	103 38
35 $\frac{1}{2}$ feet circular edgestone . . . . .	45 96
2,516 feet straight edgestone . . . . .	1,631 50
	<hr/>

*Carried forward,*

\$4,819 28

<i>Brought forward,</i>		\$4,819 28
Amount paid to F. H. Cowin :		
192.5 cu. yds. sub-grading, at 35 cts.	\$67 38	
3,208 sq. yds. macadam, at 54.5 cts.	1,748 36	
18 sq. yds. macadam, at 54.5 cts.	9 81	
871 sq. yds. gutters, at \$2.00 . . .	1,742 00	
2,551 feet edgestone, at 92 cts. . . .	2,346 92	
2,071 sq. yds. brick paving, at \$1.07 . .	2,215 97	
45.1 sq. yds. flagging crossings, at \$4.00	180 40	
4,752 cu. yds. gravel, at \$1.17 . . . .	5,559 84	
23 sq. yds. gutters relaid, at 50 cts. . .	11 50	
37 feet edgestone reset, at 42 cts. . . .	15 54	
	<hr/>	
	\$13,897 72	
Credit by :		
2,510 feet edgestone, at 65 cts. . . . .	\$1,631 50	
41 feet circular edgestone, at \$1.30 . . . . .	53 30	
1,106.66 tons stone screenings, at \$1.65 . . . . .	1,825 99	
	<hr/>	
	\$3,510 79	
	<hr/>	
		10,386 93
		<hr/>
		\$15,206 21
Amount retained from F. H. Cowin . . . . .		669 35
		<hr/>
		\$14,536 86
		<hr/>
<b>Norway street.</b> (Work not started.)		
Labor . . . . .		\$119 35
Advertising . . . . .		32 00
		<hr/>
		\$151 35
		<hr/>
<b>Parker street,</b> Huntington avenue to Westland avenue.		
Labor . . . . .		\$986 66
Filling . . . . .		6,147 31
Advertising . . . . .		125 73
Printing . . . . .		7 28
Fuel . . . . .		14 55
Sundries . . . . .		16 80
Amount paid to Doherty and O'Leary :		
7,081.3 cu. yds. gravel filling, at \$1.00 . .	\$7,081 30	
1,454 cu. yds. sub-grading, at 37 cts. . . .	537 98	
6,107 sq. yds. Telford base, at 62 cts. . . .	3,786 34	
1,009 sq. yds. block gutters laid, at \$2.06	2,078 54	
3,086 feet edgestone set, at 87 cts. . . . .	2,684 82	
10 sq. yds. gutters relaid, at 56 cts. . . .	5 60	
	<hr/>	
<i>Carried forward,</i>	\$16,174 58	\$7,298 33



<i>Brought forward,</i>	\$16,174 58	\$7,298 33
126 feet edgestone reset, at 37 cts. . . . .	46 62	
769 cu. yds. gravel, at \$1.10 . . . . .	845 90	
	-----	17,067 10
		\$24,365 43
Amount retained from Doherty and O'Leary . . . . .		2,560 06
		\$21,805 37

**St. Germain street.**

Labor . . . . .		\$177 25
Advertising . . . . .		84 48
Amount paid to Quimby & Ferguson :		
1,840 cu. yds. gravel, at 95 cts. . . . .		1,748 00
		\$2,009 73
Amount retained from Quimby & Ferguson . . . . .		262 20
		\$1,747 53

**Sherborn street.**

Labor . . . . .		\$10 75

**Turner street.**

Labor . . . . .		\$13 00

*NEW EDGESTONE.*

The following tables show the amount of new edgestone set during the year :

CITY PROPER.

*Wards 6, 7, 8, 9, 10, 11, 12, 16, 17, and 18. (Paving Districts Nos. 8, 9, and 10.)*

	Lin. ft.
Chambers-street extension . . . . .	668
East Lenox street . . . . .	115
Lewis street extension . . . . .	428
Massachusetts avenue . . . . .	669
Cambria street . . . . .	36
	1,916

ROXBURY.

*Wards 19, 20, 21, and 22. (Paving Districts 7, 9, and 11.)*

	Lin. ft.
Arundel street . . . . .	580
Batavia street . . . . .	1,015
Bay State road . . . . .	2,616
	4,211
<i>Carried forward,</i>	4,211

	Lin. ft.
<i>Brought forward,</i>	4,211
Beacon street . . . . .	162
Blue Hill avenue . . . . .	1,102
Catawba street . . . . .	549
Centre street . . . . .	175
Commonwealth avenue . . . . .	10,227
Day street . . . . .	3,072
Deerfield street . . . . .	998
Gaston street . . . . .	257
Hamerton street . . . . .	220
Harold and Ruthven streets . . . . .	254
Heath street . . . . .	1,373
Holborn street . . . . .	332
Howland street . . . . .	180
Humboldt avenue . . . . .	64
Hulbert street . . . . .	50
Ivy street . . . . .	1,611
Miner street . . . . .	626
Minden street . . . . .	43
Moreland and Montrose streets . . . . .	240
Monntfort street . . . . .	2,310
Munroe street . . . . .	495
Newbury street . . . . .	2,615
Parker street . . . . .	3,086
Raleigh street . . . . .	204
Ruthven street . . . . .	250
St. Alphonsus street . . . . .	2,219
St. Botolph street . . . . .	719
Sewall street . . . . .	342
Thorndike street . . . . .	564
Thwing street . . . . .	566
Westminster street . . . . .	150
Woodward avenue . . . . .	58
	<hr/>
	39,324

## SOUTH BOSTON.

*Wards 13, 14, and 15. (District No. 1.)*

	Lin. ft.
D street and Dorchester avenue . . . . .	77
East Third street . . . . .	72
East Second street . . . . .	165
East Sixth street . . . . .	77
Story street . . . . .	105
Vinton street . . . . .	25
	<hr/>
	521

## EAST BOSTON.

*Wards 1 and 2. (District No. 2.)*

Lin. ft.

Condor street . . . . .	186
Everett street . . . . .	55
Falcon street . . . . .	207
Hayre street . . . . .	110
Paris street . . . . .	175
London street . . . . .	83
	<hr/>
	816

## DORCHESTER.

*Ward 2A. (District No. 6)*

Lin. ft.

Algonquin street . . . . .	656
Ashmont street . . . . .	95
Blakeville street . . . . .	793
Bushnell street . . . . .	275
Clarkson street . . . . .	337
Crescent avenue . . . . .	537
Glenway street . . . . .	64
Neponset avenue . . . . .	155
Newport and Harbor View streets . . . . .	566
Quincy street . . . . .	62
Roslin street . . . . .	405
Talbot avenue . . . . .	2,264
Welles avenue . . . . .	50
West Park street . . . . .	285
	<hr/>
	6,544

## WEST ROXBURY.

*Ward 23. (Districts Nos. 5 and 11.)*

Lin. ft.

Atherton street . . . . .	153
Boylston and Washington streets . . . . .	159
Brookfield street . . . . .	116
Hyde Park avenue . . . . .	232
Paul Gore street . . . . .	93
Metropolitan avenue . . . . .	326
Sedgwick street . . . . .	65
Washington street . . . . .	285
Weld Hill street . . . . .	139
	<hr/>
	1,568

## BRIGHTON.

*Ward 25. (District No. 4.)*

	Lin. ft.
Farrington avenue . . . . .	123
Highgate street . . . . .	987
Murdock street . . . . .	107
Raymond street . . . . .	106
	<hr/>
	1,323
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## CHARLESTOWN.

*Wards 3, 4, and 5. (District No. 3.)*

	Lin. ft.
Sprague street . . . . .	694
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## RECAPITULATION.

	Lin. ft.
City Proper . . . . .	1,916
Roxbury . . . . .	39,324
South Boston . . . . .	521
East Boston . . . . .	816
Dorchester . . . . .	6,544
West Roxbury . . . . .	1,568
Brighton . . . . .	1,323
Charlestown . . . . .	694
	<hr/>
	52,706
	<hr/>

*NEW BRICK SIDEWALKS.*

The following tables show the number of square yards of new brick sidewalks laid during the year :

## CITY PROPER.

*Wards 6, 7, 8, 9, 10, 11, 12, 16, 17, and 18. (Paving Districts Nos. 8, 9, and 10.)*

	Sq. yds..
Castle street . . . . .	96
Cambria street . . . . .	28
Chambers-street extension . . . . .	361
Harrison avenue . . . . .	150
Lewis-street extension . . . . .	186
Massachusetts avenue . . . . .	570
Shawmut avenue . . . . .	146
	<hr/>
	1,537
	<hr/>

## ROXBURY.

*Wards 19, 20, 21, and 22. (Districts 7, 9, and 11.)*

	Sq. yds.
Arundel street . . . . .	412
Batavia street . . . . .	850
Beacon street . . . . .	283
Blue Hill avenue . . . . .	1,100
Cedar street . . . . .	81
Centre street . . . . .	184
Dudley street . . . . .	120
Elm Hill avenue . . . . .	160
Forest street . . . . .	185
Gaston street . . . . .	47
Hartford street . . . . .	444
Heath street . . . . .	440
Holborn street . . . . .	112
Howland street . . . . .	129
Humboldt avenue . . . . .	677
Ivy street . . . . .	1,124
Laurel street . . . . .	200
Miner street . . . . .	488
Monadnock street . . . . .	91
Mountfort street . . . . .	628
Moreland and Montrose streets . . . . .	158
Munroe street . . . . .	393
Newbury street . . . . .	2,071
Raleigh street . . . . .	163
St. Alphonsus street . . . . .	327
St. Botolph street . . . . .	120
Terrace street . . . . .	84
Thorndike street . . . . .	376
Vine street . . . . .	86
	<hr/>
	11,533

## SOUTH BOSTON.

*Wards 13, 14, and 15. (District No. 1.)*

	Sq. Yds.
Broadway . . . . .	90
D street . . . . .	84
Dorset street . . . . .	52
E street . . . . .	75
East Eighth street . . . . .	804
East Second and Story streets . . . . .	713
East Sixth street . . . . .	63
East Third street . . . . .	132
Howell street . . . . .	400
I and East Ninth streets . . . . .	172
Vinton and F streets . . . . .	51
Washburn street . . . . .	70
	<hr/>
	2,706

## EAST BOSTON.

*Wards 1 and 2. (District No. 2.)*

	Sq. Yds.
Bremen street . . . . .	76
Brooks street . . . . .	314
Condor street . . . . .	148
East Eagle street . . . . .	558
Everett street . . . . .	52
Falcon street . . . . .	184
Havre street . . . . .	200
London street . . . . .	62
Morris street . . . . .	53
Paris street . . . . .	128
Prescott street . . . . .	114
West Eagle and Saratoga streets . . . . .	226
	<hr/>
	2,115

## DORCHESTER.

*Ward 24. (District No. 6.)*

	Sq. Yds.
Dorchester avenue . . . . .	95
Carruth street . . . . .	177
Mt. Vernon street . . . . .	75
Virginia street . . . . .	106
	<hr/>
	453

## WEST ROXBURY.

*Ward 23. (Districts Nos. 5 and 11.)*

	Sq. Yds.
Egleston and School streets . . . . .	189
Hyde Park avenue . . . . .	342
Weld Hill street . . . . .	187
West Walnut Park and Copley street . . . . .	116
	<hr/>
	834

## BRIGHTON.

*Ward 25. (District No. 4.)*

Nothing.

## CHARLESTOWN.

*Wards 3, 4, and 5. (District No. 3.)*

	Sq. Yds.
Essex street and Rutherford avenue . . . . .	88
Moulton and Vine streets . . . . .	126
Sprague street . . . . .	223
	<hr/>
	437

## RECAPITULATION.

	Sq. Yds.
City Proper . . . . .	1,537
Roxbury . . . . .	11,533
South Boston . . . . .	2,706
East Boston . . . . .	2,115
Dorchester . . . . .	453
West Roxbury . . . . .	834
Brighton . . . . .	0
Charlestown . . . . .	437
	<hr/>
	19,615
	<hr/> <hr/>

*PROPERTY IN CHARGE OF THE DEPUTY SUPER-  
INTENDENT 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. A part of said wharf is occupied by a tenant-at-will, at \$500 per annum, part by Sanitary Division.

Lot on Chelsea, Marion, and Paris streets, East Boston, containing 43,550 square feet. Part of this lot used by the Sewer Division.

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-st. 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.

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

*Gravel Lots.* — In the town of Milton, on Brush Hill road, con-

taining 64,523 square feet, hired by the town of Dorchester for nine hundred and ninety-nine years. 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.

Gravel and stones on lot on Market street, Ward 25, purchased by town of Brighton.

Ledge lot on Chestnut Hill avenue, Brighton, containing about 13 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.

Property belonging to the Paving Division, consisting of 91 horses, 71 carts, 15 water-carts, 16 wagons, 5 steam-rollers, 7 stone-crushers, and 7 engines.

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 Boylston street, at Boylston Station, office and shed.

Respectfully submitted,

DARIUS N. PAYSON,

*Deputy Superintendent of Paving Division.*



## APPENDIX C.

REPORT OF DEPUTY SUPERINTENDENT OF THE  
SANITARY DIVISION.STREET DEPARTMENT, SANITARY DIVISION,  
12 BEACON STREET, BOSTON, February 9, 1895.MR. B. T. WHEELER, *Superintendent of Streets*:

DEAR SIR: Herewith I send you a statement of the doings of the Sanitary Division during the year 1894, showing the expenditures and income of this division from February 1, 1894, to January 31, 1895.

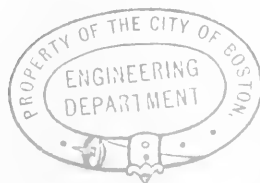
PHILIP A. JACKSON,  
*Acting Deputy Superintendent.*

## FINANCIAL STATEMENT.

Amount of appropriation . . . . .	\$450,000 00	
Transferred from Paving Division . . . . .	1,959 02	
Transferred from surplus revenue . . . . .	24,923 82	
Transferred from street-watering . . . . .	76 18	
	-----	\$476,959 02
Total amount expended . . . . .		467,459 02
		-----
Balance transferred to City Clerk's Department . . . . .	\$9,459 04	
Balance transferred to County of Suffolk . . . . .	40 96	
	-----	\$9,500 00

Items of Expenditures.	Amounts charged to the Sanitary Division.	Amount paid by other Divisions.	Total amount expended.
For salaries of Deputy Superintendent and clerks in office....	\$6,078 90	.....	\$6,078 90
For labor in collecting and removing house-dirt and ashes...	141,530 93	.....	141,530 93
For labor in collecting and removing house-offal.....	90,353 83	.....	90,353 83
For labor of foremen, mechanics, watchmen, and feeders.....	17,779 75	.....	17,779 75
For labor of men employed in stables and yards.....	11,718 08	.....	11,718 08
For grain used in stables.....	18,617 66	\$4,133 27	22,750 93
For hay and straw used in stables	10,597 80	1,639 43	12,237 23
For horses.....	3,125 00	.....	3,125 00
For stock and tools used in blacksmith-shop.....	5,607 54	38 00	5,645 54
For stock and tools used in wheelwright-shop.....	4,471 19	.....	4,471 19
For stock and tools used in harness-shop.....	2,606 08	8 00	2,614 08
For stock and tools used in paint-shop.....	772 00	89 08	861 08
For extra teams, collecting ashes and house-dirt.....	23,809 00	10,504 50	34,313 50
For extra teams, collecting house-offal.....	16,335 00	.....	16,335 00
For repairs on stables and sheds,	4,044 36	.....	4,044 36
For fuel, gas, and electric lights,	1,549 39	.....	1,549 39
For veterinary services and medicines for horses.....	1,367 99	.....	1,367 99
For shoeing horses (outside shops).....	1,449 16	13 50	1,462 66
For printing, stationery, and advertising.....	1,463 35	.....	1,463 35
For water-rates.....	835 80	.....	835 80
For offal stock, consisting of buckets, etc.....	1,889 77	.....	1,889 77
For ash stock, consisting of cart-covers, baskets, etc.....	1,215 00	.....	1,215 00
For stable stock, consisting of curry-combs, brushes, soap, etc.	1,608 06	.....	1,608 06
For dumping-boat, rental, royalty, towage, etc.....	47,164 22	125 00	47,289 22
For collecting house-dirt and ashes in East Boston.....	8,154 02	.....	8,154 02
For collecting house-dirt and ashes in South Boston, west of Dorchester st.....	4,937 62	.....	4,937 62
For collecting house-dirt and ashes in South Boston, east of Dorchester st.....	5,875 00	.....	5,875 00
For collecting house-dirt and ashes in Dorchester, south of Park, School, and Harvard sts.	4,100 00	.....	4,100 00
<i>Carried forward</i> .....	\$439,056 50	\$16,550 78	\$455,607 28

Items of Expenditures.	Amounts charged to the Sanitary Division.	Amount paid by other Divisions.	Total amount expended.
<i>Brought forward</i> .....	\$439,056 50	\$16,550 78	\$455,607 28
For collecting house-dirt and ashes in Dorchester, north of Park, School, and Harvard sts.	3,538 49	.....	3,538 49
For collecting house-dirt and ashes in West Roxbury, south of Seaver and Boylston sts....	5,850 00	.....	5,850 00
For collecting house-offal in East Boston .....	8,000 00	.....	8,000 00
For collecting house-offal in Brighton.....	2,800 00	.....	2,800 00
For collecting house-offal in Dorchester .....	5,644 39	.....	5,644 39
For incidental expenses:			
Telephone . . . . . \$561 00			
Board of horses, etc. . . . . 901 12			
Committee expenses, "disposal of offal" . . . . . 400 00			
Travelling expenses . . . . . 384 46			
Damage by city teams, . . . . . 35 00			
Newspaper . . . . . 6 00			
Miscellaneous supplies for office . . . . . 282 06	2,569 64	3 00	2,572 64
<b>Total</b> .....	<b>\$467,459 02</b>		
Paid by Street-Cleaning Division	15,119 42		
Paid by Paving Division.....	164 50		
Paid by Sewer Division.....	222 08		
Paid by County of Suffolk.....	1,047 78		
	<b>\$484,012 80</b>	<b>\$16,553 78</b>	<b>\$484,012 80</b>



## REVENUE.

Amount of moneys deposited and bills presented to the City Collector for collection, for material sold and work performed by the Sanitary Division of the Street Department during the year ending January 31, 1895.

*Moneys deposited with the City Collector.*

From sale of house-offal . . . . .	\$26,262 40	
From letting of scow privileges . . . . .	677 65	
		\$26,940 05

*Bills deposited with the City Collector.*

For the removal of engine ashes . . . . .	\$10,586 41	
For the sale of manure . . . . .	870 36	
For the sale of ashes and house-dirt . . . . .	2,665 62	
For the sale of house-offal . . . . .	160 50	
For the sale of tin cans . . . . .	73 91	
For the letting of scow privileges . . . . .	23 70	
For the letting of Fort Hill wharf . . . . .	1,000 00	
		15,380 50
		<u>\$42,320 55</u>
Amount collected by the City Collector . . . . .		<u>\$44,870 94</u>

**Amount expended for the Collection of House-dirt and Ashes and House-offal, Labor and Contracts.**

DISTRICTS.	Expended for collecting.	
	Ashes.	Offal.
City Proper . . . . .	\$93,187 05	\$53,541 33
South Boston . . . . .	<sup>1</sup> <sup>2</sup> 12,320 00	8,096 00
East Boston . . . . .	<sup>3</sup> 8,154 02	<sup>7</sup> 8,000 00
Charlestown . . . . .	11,920 00	5,620 00
Roxbury . . . . .	27,241 50	13,847 50
West Roxbury . . . . .	<sup>4</sup> 9,042 00	6,892 00
Dorchester . . . . .	<sup>5</sup> <sup>6</sup> 9,409 49	<sup>9</sup> 8,001 39
Brighton . . . . .	2,712 00	<sup>8</sup> 2,800 00
<b>Totals . . . . .</b>	<b>\$173,986 06</b>	<b>\$106,798 22</b>
Ashes Contract.	<sup>1</sup> F. J. Mohan . . . . . \$5,875.00	for territory east of Dorchester street.
"	<sup>2</sup> D. O'Sullivan . . . . . 4,937.62	" " west of Dorchester street.
"	<sup>3</sup> Wm. F. Hedrington, . . . . . 8,154.02	" " in East Boston.
"	<sup>4</sup> James Doonan . . . . . 5,850.00	" " south of Seaver and Boylston streets.
"	<sup>5</sup> John Bradley . . . . . 3,538.49	" " south of Park, School, and Harvard streets.
"	<sup>6</sup> John McShane . . . . . 4,100.00	" " north of Park, School, and Harvard streets.
Offal Contract.	<sup>7</sup> Thomas Mulligan . . . . . 8,000.00	" " of East Boston.
"	<sup>8</sup> Allen Clarke . . . . . 2,800.00	" " of Brighton.
"	<sup>9</sup> John McShane . . . . . 5,644.39	" " of Dorchester.

**Total Cost for Removal of House-dirt, Ashes, and House-offal.**

HOUSE-DIRT AND ASHES ACCOUNT.

Expended for labor, per pay-rolls . . . . .	\$141,530 93	
Expended for stock, etc., per ledger account . . . . .	101,209 14	
Expended on contracts, South Boston . . . . .	10,812 62	
Expended on contracts, Dorchester . . . . .	7,638 49	
Expended on contract, part of West Roxbury . . . . .	5,850 00	
Expended on contract, East Boston . . . . .	8,154 02	
	<hr/>	\$275,195 20

HOUSE-OFFAL ACCOUNT.

Expended for labor, per pay-rolls . . . . .	\$90,353 83	
Expended for stock, etc., per ledger account . . . . .	76,817 06	
Expended on contract, East Boston . . . . .	8,000 00	
Expended on contract, Brighton . . . . .	2,800 00	
Expended on contract, Dorchester . . . . .	5,644 39	
	<hr/>	183,615 28
Salaries . . . . .	\$6,078 90	
Incidentals . . . . .	2,569 64	
	<hr/>	8,648 54
		<hr/>
		<u>\$467,459 02</u>

**Material collected by Districts.**

Material.	TEAMS.									Total loads.
	YARDS.									
	South.	West.	Roxbury.	Charlestown.	Brighton.	So. Boston.	E. Boston.	Dorchester.	W. Roxbury.	
House-dirt and ashes..	104,136	83,434	48,650	18,528	5,864	21,589	13,175	17,522	13,900	326,798
House-offal..	29,202	.....	10,524	2,356	1,539	.....	3,720	3,296	.....	50,637
Totals.....	133,338	83,434	59,174	20,884	7,403	21,589	16,895	20,818	13,900	377,435



**Material collected and Cost of Hired Teams.**

	South Yard.		West Yard.		Roxbury Yard.		Charles-town Yard.		E. Boston.		Brighton.		So. Boston, west of Dor. st., O' Sullivan's con. tract.		So. Boston, east of Dor. st., Mohan contract.		Dor., north of Park, School, and McShane's conft.		Dor., south of Park, School, and Harvard, Bradley contract.		Dorchester con. tract.		West Roxbury, south of Seaver and Boylston, Doonan conft.		Total.	
	Single team.	With extra man.	Single team.	With extra man.	Single team.	With extra man.	Single team.	With extra man.	3 teams in winter.	4 teams in summer.	Single team.	With extra man.	5 teams in winter. 4 teams in summer.	4 teams in winter. 3 teams in summer.	6 teams in winter. 5 teams in summer.	4 teams in winter. 3 teams in summer.	5 teams in winter. 3 teams in summer.	7 teams in winter. 4 teams in summer.	Single team.	With extra man.						
Days' work. . . . .	6,499	6,131½	1,726	1,726	2,859	2,793	28	28	. . . . .	. . . . .	251	251	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	11,363	10,935½							
Number of loads coll'd { Ashes. { Ofal.	44,097	784	13,145	13,145	9,550	2,483	183	183	2 13,175 3 3,720	. . . . .	1,889	1,589	6 9,199	7 8,223	8 13,900	9 3,296	13,900	135,050	11,822							
Total. . . . .	44,881	44,881	13,145	13,145	12,033	12,033	183	183	16,895	3,428	3,428	3,428	11,771	9,818	9,199	8,223	13,900	146,872								
Amount expended . . .	\$31,772 00	\$8,630 00	\$8,630 00	\$8,630 00	\$14,163 00	\$14,163 00	\$140 00	\$140 00	\$16,154 02	\$4,955	\$4,955	\$4,937 00	\$5,875 00	\$3,538 40	\$4,100 00	\$5,644 39	\$5,850 00	\$104,858 90								

Contract. 1 \$2,800 00 per year.  
 " 2 7,500 00 "  
 " 3 5,000 00 "  
 " 4 5,985 00 "  
 " 5 5,900 00 "

Contract. 6 \$4,237 50 per year.  
 7 4,100 00 "  
 8 5,860 00 "  
 9 8,000 00 "

**Expenses of Dumping-Boats.**

Amount expended for	Royalties (per year)	. . .	\$2,415 00	
"	"	"	Rental	" " . . . 4,560 00
				\$6,975 00
"	"	"	Towing by department tow-boat*	\$4,996 18
"	"	"	Towing by hired tow-boat	. . . 783 00
				5,779 18
"	"	"	Repairs on boats	. . . \$5,059 26
"	"	"	" " wharf	. . . 2,598 81
				7,658 07
"	"	"	Labor, captain	. . . \$1,500 00
"	"	"	" crew and dumpers	. . . 3,903 29
				5,403 29
"	"	"	Insurance	. . . . .
"	"	"	Incidentals, Disinfectants	. . . \$63 40
			Removing refuse,	
			Nantasket Beach,	75 00
			Manilla rope	. . . 52 03
			Telephone	. . . 30 00
			Blocks, cleats, etc.	. . . 2 80
			Flags	. . . 8 50
			Kerosene oil	. . . 4 50
			Stove, etc.	. . . 9 70
			Coal	. . . 13 91
			Salt	. . . 10 50
			Keys, etc.	. . . 2 40
			Ferry-tolls, etc.	. . . 4 23
				276 97
"	"	"	Purchase of dumping-boat,	
			royalties, etc.	. . . . . 25,000 00
				\$51,192 51

\* Paid Sewer Division towards maintenance of boat.

Number of trips to sea by department tow-boat . . . . . 279

Number of trips to sea by hired tow-boat . . . . . 23

302

Cost per trip, \$86.73.

Number of cart-loads of garbage carried to sea, 133,065.

Cost per cart-load, 20 cents.

April 14, 1893, department tow-boat, the "Cormorant," commenced work.

**Number of Carts collecting House-dirt, Ashes, and Offal.**

Offal-wagons owned by Sanitary Division	. . . . .	86	
" in use " Thomas Mulligan, East Boston	. . . . .	6	
" " " Allen Clark, Brighton	. . . . .	3	
" " " John McShane	. . . . .	7	
			102

**Capacity of Offal-wagons**

During the fall of 1892, 24 offal-wagons were measured and contents weighed for the purpose of obtaining the capacity of wagons and the weight of offal per cart-load. Their capacity averaged  $3\frac{3}{4}$  cord ft., or 56.25 cu. ft., and the weight averaged 3,115 lbs. A cord equals 128 cu. ft., or 7,091 lbs. Price per cord for offal same as 1892: South yard, \$4.00; Highland yard, \$5.00; Charlestown yard, \$4.00.

**Ash-carts.**

Ash-carts owned by Sanitary Division	. . . . .	159	
" in use " Wm. F. Hedrington, East Boston	. . . . .	6	
" " " James Doonan, West Roxbury	. . . . .	7	
			172
<i>Carried forward,</i>			102



<i>Brought forward,</i>		172	102
Ash-carts in use by	John Bradley, Dorchester . . . . .	4	
"	" Francis J. Mohan, South Boston . . . . .	4	
"	" Denis O'Sullivan, " . . . . .	6	
"	" John McShane, Dorchester . . . . .	6	
Market-wagons owned by Sanitary Division . . . . .		7	
		—	199
Grand total . . . . .			301

**Cost of Carts.**

1884.	Ash-carts . . . . .	\$148 00
1886.	" . . . . .	142 00
1888.	" . . . . .	107 00
1891.	" . . . . .	133 00
1892.	" . . . . .	142 00
1893.	" . . . . .	142 00
1894.	" . . . . .	140 00

**Account of the Number of Loads of Material collected from 1882 to February 1, 1895.**

YEAR.	Ashes.	Offal.	Street-sweepings.	Cesspool matter.	Total loads.
1882 . . .	159,197	28,385	52,381	10,051	250,014
1883 . . .	169,610	27,408	58,272	8,801	264,091
1884 . . .	182,642	28,520	62,222	12,578	285,962
1885 . . .	193,734	31,206	61,455	13,151	299,546
1886 . . .	209,129	33,170	59,875	11,392	313,566
1887 . . .	220,186	36,724	68,990	14,333	340,233
1888 . . .	233,514	37,709	68,019	<sup>1</sup> 5,644	344,886
1889 . . .	227,325	40,183	70,476	.....	337,984
1890 . . .	245,730	40,525	70,449	.....	356,704
1891 . . .	<sup>2</sup> 313,464	46,742	<sup>3</sup> 10,564	.....	370,770
1892 . . .	303,878	46,343	.....	.....	350,221
1893 . . .	320,571	51,415	.....	.....	371,986
1894 . . .	326,798	<sup>4</sup> 50,637	.....	.....	377,435
Total . .	3,105,778	498,967	582,703	75,950	4,263,398

<sup>1</sup> July 1, 1888, the Sewer Department commenced cleaning out cesspools.  
<sup>2</sup> Ashes from January 1, 1891, to May 1, 1891 . . . . . 104,046  
 Ashes from May 1, 1891, to February 1, 1892 . . . . . 209,418  
313,464

<sup>3</sup> May 1, 1891, the Street-Cleaning Division commenced cleaning streets.  
<sup>4</sup> Thomas Mulligan, East Boston, collected . . . . . 3,720  
 Allen Clarke, Brighton . . . . . 1,539  
 John McShane, Dorchester . . . . . 3,296  
8,555

**Cost of Horseshoeing and Blacksmithing.**

		Division Shop.	Outside Shops.
Stock . . . . .	\$1,884 08		
Labor . . . . .	2,498 75		
		\$4,382 83	\$1,582 07

**NUMBER OF SHOES PUT ON.**

Horses owned by Sanitary Division . . . . .	6,921
" " " Street-Cleaning Division . . . . .	1,781
" " " Paving Division . . . . .	227
Total . . . . .	8,929

Average cost per shoe, about 35 cents.

Contracts.

OBJECT.	Contractors.	Price.	CONTRACT.		Payments made by the city.
			Commences.	Ends.	
Removal of house-offal in Brighton.....	Allen Clarke.	\$2,800 00 per year.	April 29, 1892.	April 29, 1895.	\$7,000 00
" " " East Boston.....	Thomas Mulligan.	8,000 00 " "	Dec. 20, 1892.	Jan. 1, 1896.	16,000 00
" " " Dorehester.....	John McShane.	8,000 00 " "	Mar. 23, 1894.	Jan. 19, 1895.	5,644 39
Disposing of Dorchester offal.....	N. E. Construction Co.	2,500 00 " "	July 25, 1894.	July 25, 1904.	
Removal of ashes in part South Boston.....	Francis J. Mohan.	5,750 00 " "	Mar. 1, 1893.	Mar. 1, 1895.	10,666 60
" " " " W. Roxbury.....	James Doonan.	5,850 00 " "	Mar. 30, 1893.	April 15, 1895.	9,993 75
" " " " Dorchester.....	John Bradley.	4,100 00 " "	Mar. 30, 1893.	April 15, 1895.	7,004 19
" " " " " ".....	John McShane.	4,237 50 " "	Mar. 1, 1894.	Mar. 1, 1896.	3,538 49
" " " " " ".....	Demis O'Sullivan.	5,985 00 " "	Mar. 1, 1894.	Mar. 1, 1896.	4,937 62
" " " " East Boston.....	Wm. T. Hedington.	7,300 00 " "	Feb. 6, 1894.	Feb. 1, 1896.	6,428 02
Barney dumping-boats.....	Barney D. Boat Co.	15 00 per day.			
" " " " " ".....	" " " " " "	1,500 00 per year.	April 13, 1893.	30 days' notice.	31,975 00

## Material Sold by Contract.

OBJECT.	Contractors.	Price.	CONTRACT.		Payments made by City Collector.
			Commences.	Ends.	
Refuse tin cans.....	O'Connor Bros.	\$1 50 per ton.	Feb. 14, 1893.	Feb. 1, 1894.	\$73 91
House-offal collected in the upper part of West Roxbury .....	John Krug.	9 00 per month.	Aug. 1, 1892.	.....	126 00
Manure of horses at South Yard .....	Wyman Bros.	3 00 a horse per year.	.....	.....	366 00
Manure of horses at West and Charles-town Yards.....	Geo. P. Winn.	4 00 " " " "	.....	.....	427 00
Manure of horses at Highland Yard .....	J. A. Budlong & Son.	1 00 " " " "	.....	.....	22 75
" " " " .....	Thomas Burke.	1 25 " " " "	.....	.....	37 50

**Hay and Grain.**

*Account of Hay, Grain, and Straw fed out and used February 1, 1894, to February 1, 1895.*

	Bales.	Bushels.	Pounds.	Total Cost.	Cost per Horse per day.	Lbs. per Horse per day.	Horses, Divisions: San. Street-Cl.
{ Hay .....	2,619	.....	567,946	\$5,156 87	\$0.1125021	1232674	31,786 12 820
{ Oats .....	.....	20,284	649,088	8,891 77	0.1944663	1424604	41,606
{ Shorts .....	.....	.....	14,425	149 81	1.0281	14225	
{ Straw .....	377	.....	88,962	661 21	.0121515	143156	
{ Corn .....	.....	2,419	135,464	1,417 64	.03 7948	3 1646	Average per
{ English vegetable food .....	32 bbls.	.....	6,400	480 00	.01 3394	6400	day, 35
{ Salt .....	8 sacks	.....	.....	5 80	.580	.....	
{ Carrots .....	.....	.....	2,810	16 86	1686	.....	
Total.....				\$16,779 96	\$0.3737574	3244666	

{ Hay .....	2,008	.....	472,348	\$4,212 83	\$0.148073	16108	17,716 11,799
{ Oats .....	.....	14,438	462,016	6,427 76	0.2122961	1512291	29,515
{ Shorts .....	.....	.....	7,500	79 75	7975	7500	
{ Straw .....	357	.....	81,453	589 97	.0122452	222423	Average per
{ English vegetable food .....	15 bbls	.....	3,000	225 00	22500	3000	day, 32
{ Salt .....	2½ sacks.	.....	.....	2 38	238	.....	
{ Carrots .....	.....	.....	2,850	17 10	1710	.....	
Total.....				\$11,554 79	\$0.394394	34229515	

Hay and Grain. — *Concluded.*

	Bales.	Bushels.	Pounds.	Total Cost.	Cost per Horse per day.	Lbs. per Horse per day.	Horses. Divisions: San. Street-cl.	
Charlestown-yard Stable.	Hay.....	.....	170,985	\$1,522 88	\$0.1168524	19,344	6,417	
	Oats.....	4,394	140,608	2,015 99	0.224461	15,333	2,562	
	Shorts.....	.....	3,500	37 75	3.775	35.00	8,979	
	Straw.....	72	15,986	130 54	0.014075	1,207		
	Corn.....	50	2,800	30 10	3.010	28.00		
	English vegetable food.....	9 bbls.	1,800	135 00	0.014321	18.00	Average per day.	
	Salt.....	.....	.....	.....	.....	.....	18	
	Carrots.....	.....	.....	2,700	16 20	.....	7	
	Total.....	.....	.....	338,379	\$3,888 46	\$0.43749	37,156	
Highland-yard Stable.	Hay.....	986	223,442	\$2,011 05	\$0.127806	13,189	14,691	
	Oats.....	.....	215,488	3,022 46	0.1812596	13,353	16,275	
	Shorts.....	6,734	7,700	79 85	7.985	77.00		
	Straw.....	132	30,435	223 24	0.015049	1,416		
	Corn.....	713	39,928	416 61	0.029111	2,378	Average per day.	
	English vegetable food.....	14 bbls.	2,800	210 00	0.014723	28.00	40	
	Salt.....	.....	.....	.....	.....	.....	4	
	Carrots.....	.....	.....	2,925	17 55	.....		
	Total.....	.....	.....	522,718	\$6,010 76	\$0.3615176	32,191	

**Recapitulation.**

MATERIAL.	Pounds.	Cost.	HORSES PER DAY.		Number of Horses Fed.
			Cost.	Fed out, Pounds.	
Hay .....	1,434,721	\$12,903 63	\$0.1237893	1433371	70,610
Oats .....	1,467,200	20,387 98	0.2001295	1465916	28,765
Shorts .....	33,125	347 16	34716	33125	
Straw .....	215,936	1,604 96	0.0161121	217185	99,375
Corn .....	203,392	1,864 25	0.0187060	20612	Average number per day:
English vegetable food .....	14,000	1,050 00	0.015625	14000	Sanitary Division, 195
Salt .....		8 18	818		Street-Cleaning Division, 79
Carrots .....	11,285	67 71	6771	11285	Total, 272
	3,379,659	\$38,233 97	\$0.3847147	34,9375	

70,610 Sanitary Division horses (average per day ..... 193) } @ \$0.3847147 = \$27,166 80  
 28,765 Street-Cleaning Division horses (average per day ..... 79) } @ \$0.3847147 = 11,067 17

99,375 horses (average number per day) ..... 272 @ \$0.3847147 = \$38,233 97

## HOUSE-OFFAL.

There are employed in removing house-offal 195 men and 91 wagons. The offal is removed from dwelling-houses twice a week during the summer months and once a week during the winter; from hotels, markets, and restaurants it is removed daily. There are sixty-two routes. The men are required to enter the yards, collect the offal, and empty the same into wagons, then drive to one of the depots, located as follows: One on Albany street, one on Highland street, Roxbury, and one at the Almshouse, Charlestown; also to the dumping-boat wharf on Atlantic avenue.

The offal is sold to farmers of adjoining towns mostly; the balance is dumped on the scow and carried to sea. About 10 per cent. of the quantity collected during the past year has been disposed of in this manner.

During the past year the collection of house-offal in the Dorchester District was let out by contract; this makes three districts let out by contract for the collection of house-offal.

The New England Construction Company made an agreement during the year to dispose of all house-offal collected under the McShane contract at the rate of \$2,500 per year; their plant was erected on land owned by the city of Boston on Gibson street, Dorchester, and is now in running order.

## HOUSE-DIRT AND ASHES.

In the collection of house-dirt and ashes there are employed 207 men and 159 carts. This material is removed from hotels, tenement-houses, and stores daily; from dwelling-houses once a week. There are eighty-two regular routes. The City Ordinances of 1892 require that house-dirt and ashes shall be kept in an easy, accessible place for removal, the men being obliged to enter yards and areas, remove receptacles to the sidewalk, where their contents are loaded upon teams. The receptacle is then replaced in its original position. The material is disposed of, if possible, on low lands, being used for filling, and also dumped on scows to be carried to sea. Of the amount collected last year, 29 per cent. was disposed of at sea.

Three sections of the city were let out by contract, to wit: territory lying west of Dorchester street, South Boston, part of Dorchester lying north of Park, School, and Harvard streets, also East Boston; making a total of six ash contract districts.

**Horse Account.**

1894.		<i>Dr.</i>	1894.		<i>Cr.</i>
Jan. 1.	On hand,	202	Feb. 1.	Transferred to Street-Cleaning Division,	1
July 28.	Purchased,	1	Feb. 19.	Died,	1
Oct. 30.	"	1	Mar. 2.	Returned Paving Div.,	1
Dec. 6.	"	6	April 17.	Died	1
" 13.	"	1	May 15.	"	1
			" 22.	Sold,	2
			" 29.	"	4
			June 5.	Killed,	1
			" 7.	"	1
			Sept. 27.	Died,	1
			Dec. 15.	"	1
			" 27.	"	1
			" 31.	"	1
			1895.		
			Jan. 19.	"	1
			" 31.	On hand,	193
<b>Total,</b>		<b>211</b>	<b>Total,</b>		<b>211</b>

**ORGANIZATION.**

1 deputy superintendent.	4 watchmen.
4 clerks.	3 feeders.
3 foremen.	6 messengers.
1 captain of scows.	7 stablemen.
6 sub-foremen.	12 yardmen.
1 inspector.	16 dumpers.
9 mechanics.	188 ash-cart drivers and helpers.
8 talley-men or aids.	136 offal-cart drivers and helpers.
	405 employees.

The mechanics of this division are engaged in the painting of carts, street signs, wagons, etc., shoeing of horses for the Paving, Street-Cleaning, and Sewer Divisions, also the making and repairing of harnesses.



## APPENDIX D.

REPORT OF THE DEPUTY SUPERINTENDENT OF  
THE SEWER DIVISION.

CITY HALL, ROOM 44, BOSTON, February 1, 1895.

MR. B. T. WHEELER, *Superintendent of Streets*:

SIR: The following report of the expenses, income, and business of the Sewer Division, from February 1, 1894, to February 1, 1895, together with a brief statement of the present condition of the sewers and other property, the work done this year, and what should be done in the near future that the efficiency of the sewers may be improved, is respectfully submitted.

The Sewer Division has charge of the following work:

1. The maintenance and construction of all common sewers and catch-basins.
2. The maintenance of the Main Drainage Works.
3. The maintenance of Stony brook.
4. The maintenance and construction of all street culverts.
5. The preparation of plans and the engineering and supervision required on the construction and maintenance of all work connected with the division.
6. The granting of permits for all connections to be made with the common sewers, and the custody of bonds filed by drain-layers authorized to make such connections.
7. The levying of assessments on estates benefited by the construction of sewers.

Ninety thousand eight hundred and two (90,802) lin. ft. of sewers have been built during the past year by the city, and twenty-four thousand eight hundred and seventy-seven (24,877) lin. ft. have been built by private parties according to the plans and under the inspection of this division and accepted by the city under the usual forms of release.

## • CITY PROPER AND BACK BAY DISTRICTS.

The sewers in Hull, Beverly, Commercial, Fayette, Falmouth, and Caledonia streets are broken down or settled to such an extent as to require rebuilding.

The main sewer in the two streets last named is very badly settled and has been shored up for years; if it fall in, it will cut off the drainage of a considerable territory.

The sewers in the Canal-street district remain in practically the

same condition as they have been since 1883, filled with sewage and sludge. The level of the sewage in the system has been lowered a little by the building of the sewer in Lancaster street last season, and will be reduced a little more upon the completion of the sewer in Merrimac street now building, but the benefit so obtained must be considered as a slight relief only, not a remedy. The condition of this system of sewers was fully discussed in the report for 1891, to which reference is made. The building of the relief sewer therein described, across the city, has been postponed on account of the uncertainty in regard to the proposed subway, the route of which crosses that of the proposed sewer. But the work need not be longer deferred, as the plans for the subway are now sufficiently well defined as to show that, if built, it will only cause an unimportant deviation in the route of the sewer. There is no other large district in the city in which the sewers are in such a deplorable condition; the fact that much of it is occupied by tenement-houses makes the case worse.

In 1888-89 a large main sewer was built from Fort Point Channel through Mt. Washington avenue, Federal and Essex streets, to the corner of Kingston street, intercepting at this point the heavy flow of sewage and storm water which formerly flooded out the district in the vicinity of Beach street. The underlying idea was to isolate the Beach-street district from the rest of the system, and connect it directly with the intercepting system, in the same manner as the Dover and Dedham streets district have been treated, so that it, like them, might receive the benefit of direct connection with the pumps, and its low cellars be thereby ensured against flooding. An essential feature of the scheme is to shift the district regulator from Dover street to a point upon the east side interceptor north of Beach street, and to build small regulators at the connections of the Harvard and the Oswego streets sewers.

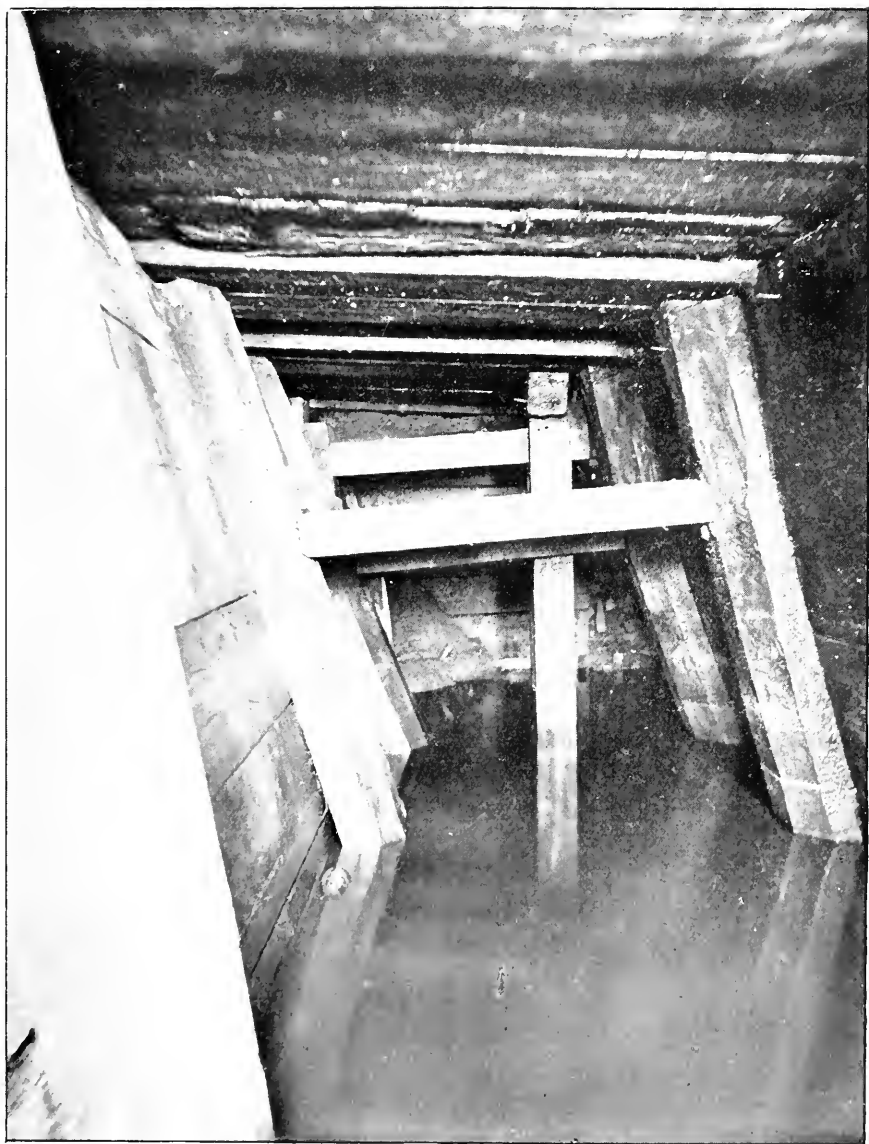
These three regulators have not been built; the system, therefore, does not operate as designed. Moreover, the Harvard-street sewer, where it crosses the interceptor, is reduced in size. The plan for the regulator at this point comprises an enlargement of the sewer; the fact that cellars in this district have been flooded during storms shows that such enlargement is necessary.

The work of building these three regulators, to complete the system, although difficult and expensive, should not longer be delayed.

Incidentally it should be mentioned that the old wooden 4 × 5 ft. box sewer in Federal street, now practically unused, should be filled with gravel in order to ensure the safety of the street, as it will rot and fall in.

Attention has been repeatedly called to the condition of the sewerage of the Faneuil Hall markets; plans are ready for a satisfactory system, and the work should be done before warm weather.

Throughout the greater portion of the Back Bay territory the sewers have been built in the passageways between the main streets, instead of in the main streets, as in the remainder of the city. This system, although an excellent one as far as conven-



OLD WOODEN SEWER—DOVER STREET.



ience in sewerage the houses is concerned, and in preserving the surface of the streets from being dug up in putting in house connections, has this defect, that it supplies nothing for the drainage of catch-basins in the streets.

In many places catch-basins have been needed for many years, but have not been built because there was no sewer in the street to drain them into; an investigation of this matter has been made by this office, in consultation with the City Surveyor's office, and an estimate made of the number of catch-basins and amount of surface drainage needed to make up those deficiencies.

One hundred and thirty-three catch-basins and 7,000 linear feet of pipe sewers and surface drains will give an adequate system of surface drainage for the public streets of the Back Bay.

The four principal systems of sewers in the Back Bay, whose outlets are at Berkeley, Dartmouth, Fairfield, and Hereford streets, have very little storage capacity, and there have been complaints of flooded cellars during unusually heavy storms which occur at the time of high tide. The overflow outlets of these systems into Charles river should be enlarged, including the tide-gates, and considerable relief would be afforded in this manner.

In Charlesgate East there are twelve catch-basins connected with the sewer, which is a tributary of the Hereford-street system; these should be disconnected, and connected into the covered channel of Stony brook which lies in the same street. A large amount of surface water would be kept out of the sewers by this inexpensive change.

No sewer has been built as yet to drain the houses on the water side of Beacon street, and the sewage of these houses continues to pollute the water of Charles river. A plan has been made for a sewer in the passageway on the bank of the river, but nothing built yet except the connection with the Beacon-street sewer at the corner of Hereford street.

If a boulevard is to be built on the bank of the river, this sewer can be built more cheaply in conjunction with it; if not, it might as well be built at once.

Wherever there is a sewer outlet into a dock the city is periodically called upon to pay damages on account of the shoaling of the dock, caused, it is alleged, by the material thrown into it by the sewer. Where the common sewers are not intercepted, but flow continuously into the docks during dry weather, there is some ground for this claim: but around the city proper, the common sewers have all been tapped by interceptors and the dry-weather flow conveyed away, and nothing flows out of the old outlets except during storms, and then the flow consists of storm water and greatly diluted sewage only.

Yet, nevertheless, in numerous cases it becomes necessary to dredge a dock in which a sewer outlet exists; the city is invited to pay the bill, and if it refuse it has to stand suit. These suits are hard to defend, because it is difficult to make a jury understand the operation of the common sewers as affected by the intercepting system. The most conspicuous facts are, that there is a sewer which sometimes flows into the dock, and that dock has become

partially filled up; and it is impossible to distinguish between deposits caused by a sewer and the ordinary shifting silt of the harbor.

A systematic series of observations should be made, extending over a series of years, to determine the rate at which docks silt up where there is a sewer outlet and where there is none. The subject furnishes a strong argument in favor of the public ownership of docks.

*Work done during 1894.*

Five thousand three hundred and seventy-seven linear feet of sewers have been built by the city, either by contract or day labor, and 160 feet by private parties.

In Dover street there is an old wooden box sewer 5×6 ft. which has been in very bad condition for over fifteen years; the illustration shows a section of it thrown over to one side and wrecked. As it did not actually fall in, it was not rebuilt; but when the raising of the Dover-street bridge made it necessary to grade Dover street up, it was not thought judicious to put any more weight upon it without strengthening it. It was therefore decided to line it with masonry or build a brick sewer inside of it. The photograph shows a section of this work. Where the old sewer was found to be tipped over and thrown off line too much, for this it was opened up from the surface and rebuilt in open cut, more piles being driven to furnish a foundation wherever necessary.

A new sewer has been built in Lancaster street, and one is in progress at this time in Merrimac street, which connects with the west side intercepting sewer, and will lower the level of the water in the Canal-street system of sewers to some extent.

CHARLESTOWN.

The Hoosac Tunnel Dock outlet, a large wooden box sewer, has been repaired, and sewers built in Mishawam and Boyle streets.

The Somerville branch of the Metropolitan sewer having been completed in Arlington avenue, the system of sewers projected in the Alfred-street district may and should now be built.

The connections with the Metropolitan, eleven in number, should also be made this year. There are a large number of old defective sewers, built of slate, wood, and brick, which should be rebuilt, as they are not fit to be connected with the Metropolitan system on account of the quantities of ground water which they admit.

*Work done during 1894.*

Four hundred and twenty-two linear feet of sewers was built by the city, none by private parties, and nothing requiring special attention.

EAST BOSTON.

Jeffries, Decatur, and Brooks streets outlets should be rebuilt, and the outlet at Dock 13 extended.

Nothing has been done to the Porter-street outlet, and the



MASONRY CONSTRUCTION WITHIN DOVER-STREET SEWER.





sewage escapes along its entire length, and is distributed over the flats.

Repairs on this old box sewer are expensive and ineffectual, as the ice of the succeeding winter strains it apart again. It should be rebuilt of wood, upon a substantial pile foundation, and of such size and form as to serve subsequently as the foundation for a brick sewer. All the ashes collected by the Sanitary Division in East Boston should be hauled to it, to form an embankment to protect the new structure from the ice, and when such embankment has attained the proper size and solidity, the permanent brick sewer may be built.

The Havre-street sewer, between Meridian and Sumner, has not been rebuilt, as recommended last year, but should be this year.

Last year's report stated that work was about to be started on an outlet sewer for Leyden street, west of Breed street; this was postponed, and has not been done, but should be built without further delay, as a large number of houses on this street lack sewerage.

The new main sewer in Chelsea street, near Chelsea-street bridge, also mentioned last year, should be built, as it will afford an outlet to a number of neighboring streets.

A connection with the Metropolitan intercepting sewer has been allowed at the corner of Orleans and Gove streets, at the request of this department, and the Orleans-street sewer has been started.

This sewer will do away with the damming up of the sewers at this point, and will convey the storm water from a large section directly to the Porter-street outlet, thereby relieving the overcrowded condition of the sewer in Bremen street to some extent. This relief will be complete when the Porter-street outlet is rebuilt of adequate size.

The building of the Metropolitan intercepting sewers in Bremen and Porter streets has caused some damage to the common sewers in those streets.

When the back filling in these trenches has become sufficiently well settled these sewers will need repairing, and the arch of a portion of the Bremen-street sewer will have to be rebuilt.

The Metropolitan intercepting sewers being now practically completed, connections may be made; the ordinary regulators and sump manholes will have to be put in at each connection, of which there are twelve, which may be built this year, and three more after building 2,500 feet of pipe sewer in Condor, Glendon, and Eagle streets.

#### *Work done during 1894.*

Thirteen hundred and twenty-three linear feet of sewers have been built by the city; none by private parties.

Morrison's wharf outlet has been repaired, and a row of piles have been driven along the edge of the wharf as far as the sewer extends to protect it from the action of the ice, by which it has been injured, more or less, every winter in the past.

Eagle-square outlet, which was nearly choked up by the banks of filling near by, has been extended 250 feet, which is sufficient for the present.

The Paris-street sewer, from Wesley to Edgeworth place, has been rebuilt. Many complaints have been received on account of the settlement and breaking down of this sewer.

#### BRIGHTON DISTRICT.

The main sewers for the systems for the western part of the district — called the Faneuil Valley system — having been built, any streets requiring sewers in this vicinity may now be accommodated. A branch main sewer has just been started on Lake street. This sewer will receive eventually the sewage from a large tract of land in Newton; and as this city is sewered upon a separate principle, it has been found expedient to build the Lake-street sewer upon the same principle, although the remainder of the system is built upon the combined principle, supplemented by relief overflows for storm water into the water-courses at all convenient points.

Hobart street and the streets upon Bigelow Hill may now be drained.

A sewer should be built in Nonantum street, between Oak square and the Newton line. The sewage from the houses on the west side of the street must at present seep out of cesspools or flow over the surface from privies into the brook at Tremont street.

On Commonwealth avenue everything necessary for drainage of any kind has been built as far as Warren street, except a few catch-basins near the latter street, and except the structures required in that part of the avenue crossing the marshy hollow just west of Cottage Farm station, where the settlement of the filling has not yet ceased.

The outlet sewer for this whole Commonwealth-avenue system, known as the Salt Creek outlet, from the Boston & Albany Railroad to the Metropolitan sewer, will require strengthening. The soil of the marsh through which it is built is of very light and spongy character; and the covering of this material — which was the only material accessible without considerable expense — has not proved to have sufficient weight to afford the lateral support to the sewer which is necessary.

The district bounded by Chestnut Hill avenue, Union street, Washington street, Commonwealth avenue, and Sidlaw road is being cut up into streets by the Westminster Land Company. Part of this district will drain into Union street and Chestnut Hill avenue; and the sewers in these streets will afford but a poor outlet for the new sewers to be built in this district, on account of the fact that they are overcharged now far beyond their capacity by the admission of the water of the brook which flows through this valley. Unless this surface water is excluded from the sewers and restored to the brook channel, it will probably be necessary to sewer this district with an expensive separate system of house sewers and surface drains.

The remainder of the district will drain into Commonwealth avenue, near Chestnut Hill avenue, and eventually into Brookline.

The district between Commonwealth avenue, Washington street, Chestnut Hill avenue, and the Brookline line has many streets

laid out by the Aberdeen Land Company. Some of these streets have surface drains, and one street, viz., Englewood avenue, has a sewer built by the city. This whole district drains into Brookline, and must be provided with house sewers and surface drains.

*Work done during 1894.*

Thirty-two thousand six hundred and sixty-four linear feet of sewers have been built by the city, and 377 feet by private parties.

This includes the mains of the Faneuil Valley system, and the practical completion of the sewers and surface drains of Commonwealth avenue as far as Warren street, and of the outlet sewer for the system.

SOUTH BOSTON.

The main sewer in Dorchester avenue, from its outlet at Fort Point Channel to Broadway, should be rebuilt, the portion between First street and Broadway being entirely rotten.

The sewer outlets on the southern shore of the peninsula, at N, K, I, and H streets, have all been destroyed by ice. The one at N street should be rebuilt immediately, after the pattern of the outlet at Denny street, Savin Hill. The building of the others may be delayed until the Park Department has deposited part of the filling for the proposed boulevard, which will protect them.

Defective outlets at B and Seventh streets, and at D street, cause trouble in the sewers of the south-western part of the peninsula. A comprehensive plan for uniting these and rebuilding the defective D-street sewer has been prepared by this department. This plan is also a means of draining effectively the depressed part of D street, at the Old Colony Railroad crossing.

The South Boston intercepting sewer has no proper overflow for relief when shut off from the main interceptor by the regulator.

A plan has been prepared for such an overflow sewer upon the location of the old Kemp-street sewer. The sewer in Mercer street should be rebuilt of larger size, to do away with flooding of cellars on Mercer and Yale streets.

*Work done during 1894.*

Three hundred and fifty-eight linear feet of sewers have been built by the city, and none by private parties. Nothing requiring special mention.

DORCHESTER DISTRICT.

A sewer system is needed for the northern half of the Savin Hill peninsula similar to the system built in the southern half; that is, a separate system of house and storm sewers. The house-sewer system would connect with the Dorchester interceptor in Sydney street.

At Dorchester Lower Mills advantage has been taken of the completion of the Lower Mills main sewer to build sewers in some of the streets; but there are other streets which need sewerage, and which may now be sewerage, such as River, Monson, and Idaho streets, and parts of Temple, Morton, and Washington streets.

Between Lawrence and Geneva avenues a main sewer will have to be built through private land parallel with Blue Hill avenue, and crossing Stanwood avenue. Geneva avenue, between Wilder street and Washington street, cannot be sewerred until this main is built. The Lauriat and Chapman avenues district, also the Nelson and Corbet streets district (sometimes called the Forest-avenue district), continue to call for sewers, and up to the present time, in vain. The difficulty of sewerering this district, and the various routes by which it may be done, were very fully discussed in the report of the Street Department for 1892.

In short, it involves a low, level sewer, starting at the Dorchester intercepting sewer and running through Park and West Park streets, cutting through the bounding ridge of the Stony brook water-shed in tunnel, and costing, for a rough estimate, \$250,000. As any tunnel sewer to reach this district would take several years to build, it was also proposed to erect a small pumping-station, and pump the sewage of this district into the Talbot-avenue sewer, as a temporary expedient.

A petition was received in 1893 that this scheme be carried out; there does not seem to be any other means of affording sewerage to this region within a reasonable time.

An effort has recently been made to have a sewer built up Morton street, cutting through the ridge low enough to sewer Nelson and Corbet streets, leaving the rest of the district out. The objections to this plan are the large expense to be incurred for only a partial solution of the problem, and the fact that the sewer would have to be built for a long distance through an uninhabited country where nobody needs it.

A sewer has been projected through Adams and Rosemont streets, to drain all that valley, afford better sewerage to Carlisle street, and make it practicable to build a sewer in Melbourne street, and also incidentally to relieve the overcrowded Centre-street sewer by withdrawing a portion of its flow through Carlisle street; this important main is badly needed.

#### *Work done during 1894.*

Fifteen thousand and seventeen linear feet of sewers have been built by the city, and 17,036 linear feet by private parties. The Dorchester Lower Mills main sewer has been completed, and lateral sewers may now be built throughout the village of Lower Mills.

A sewer is under construction in Geneva avenue, between Bowdoin and Wilder streets, which will afford an outlet for a number of streets between this avenue and Washington street.

#### ROXBURY DISTRICT.

The Harrison-avenue and Northampton-street sewers are settled so badly as to make it impossible for workmen to have access to them to clean them out, unless a steam-pump should be used to keep the water down; they should be rebuilt.

As these sewers lie upon unusually deep beds of mud, pile

foundations would be very expensive; a form of construction similar in principle to that employed on Fellow street might be used. This Fellows-street sewer was a pipe sewer upon the same kind of a mud bed. It was relaid last year, supported by a wide timber platform having a longitudinal stringer upon each side, which was built up in the trench of strips forming a continuous built-up beam. A recent examination showed it to be in good condition, not having settled appreciably under the weight of the back-fill. Harrison avenue and Northampton street require sizes too large for pipe, but the plan could be modified to adapt it to the support of a brick sewer.

The sewers in Halleck and Ward streets should be rebuilt.

The sewer in Huntington avenue, between Rogers avenue and Gainsborough street, which was built in 1882, is in a very dangerous condition, the arch in some cases being flattened to the level of the springing-line; also, the manholes are in a very dangerous condition.

Unless this sewer is attended to very soon it will probably cave in, as the electric cars running on the avenue cause a very noticeable vibration inside the sewer.

In the district bounded by Hammond, Tremont, Lenox streets and Shawmut avenue the cellars are but little above the level of the sewers, and are flooded by the surface water which enters the sewers in storms.

A plan has been prepared for building new house sewers at a lower level, utilizing the existing sewers for surface water, thus developing a separate system for this district; but nothing has been built.

Another district, bounded by Culvert, Tremont, and Davenport streets, and the Providence Division of the New York, New Haven, & Hartford Railroad, is in a similar condition, and a similar plan was worked up for it. The extension of Columbus avenue now cuts through this territory; the plan has been modified to suit the change, and some of the sewers required will be built in constructing that avenue.

There are numerous sources of pollution along the old channel of Stony brook between Huntington avenue and the Roxbury crossing which cannot be removed until pipe sewers are built on each side of the brook channel back of the walls, and in some places in the bottom of the channel itself.

This subject was thoroughly discussed in the report of 1892.

About 3,050 linear feet of pipe sewers will be required; none have been built.

Dorchester-brook sewer has been built from the South bay to the point where it leaves Norfolk avenue, running through private land from Clifton street.

The new brick channel should be extended about 600 feet, as this portion of the old sewer is a stone arched channel, with no covering over the arch, and so small that the floods sometimes crack and lift the arch.

Complaints have been received at various times of floodings in Guild row; a plan was prepared several years ago for extending

the large Vernon-street sewer up to Washington street to remedy the trouble ; but it has never been built.

At Notre Dame street there is much trouble from flooding ; the sewers here are too small ; an overflow into an old water-course now fails to give relief, because of the partial obliteration of the latter.

The extension of Columbus avenue will afford an opportunity to build a relief sewer for this vicinity.

The sewer in Vila street is the main for quite a large territory ; it connects with the Metropolitan sewer, but has no overflow. Before any catch-basins can be connected with this sewer or its tributaries it should have a storm-overflow sewer built to connect it with the cover channel of Muddy river in Brookline avenue.

#### *Work done during 1894.*

Twenty-two thousand four hundred and forty-seven linear feet of sewers have been built by the city, and 2,807 feet by private parties. A large main sewer is in progress in Massachusetts avenue, east of the Roxbury canal, which will afford sewerage to a large territory bounded by Swett and Magazine streets, Norfolk avenue and Gerard street. In Parker street a brick sewer has been built from Bryant street to Westland avenue, which is low enough to be extended, and furnish an outlet for sewers in the low territory lying between Parker street, Massachusetts avenue, and Westland avenue.

#### WEST ROXBURY DISTRICT.

The district in the vicinity of South, Anson, and St. Mark streets should be sewerred, the outlet sewer to run through private land from South street to Washington street, there to connect with the Roslindale main sewer. It will cross the location of the Providence R.R., and this section at least must be built before the tracks are raised.

Another branch of the Roslindale main sewer should be carried from the northerly of the two intersections of South and Washington streets to the extreme north-westerly point of Florence street, in order to afford sewerage to Florence, Sycamore, Brooks, and Ashland streets and the neighborhood of Mt. Hope Station.

North of Roslindale Village lies the neighborhood of Hewlett and Arundel streets, a swampy region, unsuited to cesspools. Sewers should be built here ; the petitions date back to 1886.

At the request of interested citizens the grade of the sewer being built in Maple street, from the main sewer in Centre street, was depressed, and the sewer run through the divide low enough to take a part of the territory lying on the Charles-river side of the ridge. Portions of Weld, Ruskin, Pomfret, Westover, Willow, Corey streets, and Garfield avenue may now be drained into it.

The only other region in West Roxbury calling for special

mention is the valley of the Spring-street brook. This is quite thickly settled, and its sewage pollutes the above-mentioned brook, which flows into Charles river above the point where Brookline, Newton, Needham, Wellesley, and Waltham get their water-supply. A scheme of pumping the sewage of this place back over the ridge into the Roslindale main sewer at Mt. Vernon street has been recommended by this department as a temporary expedient, to last until such time as an intercepting sewer can be built down the valley of Mother brook and the Neponset river to join the Dorchester interceptor at Central avenue. In a recent report by Mr. Jackson, City Engineer, on the drainage of the Charles-river water-shed in West Roxbury, the pumping scheme is condemned, for various good and sufficient reasons, as a *permanent* solution of the question.

It was not recommended as a permanent solution, but only as a temporary expedient. It appears from the City Engineer's report that it will require about  $7\frac{1}{2}$  miles of intercepting sewer to be built, at a cost of \$380,000 (exclusive of land damages) to reach Spring street; and will require the concurrent action of Boston, Hyde Park, and Dedham, probably practicable only by action of the Legislature. In view of the length of time likely to elapse before this can be accomplished, it would still seem that the pumping scheme offers the only means of relieving this district within a reasonable time. Upon the completion of the interceptor the local sewers would all drain into it, and the pumping would be discontinued; the only portion of the system which would then be useless would be the force main; the system of local sewers would be substantially the same as recommended by the City Engineer.

The question of the advisability of building this pumping system depends wholly upon the length of time during which it is likely to be in use, that is, whether this time is likely to be long enough to justify us in incurring the expense of the temporary portions of the scheme; namely, the force main and the pumping plant. This time will be the time which will elapse between the completion of the interceptor by way of the valley of Mother brook.

#### *Work done during 1894.*

Thirteen thousand one hundred and ninety-four linear feet of sewers have been built by the city, and 4,497 feet by private parties. A branch of the Roslindale main sewer has been carried across the tracks of the Dedham Branch R.R. at Highland Station, to form an outlet for Clement avenue, Park and Bellevue and contiguous streets.

#### MAIN DRAINAGE WORKS.

The amount of sewage handled by this branch of the Sewer Division is increasing quite rapidly, not only by the amount due to the annual increase in the mileage of the common sewers of the city, but by the addition of the systems of the suburban districts in the Charles-river valley. During the last two years the sewer

systems of Brookline, Brighton, Newton, Watertown, and Waltham have been added, and the town of Milton, in the Neponset valley, is looking for accommodation shortly.

The amount of sewage from these districts will increase annually, and unless action is taken very soon towards increasing the pumping capacity of the plant at the pumping-station the pumps will not be able to handle properly the sewage coming to them.

It will take two years to get a new pump built, set up, and in operation, if action in the matter is taken immediately, and the urgency of it can be seen from the fact that even the average daily amount pumped last year is 70% of the capacity of the plant when all the pumps are working, and it is sometimes necessary to shut down a pump for repairs for a week at a time.

A high-level intercepting sewer was included in the original design of this system, to be built when the increase in the amount of sewage should show the necessity for it. It consists of a system of intercepting sewers to be built through Dorchester, Roxbury, and Brighton, that will intercept all the sewage above grade 40 and carry it to the outlet at Moon island by gravity.

Although attention has been called to this in a previous report no action has been taken towards providing for its construction. It should be considered without delay, as it would help relieve the pumps of the present tax upon their capacity.

The force in charge of the main and intercepting sewers has been taxed to keep up with their work for the last year. The addition of a number of new connections to the system has increased greatly the amount of ironwork to look after, and the points that have to be inspected during every storm. The headquarters of this force, on Massachusetts avenue, should be put in proper condition. The men have to be on duty regardless of the weather, and the buildings are entirely inadequate for their use and comfort.

At the pumping-station the condition of the plant has been considerably improved since the last report. While, owing to a lack of appropriation, but a small part of the repairs necessary to put the plant in proper working condition have been done, still those that have been made are such that the cost of pumping has been reduced considerably.

The renewals of the valve seats of the pumps have been completed and the water ends of the pumps are in very good condition.

The pump records indicate that less sewage was pumped last year than the year before, but the reverse is the actual case. The discrepancy in the figures is caused by the difference in the slip of the pumps in the two years, it being greater in 1893 than in 1894.

Some of the principal repairs completed are: retubing the boilers; new sleeves in pump No. 1; relining of boxes on beam centres of No. 3 and No. 4, and of cam shaft on No. 3; new feed-water heater and feed pump; new steam-pipe from engine-house to filth-hoist; two new cages and chains at filth-hoist and repairs on hydraulics; re-covering of boilers No. 1 and No. 2, and a part of main steam-pipe.

A few of the repairs that cannot be deferred without liability of



having shut-downs, and the certainty of increased cost of maintenance, are the refitting of the gallery-gates, reabbobing of main shaft boxes on No. 4 pump, the retubing of reheaters, new valve gear on pumps No. 1 and No. 2, and a new supplementary main steam-pipe. Without the latter the proper repairs cannot be made on the main pipe, as it is continually under a pressure of 100 pounds to the square inch.

The wharf needs refooring, and should be extended about seventy feet, as suggested in a previous report.

The sludge tank, which is of wood, is decaying rapidly, and will soon have to be rebuilt.

The last test of the tunnel, to determine its condition as regards deposits, gave a coefficient of 115, which corresponds closely to that obtained a year ago.

The working condition of the plant at Moon island is good, with a few exceptions. The whole of the iron fence around the reservoir, which is set on the stone coping, had to be removed and reset. It is mostly machine-work, and takes considerable time, but is nearly completed.

There has been quite an amount of filling put into the cove, near the outlet, to prevent the nuisance caused by the deposit formed by the discharge. This trouble would be removed if the sea-wall, which is part of the original design of these works, and spoken of in previous reports, were built.

The turbine wheel which works the gallery gates will have to be replaced without delay. The sewage has so acted on the iron that it is next to useless.

The gates on the outfall sewer at the reservoir will all have to be refitted, as has been done on the discharge gates; but before this work can be done the boat chamber in the outfall sewer, which has been so much needed for other purposes as well, will have to be built.

New hydrants and piping in the reservoir are necessary, the latter having become so thin that breaks are frequent.

#### CULVERTS.

The city has built numerous culverts during the past year in the Brighton, Dorchester, and West Roxbury districts. In building street culverts the city labors under a great disadvantage, as elsewhere commented upon, from not having control of the water-course throughout its entire length. In almost every case the bottom of the culvert has to be depressed several feet below the general level of the bottom of the brook in order to obtain a waterway of sufficient size, and, at the same time, to provide for sufficient filling for the roadway over the top of it. The city has no right to enter upon private land and deepen the adjacent portions of the brook channel a corresponding amount. The connections of the culverts with the brook channels at each end are, therefore, necessarily unsatisfactory, and the culverts become settling basins, and would speedily become filled with sand and mud if not cleaned out. Culverts are usually built at those points in the course of the brook where the complaint is loudest of floods

caused by the insufficient size of the existing culverts, and the building of an enlarged waterway answers its purpose of freeing the city of the responsibility of the nuisance at this point; but the immediate effect is to transfer the flood to the next insufficient culvert down stream; and a new complaint arises, often accompanied by the allegation that the city is responsible for the damage, on account of having enlarged the up-stream culvert, and thereby let the water flow down more rapidly than it ever had before.

The proper way for the city to proceed, if it had the powers, and if funds were available or the cost were assessable, would be, as a matter of course, to begin at the outlet of a water-course and improve the channel and rebuild the street culverts systematically, always proceeding up stream. Another aspect of this subject deserves attention. Land-owners, in developing their land for building purposes, now proceed to lay out streets or grade those laid out by the Board of Survey, and having satisfied the requirements as to line and grade, obtain their acceptance by the Board of Street Commissioners, having meanwhile made only such provision (often no provision at all) for water-courses that happen to cross the location of their streets as their own judgment and penuriousness may suggest.

As soon as the street is accepted the responsibility for obstructing the stream at the crossing of the new street devolves upon the city, and entails upon it the expense of building a suitable culvert. No street should be accepted by the city until after it has been examined by the Superintendent of Streets, and the provisions have been made for water-courses, if any, have been sanctioned by him.

Sewer assessments have been made by this division for the year ending January 31, 1894, in accordance with Chapter 402 of the Acts of 1892, and amendments thereto, to the amount of \$154,401.73, and the bills have been deposited for collection with the City Collector.

Bills for sewer assessments, amounting to \$4,047.44, have also been deposited for collection, representing those estates assessed under Chapter 456 of the Acts of 1889 and amendments thereto, which have made connection with the public sewers during the year; making the total amount of assessments deposited for collection, \$158,449.17.

There remain on the books of this division at 5 per cent. interest \$36,422.33, representing the assessments under the Acts of 1889, and amendments thereto, for those estates which have not been connected with the sewers for which they were assessed, and bills for which will be deposited for collection as the connections are made. This sum represents 27.5 per cent. of the total assessments made under those acts.

Entrance fees to the amount of \$2,923.59 have been collected from estates upon which no sewer assessment was ever levied, in accordance with Chapter 36, Section 10, of the Revised Ordinances.

Two thousand one hundred and thirteen (2,113) permits have been issued to drain-layers to connect house drains with the public

sewers, or to replace old connections; and the work done under these permits has been inspected and a record of same made on the plans of this division.

The following amendments to the law for the assessment of sewers in the city of Boston have been passed by the Legislature during the year :

[CHAPTER 227.]

AN ACT RELATIVE TO INTEREST ON SEWER ASSESSMENTS IN THE CITY OF BOSTON.

*Be it enacted, etc., as follows :*

SECTION 1. Section six of chapter four hundred and two of the acts of the year eighteen hundred and ninety-two is hereby amended by adding at the end thereof the following words: “*provided*, that interest shall not begin to run upon sewer assessments until after the expiration of thirty days from the completion of the sewer on account of which the assessment is made”—so as to read as follows: Section 6. The provisions of sections sixteen, seventeen, and eighteen of chapter three hundred and twenty-three of the acts of the year eighteen hundred and ninety-one, and acts in amendment thereof shall, so far as applicable, apply to all assessments made under this act: *provided*, that interest shall not begin to run upon sewer assessments until after the expiration of thirty days from the completion of the sewer on account of which the assessment is made.

SECT. 2. This act shall take effect upon its passage. [Approved April 11, 1894.]

[CHAPTER 256.]

AN ACT RELATING TO ASSESSMENTS FOR THE CONSTRUCTION OF SEWERS IN THE CITY OF BOSTON.

*Be it enacted, etc., as follows :*

SECTION 1. Section three of chapter four hundred and two of the acts of the year eighteen hundred and ninety-two is hereby amended by inserting in the seventh line, after the word “*parcels*,” the words: “*But the number of linear feet of any such parcel which has been assessed for the building of any other sewer shall be reduced by one hundred in determining the number of such feet by which the proportions aforesaid shall be determined.*” so as to read as follows: Section 3. Said superintendent shall so apportion the said assessable cost to the parcels of land aforesaid that the amount apportioned to each parcel shall bear to the total assessable cost the proportion which the number of linear feet of each parcel on said highway or strip of land bears to the number of such linear feet of all such parcels; but the number of linear feet of any such parcel which has been assessed for the building of any other sewer shall be reduced by one hundred in determining the number of such feet by which the proportions aforesaid shall be determined, and as a lien shall attach to the parcel and to any buildings which may be thereon for such amount, as a part of the tax on such parcel. Said superintendent shall give notice of the amount of every such assessment and the interest thereon to the owner of the parcel liable therefor, forthwith after such amount has been determined.

SECT. 2. This act shall take effect upon its passage. [Approved April 16, 1894.]

Financial Statement.

Appropriations.	Balances on hand Feb 1, 1894.	Appropriations added during the year.	Total Credits.	Expenditures during the year.	Balances on hand Jan. 31, 1895.
Sewer Division .....		<i>a</i> \$304,133 40	\$304,133 40	\$304,133 40	
Sewer between Roshindale and West Roxbury .....	\$280 00	.....	280 00	280 00	
Sewers, Brighton. ....	2,486 47	.....	2,486 47	2,486 47	
Sewer outlets, East Boston .....	.....	<i>b</i> 1,800 00	1,800 00	1,800 00	
Sewers, South Boston .....	2,348 05	.....	2,348 05	1,081 80	\$1,266 25
Sewers, Ward 23, etc. ....	591 29	.....	591 29	591 29	
Surface Drain, Boylston street.....	.....	<i>c</i> 1,600 00	1,600 00	1,600 00	
Laying Out and Construction of Highways.....	21,275 56	395,421 92	419,697 48	419,697 48	
	29,981 37	\$702,955 32	\$732,936 69	\$731,670 44	\$1,266 25

In addition to the above there was expended on account of Paving Division for catch-basins, culverts, and sewers, necessitated by street construction, the sum of \$84,295.49; making a total of \$815,965.93.

- a* General appropriation..... \$320,000 00
- Less transfers to County of Suffolk..... 18,000 00
- Plus amount transferred by Auditor January 31, 1895, to pay special drafts..... \$302,000 00
- ..... 2,133 40
- ..... \$304,133 40

*b* Transferred from Street Improvements, Aldermanic District No. 1.

*c* " " Boylston-street Bridge.

## IMPROVED SEWERAGE.

Office salaries . . . . .	\$500 00
Pumping-station, inside . . . . .	50,417 89
Pumping-station, outside . . . . .	16,476 69
Engines and boilers . . . . .	8,919 07
Main and intercepting sewers . . . . .	12,887 22
Moon Island . . . . .	10,360 20
Tow-boat . . . . .	3,178 32
	<u>\$102,739 39</u>

## STONY-BROOK IMPROVEMENT.

Maintenance . . . . .	\$10,674 08
Retaining-walls . . . . .	1,274 73
	<u>\$11,948 81</u>
Stables and sheds, Brighton . . . . .	\$511 00
Yard, Revere street . . . . .	<u>\$2,933 05</u>

## MISCELLANEOUS.

Office expenses, including salaries of Deputy Superintendent, clerks, and draughtsmen, stationery, drawing materials, etc.	\$21,001 30
Engineering expenses, including salaries of engineers, instruments, etc.	27,541 70
Current expenses of yards and lockers . . . . .	19,866 93
Current expenses of stables, including cost of horses, vehicles, harnesses, etc.	\$37,005 98
Less amount earned by department teams . . . . .	8,388 65
Repairing sewers . . . . .	7,882 78
Cleaning and flushing sewers . . . . .	10,184 04
Cleaning catch-basins . . . . .	33,701 82
Repairing streets . . . . .	1,894 83
Building, repairing, and cleaning culverts and surface drains not included in the Stony-brook system . . . . .	69,421 88
Examining condition of sewers and catch-basins . . . . .	2,043 99
Work for departments and others, including inspection of construction of private sewers . . . . .	1,638 02
House connections . . . . .	4,168 37
Damages and claims . . . . .	5,161 23
Holidays . . . . .	15,905 25
Travelling and incidental expenses . . . . .	5,035 00
Repairs of department buildings, stables, and yards . . . . .	2,585 73
Engines and boilers and repairs . . . . .	1,598 20
Hardware, blacksmithing, and tools, not included elsewhere . . . . .	10,769 10
Rubber goods, not included elsewhere . . . . .	1,696 92
Stock and supplies, not included elsewhere . . . . .	5,814 12
General repairs . . . . .	512 60
Inspection of smoke . . . . .	955 50
	<u>\$277,996 64</u>
Less over credit on water-rates charged off to sewer construction . . . . .	2,471 56
	<u>\$275,525 08</u>

**City Proper.**  
*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Locality.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Batterymarch st. ....	Milk st. and Crab alley. ....	97.04	12-in. pipe.	\$308 45	Rebuilding. Old sewer re-
Bennet st. ....	Harrison ave. and Washington st. ....	82.33	18-in. pipe.	394 80	moved.
Billerica st. ....	Causeway st. and Minot st. ....	632.15	2 ft. 6 in. x 3 ft. brick	7,553 44	Rebuilding. Old sewer re-
Butler sq. ....	Chatham st. and Butler row. ....	64.88	12-in. pipe.	155 66	moved.
Chambers st. ....	Barton st. and Spring st. ....	104.17	12-in. pipe.	147 00	Building of brick sewer inside
Charter st. ....	Lime alley and Snowhill st. ....	136.31	12-in. pipe.	364 66	old box sewer.
Dover st. ....	South bay and Harrison ave. ....	442.00	3 ft. 4 in. x 4 ft. 6 in. brick.	15,985 06	Rebuilding. 320.5 ft. of old sewer removed.
India sq. ....	Atlantic ave. and India sq. ....	140.36	12-in. pipe.	693 90	44 ft. of old sewer removed.
Lancaster st. ....	Causeway st. and Merrimac st. ....	449.97	18-in. pipe.	2,273 98	Rebuilding. Old sewer re-
Lewis st. ....	Moon st. and North st. ....	212.71	12-in. pipe.	538 81	moved.
Merrimac st. ....	Causeway st. and Chardon st. ....	168.00	2 ft. 6 in. x 3 ft. brick	1,532 90	Rebuilding. Old sewer re-
Norman st. ....	Merrimac st. and South Margin st. ..	132.87	18-in. pipe.	483 54	moved.
North Margin st. ....	Cooper st. and Wiget st. ....	122.80	18-in. pipe.	504 51	Rebuilding. Old sewer re-
		2,785.59	.....	\$70,936 71	

*Sewers built between February 1, 1894, and February 1, 1895, by the City, under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892.*

Norway st. ....	Falmouth st. and Massachusetts ave.	322.44 462.00 87.00	12-in. pipe sewer. 6-in. pipe, house drain. 10-in. pipe, C.B. drain. 6 catch-basins.	\$1,561 43	Rebuilt. Old sewer removed. Built by contract.
St. Germain st. ....	Dalton st. and Massachusetts ave. ....	523.69 41.26	12-in. pipe, C.B. drain. 10-in. pipe, C.B. drain. 4 catch-basins.		
		4221.98			
48 new catch-basins built and 116 repaired.....				\$33,287 39	
				7,122 12	
				<u>\$40,409 51</u>	Built by day labor.

*Surface Drains built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Boylston st. ....	Exeter st. and Hereford st. ....	1,027.52 127.89	12-in. pipe. 10-in. pipe.		
		<u>1,155.41</u>			
<i>Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.</i>					
Chickering pl. ....	Washington st. and Harrison ave. ....	160.41	12-in., pipe.	Ordered by	Board of Health.

**Charlestown.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Mishawum st., Ward 4.....	Main st. and Rutherford ave. ....	347.12	15-in. pipe.	\$1,121 88	Rebuilt.
12 new catch-basins built and 47 repaired.....				4,463 92	
				<u>\$5,585 80</u>	

*Surface Drains built between February 1, 1894, and February 1, 1895, either by Contract or Day Labor.*

Boyle st., Ward 3 ...	Pleasant st. and Cordis st.,	75.00	12-in. pipe.		
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## East Boston.

Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Byron street, Ward 1	Saratoga and Pope streets	.....	.....	\$173 89	Built in 1893.
Eagle-square outlet	Old outlet and 250 feet northerly	250.30	4 ft. X 5 ft., brick.	2,123 59	Built in 1893.
Curtis street, Ward 2	Saratoga and Chancer sts.	{ 214.00	{ 3 ft. X 3 ft., wood	167 89	Built in 1893.
Morrison's dock	Old outlet and end of sea-wall	{ 88.00	{ 3 ft. X 3 ft., wood	1,949 71	Rebuilt. New sewer.
Orleans street, Ward 2	.....	.....	.....	234 00	Just begun.
Paris street	Wesley and Edgeworth sts.	{ 616.02	{ 18-in., pipe.	1,569 22	Rebuilt.
Prescott street, Ward 2	Bennington to Saratoga st.	{ 12.83	{ 12-in., pipe.	65 50	Built in 1893.
Summer street	Over B., R. B., & L. R.R. Tunnel	65.15	20-in., iron pipe.	726 82	Rebuilt. Labor paid for direct by B., R. B., & L. R.R. Co.
Webster street, Ward 2	Over B., R. B., & L. R.R. Tunnel	76.60	24-in., iron pipe.		
		1,322.90		\$7,010 62	
14 new catch-basins built and 99 repaired				7,643 09	
				\$14,653 71	

**Brighton.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Bigelow st., Ward 25.	Oak sq. and Webster st. . . . .	{ 566.72 450.70	10-in., pipe. 12-in., pipe.	} \$1,823 27	Contract.
Com'onwealth ave., both sides, Ward 25, No. 6. . . . .	209 ft. E. of St. Paul st. and Pleasant st. . . . .				
Com'onwealth ave., outlet in private land, Ward 25, No. 5. . . . .	B. & A. R.R. and Com- monwealth ave. . . . .	1,749.52	12-in., pipe.	4,055 74	North side, 874.62 ft. built by contract.
Com'onwealth ave., north side, Ward 25, No. 2. . . . .	160 ft. E. of Harvard ave. and Warren st. . . . .	1,081.80	2 ft. 6 in. X 3 ft. 9 in., brick.	8,868 72	
Com'onwealth ave., both sides, Ward 25, Nos. 3 and 7. }	160 ft. E. of Harvard ave. and 515 ft. E. of Mal- vern st. . . . .	544.00	18-in., pipe.	933 69	
		600.60	3 ft. 6 in. X 3 ft. 9 in., brick.		
Com'onwealth ave., both sides, Ward 25, Nos. 3 and 7. }	160 ft. E. of Harvard ave. and 515 ft. E. of Mal- vern st. . . . .	1,483.70	2 ft. 4 in. X 3 ft. 6 in., brick.	} 27,364 19	North side, 1,464.86 ft. 12-in. pipe built by contract.
		104.98	24-in., pipe.		
		656.10	18-in., pipe.		
Com'onwealth ave., both sides, Ward 25, No. 4. . . . .	515 ft. E. of Malvern st. and Pleasant st. . . . .	1,464.86	12-in., pipe.	} 6,480 01	
		{ 99.00 1,547.80	15-in., pipe. 12-in., pipe.		
Duck lane, Ward 25.	Western ave. and Smith st.	610.90	2 ft. 6 in. X 3 ft., brick.	4,270 12	

FANEUIL VALLEY SEWER:					
Outlet in Parsons st. and private land, Ward 25.....	Met. main sewer and Charles river.....	114.46 13.00 125.00	3 ft. 9 in., circu- lar brick. 5 ft. 6 in., circu- lar brick. 5 ft. X 5 ft., wood.	\$3,558 18	1 tide-gate, M. H.
Parsons st., Ward 25.	Met. main sewer and Fan- euil st.....	14.16 766.90 12.00 102.05	24-in., pipe. 3 ft. 9 in. X 3 ft. 11½ in., brick. 48-in., iron pipe. 4 ft. 3 in. X 4 ft. 6 in., brick.	12,014 53	Overflow, tide-gates, and connection with Met. main sewer.
Regulator and sump.	.....	19.00 976.35	48-in., iron pipe. 4 ft. 3 in. X 4 ft. 6 in., brick.	1,200 14	
Faneuil st., Ward 25.	Parsons st. and Oak sq. ....	1,222.01 1,328.24	3 ft. 9 in. X 3 ft. 11½ in., brick. 3 ft. X 3 ft. 2¼-in., brick.	31,419 47	
Fairbanks st., Wd. 25.	Faneuil st. and Wash. st. ....	12.60 710.49 42.07	48-in., iron pipe. 3 ft. 9 in. X 3 ft. 11½ in., brick. 4 ft. Cir. brick.	8,980 02	Overflow and tide-gates.
George st., Ward 25. Lake st., Ward 25. Market st., Ward 25.	Spring and N. Beacon sts. 130 ft. south of school and No. 68.....	432.24 250.40	4 ft. 9 in. X 5 ft. 0¼ in., brick 12-in., pipe.	297 11 275 80	Just begun.
Market st., Ward 25.	No. 68 and Wexford .....	.....	.....	290 14 932 67	Built in 1893. Built in 1893.
Carried forward..	.....	17,101.65	.....	\$112,763 80	

**Brighton.**—Continued.  
*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Brought forward..		17,101.65		\$112,763.80	
North Harvard st., Ward 25.....		{ 15.20	{ 15-in., pipe.	{ \$2,815.89	One sump manhole, one regulator man- hole, and connection with Met. main Sewer.
Oak sq. and Tremont st., Ward 25.....	Spurr st. and Western ave.	{ 169.05	{ 24-in., pipe.		
Rena st., Ward 25..	Faneuil st. and Newton and Boston line.....	{ 294.05	{ 15-in., pipe.	2,838.94	Contract.
Spring st., Ward 25.		{ 1,089.73	{ 12-in., pipe.)		
Washington st., Wd. 25.....		{ 715.37	{ 3 ft. 9 in. X 3 ft.	61.27	Built in 1893.
	Fairbanks st. and Foster st.....	{ 362.23	{ 11 1/2 in., brick.		
		{ 347.20	{ 18-in., pipe.	20,110.11	Overflow manhole and chamber and tide-gate manhole.
		{ 174.70	{ 15-in., pipe.		
Washington st., Wd. 25.....	Fairbanks st. and Oak sq.	{ 24.00	{ 12 in., iron-pipe.	3,181.46	Contract.
		{ 68.44	{ 12-in., pipe.		
		{ 555.00	{ 15-in., pipe.	3,181.46	Contract.
		{ 682.66	{ 2 ft. X 3 ft., brick.		
Wexford st., Wd. 25.	Market and Hillside st....	{ 491.00	{ 15-in., pipe.	3,181.46	Contract.
		{ 755.38	{ 12-in., pipe.		
59 new catch-basins built.....		22,845.66		\$142,062.80	
				4,484.44	
				\$146,546.74	

*Surface Drains and Culverts built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Commonwealth ave., Ward 25.....	270.00 904.58 640.03 39.60 47.57	24-in., pipe. 15-in., pipe. 12-in., pipe. 7 in. X 12 in., wood. 10 in. X 12 in., wood.	
Commonwealth ave., Ward 25.....	204.00 537.20 920.83 1,108.60 507.75 46.04	10-in., pipe. 18-in., pipe. 15-in., pipe. 12-in., pipe. 10-in., pipe. 6 ft. 6 in. X 7 ft., stone.	
Commonwealth ave., Ward 25.....	514.79 996.30 39.00 152.09	6 ft. 6 in. X 7 ft., concrete. 5 ft. X 6 ft., con- crete. 4 ft. X 5 ft., con- crete. 3 ft. X 3 ft., con- crete.	
Commonwealth ave., Ward 25.....	229.80 850.00 1,476.00 60.00 274.35	18-in., pipe. 24 in., pipe. 12-in., pipe. 10-in., pipe. 3 ft. X 3 ft. 4 in., stone.	
Commonwealth ave., Ward 25.....	111.00	2 ft. X 3 ft. 2 in., stone.	Culvert.
<i>Carried forward</i> .....	9,929.53		

## Brighton. — Concluded.

Surface Drains and Culverts built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.
Built in	Between			
<i>Brought forward.</i> Fairbanks st., Wd. 25.	..... Near Washington st. ....	9,929.53 48.72	5 ft. 6 in. X 8 ft. 6 in., concrete.	Culvert.
Faneuil st., Wd. 25.	..... Near Hobart st. ....	45.30	6 ft. 6 in. X 8 ft., concrete.	Culvert. Rebuilding.
Parsons st., Wd. 25.	..... Near Faneuil st. ....	47.20	6 ft. X 7 ft. 9 in., concrete.	Culvert. Rebuilding.
Washington st., Wd. 25	..... Near Fairbanks st. ....	70.00	Double 5 ft. 6 in. X 6 ft., stone.	Culvert. Rebuilding.
		10,140.75		
<i>Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.</i>				
Cypress road, Ward 25	Murdock and Lucas sts. ....	247.43	12-in., pipe.	
Westford st., Ward 25	Old dead end of sewer and Westerly branch of street,	129.50	10-in., pipe.	
		376.93		

## South Boston.

Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
A st., Ward 13.....	Fourth and Silver sts.....	163.15	12-in., pipe.	\$338 48	Rebuilt.
E st., Ward 13.....	.....	.....	.....	13 36	Contract; built in 1893.
Story st., Ward 14....	G and H sts.....	194.80	12-in., pipe.	1,246 89	Contract.
2 new catch-basins built and 16 repaired.....		357.95	.....	\$1,598 73	
				802 64	
				<u>\$2,401 37</u>	

**Dorchester.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Between	Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in						
Adams st. . . . .		Codman st. and Milton st.,	678.98	12-in., pipe.	\$1,326 21	Contract. Built in 1893. Much rock. Much rock. All rock. Contract. Built in 1893.
Armadine and Rockwell sts. . . . .		.....	.....	.....	112 97	
Blakeville st. . . . .		Bowdoin st. and Olney st.,	242.65	12-in., pipe.	956 84	
Butonwood st. . . . .		Mt. Vernon and Grafton sts.	204.85	10-in., pipe.	2,129 94	
Church st. . . . .		Winter and High sts. . . . .	274.30	10-in., pipe.	2,053 47	
-Ditson st. . . . .		Josephine st. and Westville st. . . . .	.....	.....	278 38	
<b>DORCHESTER LOWER MILLS TRUNK SEWER.</b>						
Private land of A. Churchill. . . . .		Dorchester ave. and } Washington st. . . . .	599.74	2 ft. 6 in. X 3 ft., brick.	16,328 00	Very much rock.
Private land of N. F. Safford heirs, and Eunice B. Ruggles } Private land of N. F. Safford heirs, and of F. M. Cain } <i>et als.</i> . . . . .		Washington st. and Morton st. . . . .	547.17	2 ft. X 3 ft., brick.		
Danube st. . . . .		Morton st. and Sanford st. . . . .	339.25	12-in., pipe.	1,068 38	Considerable rock. Just begun.
Dorchester ave. . . . .		Brookford st. and Dewey st. King st. to Ashmont st. . . . .	700.10	2 ft. X 3 ft., brick.	86 36	
Geneva ave. . . . .		Bowdoin st. and Wilder st.,	734.14	18-in., pipe.	11,969 30	Much rock.
		.....	525.55	24-in., pipe.		
		.....	454.91	15-in., pipe.		



Freeman st.	.....	.....	.....	59 57	Contract. Built in 1893.
Faulkner st.	.....	.....	.....	59 63	Contract. Built in 1893.
Howe st.	.....	.....	.....	473 48	Contract. Built in 1893.
Harvard st.	.....	.....	.....	51 16	Contract. Built in 1893.
King st.	.....	.....	.....	2,282 51	
Adams st. and Neponset ave.	{	1,382.30	12-in., pipe.		
Allston st. and Washing- ton st.	{	163.40	12-in., pipe.		
	{	218.75	10 in., pipe.	642 40	
Stockton st. and Mora st. (Outlet for Mora st.)	{	121.99	15-in., pipe.	196 29	Contract.
Dorchester Lower Mills trunk sewer and San- ford st.	{	365.43	15-in., pipe.	39 04	Built in 1893.
Bertram st. and Pope's Hill st.	{	163.39	12-in., pipe.	1,024 19	
Rockwell and Stockton	.....	.....	.....	2,025 35	Contract.
Kilton and Whitfield sts.	.....	.....	.....	23 60	Contract. Built in 1893.
Kilton and Whitfield sts.	.....	328.10	18 in., pipe.	861 07	Day labor.
End of existing sewer near Mayfield st., and about 120 ft. N.	{	145.63	12-in., pipe.	1,029 03	Contract. Built in 1893.
Cedar and Washington sts., Washington and Cedar sts., Pleasant and Salcombe sts., Sandford st. and River st., Argyle st. and Welles ave., Welles ave. and Brent st., Brent and Washington sts., Monson st. and Dorches- ter Lower Mills main sewer.	{	57.60	12-in., pipe.	283 46	
	{	7.20	18-in., pipe.		{ By day labor.
	{	86.45	18-in., pipe.	5,605 41	{ Much rock.
	{	606 30	12-in., pipe.		{ By contract.
	{	253.10	12-in., pipe.	608 67	
	{	767.72	15-in., pipe.	3,175 46	Contract. Considerable rock.
	{	509 60	12-in., pipe.		
	{	369.48	12-in., pipe.	2,575 67	
	{	820.16	12-in., pipe.		
	{	802.70	12-in., pipe.	1,985 04	Considerable rock.
Carried forward.	.....	12,681.24	.....	\$59,310 88	

**Dorchester.** — *Continued.*

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
<i>Brought forward.</i>		12,681.24		\$59,310 88	
Washington st.	Ashmont st. and Dunbar st.	{ 55.00	12-in., pipe.	96 49	Contract. Considerable rock.
Whitfield st. and Rose- dale ave.		280.20	15-in., pipe.	1,898 44	
Willis st.	Summer st. and Bakersfield st.	289.05	12-in., pipe.	10 03	Contract. Built in 1893.
41 new catch-basins built and 15 repaired.		13,305.49		604 57	
				\$61,920 41	
				4,713 53	
				\$66,633 94	

*Surface Drains built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Garbage Yard	Public Ground and Water Department Yard on Gibson st.	209.00	6 ft. X 6 ft., wooden.		Contract of Horace Sias with City of Boston. Much rock.
Mt. Vernon st.	Buttonwood and Von Hil- ler st.	190.10	18-in., pipe.		
Talbot ave.	Northern ave. and Whit- field st.	246 15	15-in., pipe.		
		{ 17.00	3 ft. X 3 ft. 4 in., stone.		
		{ 307.50	24-in., pipe.		

Wheatland ave. and Spencer st. . . . .	Millet and Spencer sts. . . . . Wheatland ave. and Park st. . . . .	6 ft. X 3 ft. 4 in., concrete conduit.	741.50	
		1,711.25		
<i>Culverts built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.</i>				
Geneva ave. . . . .	Park st. and Shawmut branch O. C. R.R. . . . .	4 ft. X 2 ft. 8 in., brick syphon culvert.	13.00	
Glenway. . . . .	White st. and Page ave. . . . .	24-in., pipe.	61.00	
Millet st. . . . .	Wheatland ave. and Talbot ave. . . . .	4 ft. 8 in. X 3 ft. 6 in., concrete culvert.	56.00	
			130.00	
<i>Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.</i>				
Bakersfield st. . . . .	Stoughton and Willis sts. . . . .	12-in., pipe.	156.90	{ Estate of "Ezra H. Baker Farm Associates,"
Bellflower st. . . . .	Dorchester ave. and Boston st. . . . .	12-in., pipe.	396.00	{ Estate of Joseph I. Stewart.
Bloomfield st. . . . .	Geneva ave. and Greenbrier st. . . . .	18-in., pipe.	669.68	
Bowdoin-sq., South . . . . .	E. Bowdoin sq. and W. Bowdoin sq. . . . .	15-in., pipe.	910.18	
Branch ave. and Private st. . . . .	Ditson and Arcadia sts. . . . .	12-in., pipe.	540.55	
Corona st. . . . .	Geneva ave. and Bowdoin sts. . . . .	12-in., pipe.	932.87	
			960.40	
	<i>Carried forward.</i>		4,566.58	

**Dorchester — Concluded.**  
*Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.
Built in	Between			
<i>Brought forward</i>				
Cottage terrace.....	Marshfield and E. Cottage sts. ....	4,566.58	12-in., pipe.	
Gorham st.....	Centre and Clement sts. ....	600.63	12-in., pipe.	
Clement st.....	Gorham and Nixon sts. ....	496.90	12-in., pipe.	
Greenwood st.....	Glen and Elmo sts. ....	479.24	12-in., pipe.	
Holiday st.....	Geneva ave. and Bowdoin st. ....	526.50	12-in., pipe.	
Hopstill ave.....	Northern and Southern aves. ....	297.90	12-in., pipe.	
Intervale st.....	Blue Hill ave. and end of street...{	218.25	15-in., pipe.	
Brunswick st.....	Blue Hill ave. and end of street....	185.00	12-in., pipe.	
		370.70	12-in., pipe.	
Devon st.....	Blue Hill ave. and end of street ...	384.85	12-in., pipe.	Estate of Cheever Newhall.
Private land.....	Intervale and Devon sts. ....	219.60	15-in., pipe.	
Magdala st.....	Codman and Van Winkle sts.....	224.85	12-in., pipe.	
Malvern st.....	Adams and Milton sts. ....	566.85	12-in., pipe.	
Mill st.....	Asiland and Freepport sts.....	249.95	12-in., pipe.	
Mora st. and Private land.....	Washington st. and Milton ave....	633.30	12-in., pipe.	
Nottingham st.....	Mora and Stockton sts. ....	1,168.42	15-in., pipe.	
Trescott st.....	Bowdoin ave. and Bullard st.....	81.99	12-in., pipe.	
Morrill st.....	Pleasant and Bakersfield sts. ....	459.93	12-in., pipe.	
Hinckley st.....	Pleasant and Bakersfield sts. ....	422.15	12-in., pipe.	
	Pleasant and Bakersfield sts. ....	380.45	12-in., pipe.	Estate of "Ezra H. Baker Farm Associates."
Willis st.....	Pleasant and Bakersfield sts. ....	395.20	12-in., pipe.	
		431.27	12-in., pipe.	

Speedwell st. ....	Topliff and Barrington sts. ....	747.13	12-in., pipe.	} Estate of Robert Treat Paine.	Considerable rock. Much rock. Much rock. Some rock.
Norton st. ....	Stonehurst and Bowdoin sts. ....	327.80	12-in., pipe.		
Stonehurst st. ....	Topliff and Barrington sts. ....	788.12	12-in., pipe.		
Barrington st. ....	Homes ave. and Bowdoin st. ....	543.10	12-in., pipe.		
Salcombe st. ....	Stoughton st. and Cushing ave.. }	40.15	12-in., pipe.		
Samoset st. ....	Welles ave. and Centre st. ....	598.41	12-in., pipe.	} Considerable rock.	
Wentworth st. ....	Norfolk and Torrey sts. ....	280.80	12-in., pipe.		
		299.50	15-in., pipe.		
		<u>17,035.52</u>			

**Roxbury.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Bartlett court.....	.....	417.78 29.43	18-in., pipe. 12-in., pipe. }	\$1,827 19	
Cleveland st.....	Massachusetts ave. and Turner st.....	45.00 268.62	12-in., pipe. 10-in. X 12-in., wood. }	116 98 321 41	Built in 1893.
Caledonia st.....	Brookline ave. and Essex st.....	64.00	18-in., pipe.	700 00	Rebuilding. Old sewer re- moved. New sewer laid on a specially designed plat- form.
Commonwealth ave.	Northampton st. and Hum- neman st.....	519.18 535.71	15-in., pipe. 12-in., pipe.	11,044 06	
Fellows st.....	Existing sewer, and about 100 feet west.....	50.00	12-in., pipe.	291 12	Much rock. Built in 1893.
Guild st.....	Bicknell st. and Parker st. .....	.....	.....	193 23	
Heath st.....	Honnestad st. and Hutch- ings st.....	298.88	12-in., pipe.	1,195 78	Much rock.
Harold st.....	End of old sewer near Craw- ford st. and Ruthven st..	128.51	12-in., pipe.	251 26	Much rock.
Hillside st.....	Calumet st. and Sachem st.	574.83	12-in., pipe.	1,740 66	
Hillside st.....	Sunset st. and Wait st.....	482.58	12-in., pipe.	2,251 81	
Hunneman st.....	Harrison ave. and Wash- ington st.....	520.47	15-in., pipe.	2,134 66	(Relief Committee). Built by contract. Very wet. Built in 1893.
Kenmore and West Newbury sts.....	.....	.....	.....	555 80	
Laubert ave.....	Dorr st. and Cedar st.....	179.96	12-in., pipe.	771 97	

Lawn st. ....	Heath st. and existing sewer .....	871.14	12-in., pipe.	1,950 02	
Marble st. ....	Warwick st. and Westminster st. ....	195.00	12-in., pipe.	Cost shown in sewer-repairs.	Rebuilding. Old sewer removed.
Massachusetts ave. ....	{ Roxbury canal, and 1,600 feet south. ....	214.31	6 ft. 0 in. X 6 ft. 4 1/2 in., brick.	\$10,042 38	
		15.00	4 ft. 0 in. X 4 ft. 2 3/4 in., brick.		
Sachem st. ....	{ Existing sewer, and Hill-side st. ....	100.00	4 ft. 0 in., circ. brick.	1,389 45	Nearly all rock.
		14.00	In tide-gates and sump.		
Shirley st. ....	{ Norfolk ave. and George st. ....	116.75	12-in., pipe.	7,903 58	
		164.54	2 ft. 6 in. X 3 ft. 0 in., brick.		
Townsend st. ....	Harold st. and Humboldt ave. ....	25.05	12-in., pipe.	3,135 02	Nearly all rock.
Washington st. ....	Hunneman st. and Eustis st. ....	158.81	12-in., pipe.	795 05	
Whiting st. ....	Warren st. and Moreland st. ....	199.21	12-in., pipe.	444 00	All rock.
Sherborn st. ....	Commonwealth ave. and river. ....	25.00	12-in., pipe.	195 28	
		57.50	18-in., pipe.		

*Sewers built between February 1, 1894, and February 1, 1895, by the City, under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892.*

Arundel st. ....	Beacon st. and Mounfort st. ....	{ 289.00	6-in., pipe, house drain.	\$564 24	Built by contract.
Bay State road ....	Parker st. and Huntington ave. ....	43.50	10-in., pipe, C. B. drain.	416 43	Contract; built in 1893.
			3 catch-basins.		
Carried forward, .....		412.57	15-in., pipe, sewer.	\$49,531 38	Outlet for Parker st. Built by contract.
		7,016.33			

**Roxbury. — Continued.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
<i>Brought forward,</i> Deerfield st. ....	.....	7,016.33	.....	\$49,531 38 1,020 28	Contract. Built in 1893.
Ivy st. ....	St. Mary's st. and Mountfort st. ....	{ 22.43 62.59 933.80 127.00 1,379.00	{ 18-in., pipe sewer. 15-in., pipe sewer. 12-in., pipe sewer. 10-in., pipe, C. B. drain. 6-in., pipe, house-drain. 7 catch-basins.	3,144 12	Built by contract,
Miner st. ....	.....	{ 345.33 722 00 60.00	{ 12-in., pipe sewer. 6-in., pipe house drain. 10 in., pipe C. B. drain. 4 catch-basins.	53 65	Contract. Built in 1893.
Mountfort st. ....	Ivy st. and Audubon road.	{ 924.10 280.41 370.30	{ 2 ft. 6 in. X 3 ft., brick sewer. 12-in., pipe sewer. 12-in., pipe C. B. drain.	1,520 75	Built by contract.
Newbury st. ....	Charlesgate West and Brookline ave. ....	{ 70.87 1,809.00	{ 10-in., pipe C. B. drain. 6-in., pipe house-drain. 3 catch-basins. 3 drop inlets.	9,267 63	Built by contract.



Parker st. ....	{	1,105.40	2 ft. 6 in. X 3 ft., brick sewer.	Built by contract.  Heavy old sea-wall removed. Pile foundation.
	{	13.67	In overflow manhole.	
	{	163.00	18-in., pipe sewer.	
	{	7.00	20-in., iron pipe.	
Huntington ave. and West-	{	1,189.41	12-in., pipe sewer.	
land ave. . . . .	{	385.93	12-in., pipe C. B. drain.	
	{	346.82	10-in., pipe C. B. drain.	
	{	1,794.60	6-in., pipe house-drain.	
	{	18	18 catch-basins.	
	{	3	drop inlets.	
37 new catch-basins built and 149 repaired.....		19,128.39		\$82,163.99
				6,267.80
				\$88,431.79

*Surface Drains built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Commonwealth ave..	Brookline ave. and Essex st.....	{	731.43	15-in., pipe.
		{	1,600.99	12-in., pipe.
Shirley st.....	Norfolk ave. and George st.....	{	413.00	10-in., pipe.
			573.61	12-in., pipe.
			3,319.03	

*Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.*

Abbotsford st.....	Harold st. and Walnut ave.	652.25	12-in., pipe.
Fenno st.....	Rockland st. and Buena Vista st.....	186.97	12-in , pipe.
Carried forward,		839.22	

**Roxbury. — Concluded.**

*Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
<i>Brought forward,</i>					
Homestead st.....	Humboldt ave. and Elm Hill ave.....	839.22 411.47 671.63	15-in., pipe. 12-in., pipe.		
Lansdown st.....	Massachusetts ave. and Al- lerton st.....	296.46	12-in., pipe.		
Mountfort st.....	End of old sewer, West...	152.48	12-in., pipe.		
Oswald st.....	Calumet st. and Hillside st.	230.50	12-in., pipe.		
Rockland st.....	End of old sewer and Fenno st.....	41.32	12-in., pipe.		
Turner st.....	End of old sewer and Cale- donia st.....	163.78	9 in. X 12 in., wood.		Temporary drain.
		<u>2,806.86</u>			

## West Roxbury.

Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
Albano st.				\$470 13	Contract; built in 1893.
Anwan ave.		341.08	12-in., pipe.	610 40	Contract.
Amherst st.				16 92	Contract; built in 1893.
Brown ave.				59 12	Contract; built in 1893.
Bellevue st.	{ March ave. and Private st. below Mayfield st. }	317.40	15-in., pipe.	} 1,687 56	Contract { Some rock. Deep excavation.
Centre st.	and existing sewer }	272.35	12-in., pipe.		
Centre st.	Lakeville pt. and Robin- wood ave.	310 35	15 in., pipe.	4,999 67	Very much rock.
Centre st.	Corey st. and Maple st.	572.75	15-in., pipe.	2,411 16	Contract; all rock.
Centre st.	May st. and Lowder's lane.	1,197.00	12-in., pipe.	2,422 28	Contract.
Johnston st.				43 70	Contract; built in 1893.
Maple st.	Centre st. and Weld st.	{ 1,100.00	12-in., pipe.	} 8,739 99	Contract; very much rock.
Montview st.		680.00	15-in., pipe.		
				180 10	Contract; built in 1893.
ROSLINDALE AND W. R. TRUNK SEWER.					
Mt. Vernon st.	Centre st. and Pleasant st.	{ 49.15	2 ft. X 3 ft., brick.	} 5,193 43	{ Extra expenses in going under old fire reservoir. Much water encountered.
Mt. Vernon st.	Pleasant st. and Garfield ave.	299.60	15-in., pipe.		
		1,189.65	12-in., pipe.	3,076 67	Contract.
Carried forward.		6,129.33		\$29,911 13	

**West Roxbury. — Continued.**

*Sewers built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Cost.	Remarks.
Built in	Between				
<i>Brought forward.</i>					
Park st.....	Near Oriole st. and 260 feet S. E.....	6,129.33	.....	\$29,911 13	
Park st.....	Clement ave. and March ave. ....	251.43	12-in., pipe.	510 82	Contract.
"The Parkway".....	Centre st. and Pond st.....	86.00	24-in., pipe.	1,626 77	Just begun.
Pond st.....		2,811.62	12-in., pipe.	4,577 62	Built in 1893.
Pond st.....	May st. and Avon st.....	80.77	24-in., pipe.	8,967 13	{ Some rock. Built in connection "Com. Relief Unemp'd." Contract; considerable rock.
Pond st.....	May st. and Avon st.....	749.73	15-in., pipe.		
Pond st.....	Avon st. and town line of Brookline.....	467.59	15-in., pipe.		
Pond st.....	Private land and Stratford ave.....	702.58	12-in., pipe.		
Prin- ce st.....	Rosindale main sewer (so called) and Clement ave.	491.30	12-in., pipe.	915 44	Contract.
Washington st.....	Atherton st. and Metropolitan ave.....	298.14	2 ft. X 3 ft., brick.	3,571 39	Contract; built in 1893.
Yale st.....	Wenham st. and Wachuset st.....	350.88	12-in., pipe.	3,808 00	
		271.52	12-in., pipe.	990 00	Contract.
		12,690.80	.....	1,655 98	Much rock.
13 new catch-basins built and 3 repaired.....				\$56,620 99	
				1,024 75	
				\$57,645 74	

*Surface Drains built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Arborway and } Centre st. .... }	Arborway conduit and } Orchard st. .... }	180.50 100.00	15-in., pipe. 12-in., pipe.
Hyde Park ave. ....	cor. Woodlawn st. ....	4.00	18-in., pipe.
Hyde Park ave. ....	cor. Canterbury st. ....	13.00	10-in., pipe.
Hyde Park ave. ....	cor. Ashland st. ....	24.00	10-in., earthen pipe.
Hyde Park ave. ....	cor. Walkhill st. ....	60.00	10-in., iron pipe.
Hyde Park ave. ....	Hyde Park ave. and } Stony-brook conduit.... }	34.00 24.00 49.00 3.00 8.17 3.50	10-in., earthen pipe. 10-in., earthen pipe. 12-in., earthen pipe. 2 ft. 8 in. X 2 ft. 1 in., brick conduit. 18-in., pipe.
Overflow drain. ....		503.17	

*Culverts built between February 1, 1894, and February 1, 1895, by the City, either by Contract or Day Labor.*

Montview st. ....	Kirk and Corey sts. ....	50.75	20-in., pipe.
Sycamore st. ....	Hawthorn and Ashland sts.	30.10	2 ft. X 3 ft., double stone culvert.
		80.85	

**West Roxbury. — Concluded.**

*Sewers built between February 1, 1894, and February 1, 1895, by Private Parties.*

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.
Built in	Between			
Belleve st. ....	Rutledge and Oriole sts. . .	1,166 49	12-in., pipe.	} J. W. Bowers, contractor, for private parties. } Very much rock.
Clement ave. ....	Stratford ave. and Park st.	313 15	24-in., pipe.	
Park st. ....	Clement ave. and 64 ft. south of Oriole st. . . . .	647 90	15-in., pipe.	
	Park and Wren sts. . . . .	{ 1,180 50	12-in., pipe.	
Rutledge st. ....	Rutledge and Oriole sts. . .	371 96	12-in., pipe.	
Wren st. ....	Hyde Park ave. and F. H. Cemetery . . . . .	450 15	12-in., pipe.	
Woodlawn st. ....		367 18	12-in., pipe.	
		4,497 33		

**Work done for and paid by Paving Division, including the following Class of Work: Building and Repairing Culverts, Surface Drains, Catch-Basins, and Sewers.**

Aldermanic District, No. 1 . . . . .	\$2,370 86
Aldermanic District, No. 2 . . . . .	1,173 50
Aldermanic District, No. 3 . . . . .	77 18
Aldermanic District, No. 4 . . . . .	479 41
Aldermanic District, No. 5 . . . . .	92 34
Aldermanic District, No. 7 . . . . .	215 52
Aldermanic District, No. 8 . . . . .	581 91
Aldermanic District, No. 9 . . . . .	4,225 75
Aldermanic District, No. 11 . . . . .	2,013 20
Aldermanic District, No. 12 . . . . .	217 15
Street Improvements, Wards 1 and 2 . . . . .	2,791 92
Street Improvements, Ward 3 . . . . .	16 75
Street Improvements, Ward 5 . . . . .	308 19
Street Improvements, Ward 6 . . . . .	681 20
Street Improvements, Ward 7 . . . . .	75 88
Street Improvements, Wards 7 and 8 . . . . .	151 85
Street Improvements, Ward 8 . . . . .	867 73
Street Improvements, Wards 9 and 10 . . . . .	525 64
Street Improvements, Ward 10 . . . . .	785 60
Street Improvements, Ward 12 . . . . .	124 26
Street Improvements, Ward 14 . . . . .	25 85
Street Improvements, Ward 15 . . . . .	18 68
Street Improvements, Wards 17 and 18 . . . . .	1,313 77
Street Improvements, Wards 19 and 22 . . . . .	1,202 03
Street Improvements, Ward 20 . . . . .	376 22
Street Improvements, Wards 23 and 25 . . . . .	1,514 77
Street Improvements, Ward 24 . . . . .	7,908 87
Commonwealth ave., Construction . . . . .	46,400 65
Washington st., Ward 25 . . . . .	3,298 62
Ruth-st. Extension . . . . .	109 36
Lewis-st. Extension . . . . .	114 21
Newport st. . . . .	109 22
Mill st. . . . .	131 10
Thetford st. . . . .	9 09
Millet st. . . . .	545 38
Talbot ave. . . . .	3,002 04
Blue Hill ave., Paving . . . . .	439 79

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\$84,295 49

## RECAPITULATION.

## SEWERS.

City Proper . . . . .	\$33,287 39	
Charlestown . . . . .	1,121 88	
Brighton . . . . .	142,062 30	
East Boston . . . . .	7,010 62	
South Boston . . . . .	1,598 73	
Dorchester . . . . .	61,920 41	
Roxbury . . . . .	82,163 99	
West Roxbury . . . . .	56,620 99	
	<hr/>	\$385,786 31

## CATCH-BASINS.

City Proper . . . . .	\$7,122 12	
Charlestown . . . . .	4,463 92	
Brighton . . . . .	4,484 44	
East Boston . . . . .	7,643 09	
South Boston . . . . .	802 64	
Dorchester . . . . .	4,713 53	
Roxbury . . . . .	6,267 80	
West Roxbury . . . . .	1,024 75	
	<hr/>	36,522 29
Improved Sewerage maintenance . . . . .		102,739 39
Stony Brook Improvement . . . . .		11,948 81
Building stables and sheds, Brighton . . . . .		511 00
Yard, Revere st. . . . .		2,933 05
Miscellaneous . . . . .		275,525 08
		<hr/>
		<u>\$315,965 93</u>

Of the above, \$2,883.58 was for streets resurfaced by Paving Division.



**Summary of Sewer Construction for the Twelve Months  
ending January 31, 1895.**

DISTRICT.	Built by the City, by Con- tract or Day Labor.	Built by Private Parties.	Total Length built during the 12 Months ending Jan. 31, 1895.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
City .....	5,377.39	160.41	5,537.80
Charlestown .....	422.12	.....	422.12
East Boston.....	1,322.90	.....	1,322.90
Brighton.....	32,664.19	376.93	33,041.12
South Boston .....	357.95	.....	357.95
Dorchester.....	15,016.74	17,035.52	32,052.26
Roxbury .....	22,447.42	2,806.86	25,254.28
West Roxbury.....	13,194.06	4,497.33	17,691.39
<b>Total.....</b>	<b>90,802.77</b>	<b>24,877.05</b>	<b>115,679.82</b>

226 catch-basins built.

445 " repaired.

21 manholes built.

249 " repaired.

1,125,151 linear feet of sewers flushed.

655.30 cu. yds. of material removed from sewers.

6.913 catch-basins cleaned.

19,652.55 cu. yds. of material removed from catch-basins.

2,646 feet of culverts built.

245 " " " repaired.

There are now 384.72 miles of sewers in charge of the Sewer Division.

The amount expended by this division during the twelve months ending January 31, 1895, including the amount spent under special appropriations, was \$815,965.93.

The items of expenditure are shown in the financial statement.

## Schedule of Sewers built to Date in the City of Boston.

Wards.	Feet.	Wards.	Feet.	
1.....	81,717	14.....	75,777	
2.....	42,916	15.....	48,336	
3.....	31,794	16.....	31,626	
4.....	42,102	17.....	42,765	
5.....	40,018	18.....	59,573	
6.....	45,945	19.....	47,304	
7.....	37,032	20.....	106,987	
8.....	18,636	21.....	133,218	
9.....	27,247	22.....	124,476	
10.....	38,382	23.....	191,434	
11.....	76,431	24.....	324,665	
12.....	42,146	25.....	148,892	
13.....	52,654			
			1,912,073	362.13 miles.
	Intercepting sewers.....			22.59 "
	Total.....			384.72 miles.

**Fall of Rain and Snow in inches at South Yard, Albany Street, in twelve months ending January 31, 1895.**

DAY.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.
1.....					.19							
2.....				.02	.04							.46
3.....					.14	.18	.16			.46		
4.....	.17		.39	.06		.06	.04		.22			
5.....				.22								
6.....			.13	.40				.09		1.56		.42
7.....					.12	.04			.28			
8.....								.25				.15
9.....	.28		1.21						.38			.57
10.....	.26						.58		1.27	.68		
11.....												1.18
12.....						.01						.79
13.....	.88		1.54							.01		
14.....		.19				.05	.25		1.12	.13		.02
15.....	.86	.07						.08				
16.....												.49
17.....							.09	.13		.09		
18.....				.01								
19.....	.34			.73								.14
20.....							2.15	1.69				
21.....		.16	.06		.33	.78				.13		.22
22.....						.46						
23.....		.32		.03								
24.....			.17			1.12						
25.....		.01		1.05						.10	.19	
26.....	.19					.52			1.36			1.09
27.....										.01	2.33	
28.....												
29.....		.24		.86	.01							.17
30.....										.02		
31.....				.65					.59			
Totals.....	2.98	.99	3.50	4.03	.83	3.22	3.18	2.24	5.22	3.19	4.34	3.88

NOTE. — Total for twelve months, 37.6 inches.

Sewer Department — Pumping-Station.

Report of Pumping done from February 1, 1894, to January 31, 1895.

	ENGINE 1.		ENGINE 2.		ENGINE 3.		ENGINE 4.		Total gallons pumped.	Daily average gallons pumped.	Daily average pounds of ashes and clinkers.	Gallons pumped per pound of coal used.	Daily average lift in feet.	Daily average duty in lbs. per 100 lbs. coal used.	Rainfall.		
	H.M. Pumping time.	Gallons pumped.	H.M. Pumping time.	Gallons pumped.	H.M. Pumping time.	Gallons pumped.	H.M. Pumping time.	Gallons pumped.									
1894.																	
February . . .	94 05	131,913,828	320 30	447,416,732	063 40	906,104,088	648 50	965,167,660	2,540,001,708	90,735,775	33,900	11.5	2,677	35	8	79,478,956	2.69
March . . . .	15 45	21,740,100	246 25	339,153,713	736 55	1,077,377,016	714 28	1,026,849,420	2,461,120,849	79,520,027	30,121	9.5	2,640	35.64		78,744,168	.91
April . . . . .			222 45	311,169,310	711 35	1,923,797,052	717 05	1,033,546,300	2,370,512,662	79,017,080	27,994	7.7	2,822	35.49		83,836,982	1.92
May . . . . .			34 20	47,822,178	710 33	961,370,368	065 50	916,033,572	1,925,426,118	62,110,520	22,016	8.4	2,821	35.82		84,371,863	3.57
June . . . . .	50	972,182	10	12,536,918	681 38	868,838,016	670 06	860,549,508	1,742,917,224	58,997,241	20,233	8.3	2,868	36.33		87,217,706	.97
July . . . . .	111 20	150,173,278	122 05	175,321,272	624 23	807,290,424	522 30	688,561,092	1,821,346,066	58,753,099	22,507	8.3	2,600	35.49		77,225,292	3.04
August . . . .	49	69,330,748	23 26	32,578,619	724 44	960,913,948	680 02	924,694,920	1,987,723,235	64,120,104	22,898	7.7	2,800	34.78		81,507,920	2.19
September . .	19 30	25,628,830	14 10	20,189,864	651 11	806,351,364	717 05	926,894,520	1,779,064,578	59,392,152	22,507	7.1	2,635	35.91		79,184,798	1.92
October . . . .	85 20	113,175,169	54 10	75,629,225	695 40	910,801,584	700 00	950,142,600	2,049,838,576	66,123,825	25,955	7.2	2,548	35.56		75,856,512	5.32
November . . .	160 10	215,584,075	499 35	704,876,908	257 48	348,399,720	694 53	975,871,152	2,244,731,855	74,824,395	34,320	7.4	2,180	35.21		64,244,437	3.00
December . . .	142 15	183,624,234	102 50	148,816,164	644 23	909,713,952	726 53	1,046,757,492	2,288,911,842	73,835,866	29,337	6.9	2,512	35.36		74,327,613	3.35
1895.																	
January . . . .	121 12	157,716,887	266 25	383,814,983	732 43	1,061,439,516	735 10	1,057,793,040	2,060,665,426	85,827,917	36,561	7.3	2,348	35.79		70,314,642	3.25
	799 27	1,070,658,831	1,916 35	2,699,345,889	7,836 13	10,732,634,248	8,192 59	11,374,771,176	23,876,860,139	71,622,334	27,376	8.1	2,621	35.57		78,042,582	32.13

The following table shows the amounts of sludge received in, and removed from, deposit sewers each month from February 1, 1894, to January 31, 1895 :

Months.	Received.	Removed.
February . . . . .	612 cubic yards.	394 cubic yards.
March . . . . .	475 " "	478 " "
April . . . . .	338 " "	400 " "
May . . . . .	579 " "	477 " "
June . . . . .	558 " "	558 " "
July . . . . .	927 " "	711 " "
August . . . . .	864 " "	711 " "
September . . . . .	549 " "	711 " "
October . . . . .	821 " "	632 " "
November . . . . .	344 " "	555 " "
December . . . . .	460 " "	557 " "
January, 1895 . . . . .	517 " "	398 " "
	7,044	6,582

#### PROPERTY IN CHARGE OF THE SEWER DIVISION.

Sewer yard, with buildings, at 678 Albany street.

Sewer yard, with building, on North Grove street.

Sewer yard, on Gibson street, Dorchester, with buildings. This is Gibson School-fund land. The buildings were erected by the Sewer Department.

Sewer yard, with shed, on Boylston street, Jamaica Plain.

Small lot of land on Stony brook, corner of Centre street, Ward 21.

Gatehouse on Stony brook, Pyncheon street, built in 1889.

Sewer yard, with buildings, on Rutherford avenue, Charlestown.

Sewer yard, with buildings, corner Paris and Marion streets.

Sewer yard, with buildings, on East Chester park, near Albany street.

A small shed on Cypress street, Ward 9, on land hired by the city.

Sewer yard, with buildings, on Western avenue, Ward 25.

Sewer yard, with buildings, on Revere street, City.

**Summary of Sewer Construction for Six Years.**

	1889.	1890.	1891.	1892.	1893.	1894.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Built by city, by contract or day labor .....	80,003.03	24,200.25	59,250.18	71,318.46	66,400.85	90,802.77
Built by private parties.....	13,191.45	17,218.10	20,714.24	22,566.73	22,837.09	24,877.05
Total number of feet built.....	43,194.48	41,418.35	79,964.42	93,885.19	89,237.94	115,679.82

**Faneuil Street.**

Labor . . . . .	\$16,181 44
Bricks, 657,653 . . . . .	7,234 18
Cement, 1,483 bbls. . . . .	1,853 75
Sand, 60 double loads . . . . .	117 45
Manhole frames and covers, 18 } . . . . .	172 21
Manhole steps, 75 . . . . .	
Teaming . . . . .	1,166 00
Lumber, 18,407 feet . . . . .	293 80
Pipe . . . . .	546 48
Trench-machine hire . . . . .	970 83
Engine-hire . . . . .	575 00
Blacksmithing and hardware . . . . .	236 50
Profiles, centres, etc. . . . .	501 31
Tide-gates . . . . .	349 40
Fuel and oil . . . . .	437 23
Miscellaneous supplies . . . . .	117 80
Water . . . . .	471 57
Water-pipe . . . . .	194 52

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**\$31,419 47**

*Size and Length of Sewer.*

- 12.60 feet 48-in., iron pipe.  
 710.49 feet 3 ft. 9 in. × 3 ft. 11½ in., brick.  
 42.07 feet 4 ft. cir. brick.  
 432.24 feet 4 ft. 9 in. × 5 ft. 0¼ in., brick.  
 Overflow and tide-gates.

**Geneva Avenue.**

Labor . . . . .	\$7,775 03
Bricks, 103,750 . . . . .	1,141 25
Cement, 228 bbls. . . . .	285 00
Sand, 73½ double loads . . . . .	132 30
Gravel, 12 double loads . . . . .	18 15
M. H. frames and covers, 10 . . . . .	66 50
Powder } . . . . .	154 90
Fuse } . . . . .	
Caps } . . . . .	
Teaming . . . . .	154 50
Lumber, 9,434 feet . . . . .	146 22
Pipe . . . . .	1,839 80
Hardware and blacksmithing . . . . .	255 65

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**\$11,969 30**

*Size and Length of Sewer.*

- 700.10 feet 2 × 3 ft., brick.  
 734.14 feet 24 in., pipe.  
 210.30 feet 18 in., pipe.  
 525.55 feet 15 in., pipe.  
 454.91 feet 12 in., pipe.

**Pond Street, May to Avon.**

W. T. Davis, contractor . . . . .	\$5,502 73
Inspection . . . . .	378 50
Cement, 74 bbls. . . . .	88 25
M. H. frames and covers, 10 . . . . .	79 69
Teaming . . . . .	21 50
Pipe . . . . .	1,667 37
Fuel and oil . . . . .	416 00
Profiles, centres, etc. . . . .	41 26
Water . . . . .	255 07
Resurfacing street by Paving Division . . . . .	928 60

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**\$8,967 13**

*Size and Length of Sewer.*

80.77 feet 24 in., pipe.  
749.73 feet 15 in., pipe.

**Mt. Vernon Street, Centre to Pleasant.**

Labor . . . . .	\$2,539 10
Bricks, 70,500 . . . . .	846 00
Cement, 245 bbls. . . . .	275 60
Sand, 39 double loads . . . . .	43 46
Gravel, 4 double loads . . . . .	4 32
Teaming . . . . .	376 25
Lumber, 3,000 feet . . . . .	48 75
Pipe . . . . .	143 20
Trench-machine hire . . . . .	287 60
Engine-hire . . . . .	172 50
Fuel and oil . . . . .	176 95
Blacksmithing . . . . .	218 50
Miscellaneous supplies . . . . .	61 20

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**\$5,193 43**

*Size and Length of Sewer.*

49.15 feet 2 ft. × 3 ft., brick.  
299.60 feet 15 in., pipe.

**Dover Street.**

Labor . . . . .	\$12,052 64
Bricks, 83,000 . . . . .	830 00
Cement, 422 bbls. . . . .	607 75
Sand, 102 double loads . . . . .	183 60
Gravel, 38 double loads . . . . .	67 50
M. H. frames and covers, 2 } . . . . .	66 32
M. H. steps, 84 }	
Castings to order	

*Carried forward,*

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**\$13,807 81**



<i>Brought forward,</i>	\$13,807 81
Teaming . . . . .	736 00
Lumber, 54,800 feet . . . . .	511 58
Pipe . . . . .	61 12
Profiles, centres, etc. . . . .	100 67
Pile driving . . . . .	165 00
Blacksmithing . . . . .	87 66
Fuel and oil . . . . .	98 11
Granite curbing . . . . .	50 00
Miscellaneous supplies and hardware . . . . .	367 11
	<hr/>
	<u>\$15,985 06</u>

*Size and Length of Sewer.*

442 feet 3 ft. 4 in. × 4 ft. 6 in., brick.

**Massachusetts Avenue.**

Labor . . . . .	\$7,176 40
Bricks, 52,650 . . . . .	526 50
Cement, 165 bbls. . . . .	198 00
Sand, 47 double loads . . . . .	84 60
Gravel, 30 double loads . . . . .	48 00
Teaming . . . . .	916 50
Lumber, 30,362 feet . . . . .	438 72
Pipe . . . . .	7 19
Granite . . . . .	50 00
Profiles, centres, etc. . . . .	168 56
Fuel and oils . . . . .	33 22
Blacksmithing . . . . .	8 01
Miscellaneous supplies . . . . .	135 97
Ironwork . . . . .	250 71
	<hr/>
	<u>\$10,042 38</u>

*Size and Length of Sewer.*214.31 feet 6 ft. × 6 ft. 4 $\frac{1}{4}$  in., brick.15 feet 4 ft. × 4 ft. 2 $\frac{3}{4}$  in., brick.

100 feet 4 ft. cir., brick.

Tide-gate chamber and sump.

**Commonwealth-avenue Outlet.**

Labor . . . . .	\$5,590 57
Bricks, 110,250 . . . . .	1,212 75
Cement, 302 bbls. . . . .	356 00
Sand, 12 double loads . . . . .	23 40
M. H. Frames and covers, 6 . . . . .	47 15
M. H. steps, 100 . . . . .	55 00
Teaming . . . . .	305 50
Lumber, 34,451 feet . . . . .	562 53
	<hr/>
<i>Carried forward,</i>	\$8,152 90

<i>Brought forward,</i>	\$8,152 90
Pipe . . . . .	118 14
Profiles, centres, etc. . . . .	51 66
Trench-machine hire . . . . .	204 00
Engine-hire . . . . .	122 50
Fuel and oil . . . . .	120 17
Miscellaneous supplies . . . . .	99 35
	<hr/>
	<u>\$8,868 72</u>

*Size and Length of Sewer.*

1,081.80 feet 2 ft. 6 in. × 3 ft. 9 in., brick.

**Faneuil Valley Overflow Outlet.**

Labor . . . . .	\$2,752 67
Bricks, 21,750 . . . . .	239 25
Cement, 65 bbls. . . . .	81 25
Sand, 12 double loads . . . . .	23 40
Teaming . . . . .	121 50
Lumber, 1,250 feet . . . . .	22 50
Centres, profiles, etc. . . . .	83 15
Tide-gates, 2 . . . . .	161 96
Miscellaneous supplies . . . . .	72 50
	<hr/>
	<u>\$3,558 18</u>

*Size and Length of Sewer.*

114.46 feet 3 ft. 9 in., circular brick.

13.00 feet 5 ft. 6 in., circular brick.

125.00 feet 5 ft. × 5 ft., wood.

1 tide-gate M. H.

**Fairbanks Street, Brighton.**

Labor . . . . .	\$5,807 78
Bricks, 143,500 . . . . .	1,578 50
Cement, 350 bbls. . . . .	437 50
Sand, 83 double loads . . . . .	161 85
M. H. frames and covers, 4 . . . . .	27 53
Teaming . . . . .	248 50
Lumber, 3,733 feet . . . . .	57 41
Pipe . . . . .	173 31
Trench-machine hire . . . . .	140 00
Engine-hire . . . . .	87 50
Centres, profiles, etc. . . . .	42 40
Fuel and oil . . . . .	39 63
Hardware, tools, and blacksmithing . . . . .	178 11
	<hr/>
	<u>\$8,980 02</u>

*Size and Length of Sewer.*

12.60 feet 48 in., iron pipe.  
 710.49 feet 3 ft. 9 in. × 3 ft. 11 $\frac{5}{8}$  in., brick.  
 42.07 feet 4 ft., circular brick.  
 432.24 feet 4 ft. 9 in. × 5 ft. 0 $\frac{1}{4}$  in., brick.  
 Overflow and tide-gates.

**Mt. Vernon Street, Pleasant Street to Garfield Avenue.**

James Dolan . . . . .	\$1,955 28
Labor . . . . .	206 50
Cement, 86 $\frac{1}{2}$ bbls. . . . .	98 32
M. H. frames and covers, 5 . . . . .	39 87
Teaming . . . . .	67 50
Pipe . . . . .	556 96
Coal . . . . .	7 28
Water . . . . .	144 96
	<hr/>
	\$3,076 67

*Size and Length of Sewer.*

1,189.65 feet 12 in., pipe.

**Parkway, between Pond and Centre Streets.**

Labor . . . . .	\$2,583 33
Bricks, 23,900 . . . . .	260 90
Cement, 77 bbls. . . . .	96 25
Sand, 15 $\frac{1}{2}$ double loads . . . . .	29 88
M. H. frames and covers, 17 } . . . . .	153 26
M. H. steps, 72 } . . . . .	
Teaming . . . . .	152 75
Lumber, 3,622 feet . . . . .	61 57
Pipe . . . . .	904 59
Fuel and oil . . . . .	3 30
Blacksmithing . . . . .	27 80
Water . . . . .	281 16
Miscellaneous supplies . . . . .	22 93
	<hr/>
	\$4,577 62

*Size and Length of Sewer.*

2,811.62 feet 12 in., pipe.

**Stratford Avenue.**

Labor . . . . .	\$2,233 37
Bricks, 47,750 . . . . .	573 00
Cement, 148 $\frac{1}{2}$ bbls. . . . .	181 23
Sand, 21 double loads . . . . .	36 75
Gravel, 26 double loads . . . . .	45 50
	<hr/>
<i>Carried forward,</i>	\$3,069 85

<i>Brought forward,</i>	\$3,069 85
M. H. frames and covers, 2 . . . . .	17 92
Teaming by contractors . . . . .	45 00
Lumber, 7,246 feet . . . . .	119 32
Pipe . . . . .	41 47
Fuel . . . . .	3 00
Profiles, centres, etc. . . . .	71 40
Water . . . . .	29 81
Blacksmithing, etc. . . . .	72 14
N. Y., N. H., & H. R.R. Co. . . . .	101 48
	<hr/>
	<u>\$3,571 39</u>

*Size and Length of Sewer.*

298.14 feet 2 ft. × 3 in., brick.

**Prince Street.**

M. Kiernan, contractor . . . . .	\$2,184 35
Labor . . . . .	28 00
Cement, 45 bbls. . . . .	50 80
M. H. frames and covers, 8 . . . . .	63 49
Teaming . . . . .	5 50
Pipe . . . . .	566 28
Coal . . . . .	1 56
Water . . . . .	157 42
Resurfacing street by Paving Division . . . . .	745 60
	<hr/>
	<u>\$3,803 00</u>

*Size and Length of Sewer.*

675 feet 15 in., pipe.

900 feet 12 in., pipe.

**Maple Street, West Roxbury.**

James Dolan, contractor . . . . .	\$7,108 30
Labor . . . . .	462 00
Cement, 48 bbls. . . . .	60 00
M. H. frames and covers, 6 . . . . .	41 37
Teaming . . . . .	1 50
Pipe . . . . .	954 70
Water . . . . .	110 00
Fuel . . . . .	2 12
	<hr/>
	<u>\$8,739 99</u>

*Size and Length of Sewer.*

1,100 feet of 12-in. pipe.

680 feet of 15-in. pipe.

**Sturbridge Street.**

D. F. O'Connell & Co., contractors . . . . .	\$2,227 75
Labor . . . . .	248 50
Cement, 40 bbls. . . . .	47 20
M. H. frames and covers, 4 . . . . .	32 80
Pipe . . . . .	415 24
Citizens' Relief Association . . . . .	122 70
Water . . . . .	81 27
	<hr/>
	<b>\$3,175 46</b>

*Size and Length of Sewer.*

767.72 feet of 15-in. pipe.

**Centre Street, between Lakeville Place and Robinwood Avenue.**

Labor . . . . .	\$3,580 19
Bricks, 1,500 . . . . .	16 50
Cement, 12 bbls. . . . .	14 41
M. H. frames and covers, 2 } . . . . .	15 98
M. H. steps, 8 }	
Powder } . . . . .	194 65
Fuse }	
Caps }	
Teaming . . . . .	499 50
Lumber, 6,619 feet . . . . .	107 84
Pipe . . . . .	172 10
Blacksmithing and tools . . . . .	244 95
Fuel and oil . . . . .	14 46
Water . . . . .	39 03
Miscellaneous supplies . . . . .	100 06
	<hr/>
	<b>\$4,999 67</b>

*Size and Length of Sewer.*

310.35 feet of 15-in. pipe.

**Shirley Street.**

Labor . . . . .	\$4,310 09
Bricks, 100,200 . . . . .	1,002 00
Cement, 335 bbls. . . . .	386 53
Sand, 80 double loads . . . . .	144 00
Gravel, 145 double loads . . . . .	239 25
M. H. frames and covers, 3 } . . . . .	30 72
M. H. steps, 17 }	
Teaming . . . . .	536 00
Lumber, 10,245 feet . . . . .	164 50
Pipe . . . . .	177 85

*Carried forward,*

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**\$6,990 94**

<i>Brought forward,</i>	\$6,990 94
Fuel . . . . .	22 34
Blacksmithing . . . . .	33 58
Water . . . . .	123 62
Miscellaneous supplies . . . . .	33 10
	<hr/>
	\$7,203 58

*Size and Length of Sewer.*

164.54 feet 2 ft. 6 in. × 3 ft., brick.

25.05 feet 12 in., pipe.

**BillERICA Street.**

Labor . . . . .	\$4,060 11
Bricks, 93,375 . . . . .	924 75
Cement, 339 bbls. . . . .	409 80
Sand, 81 5-6 double loads . . . . .	163 71
Gravel, 65 double loads . . . . .	116 60
Screenings, 71 double loads . . . . .	124 25
Teaming by contractors } . . . . .	830 00
Teaming by department } . . . . .	
Lumber, 20,909 feet . . . . .	290 67
Pipe . . . . .	210 83
Profiles, centres, etc. . . . .	66 33
Water . . . . .	63 22
Miscellaneous supplies . . . . .	32 88
Resurfacing street . . . . .	260 29
	<hr/>
	\$7,553 44

*Size and Length of Sewer.*

632.15 feet 2 ft. 6 in. × 3 ft., brick.

**Commonwealth Avenue, No. 3.**

Labor . . . . .	\$14,070 88
Bricks, 385,650 . . . . .	4,242 15
Cement, 916 bbls. . . . .	1,134 50
Sand, 11 double loads . . . . .	21 45
M. H. frames and covers, 13 } . . . . .	148 96
M. H. steps, 100 } . . . . .	
Powder, 40 lbs. } . . . . .	17 60
Fuse } . . . . .	
Caps } . . . . .	
Teaming . . . . .	601 00
Lumber, 41,964 feet . . . . .	656 80
Pipe . . . . .	1,150 64
Coal, 60 $\frac{3}{4}$ tons . . . . .	311 66
Blacksmithing . . . . .	108 23
Profiles, centres, etc. . . . .	89 66

*Carried forward,*

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\$22,553 53

<i>Brought forward,</i>	\$22,553 53
Engine-hire . . . . .	336 00
Trench machine-hire . . . . .	600 00
Water . . . . .	290 03
Miscellaneous supplies . . . . .	317 38
Engine and burning oils . . . . .	81 96
	<hr/>
	\$24,178 90

*Size and Length of Sewer.*

600.60 feet 3 ft. 6 in. × 3 ft. 9 in., brick.  
 1,483.70 feet 2 ft. 4 in. × 3 ft. 6 in., brick.  
 104.98 feet 24 in., pipe.  
 656.10 feet 18 in., pipe.

**Commonwealth Avenue, No. 7.**

Labor . . . . .	\$189 00
Cement, 57 bbls. . . . .	69 25
Screenings, 19 double loads . . . . .	33 25
M. H. frames and covers, 7 . . . . .	56 81
Lumber, 10,059 feet . . . . .	164 93
Pipe . . . . .	529 26
Metropolitan Construction Co., contractors . . . . .	1,988 31
Water . . . . .	146 48
Miscellaneous supplies . . . . .	8 00
	<hr/>
	\$3,185 29

*Size and Length of Sewer.*

1,464.86 feet 12 in., pipe.

**Commonwealth Avenue, No. 4.**

Labor . . . . .	\$3,899 43
Bricks, 21,700 . . . . .	217 10
Cement, 79½ bbls. . . . .	93 42
Sand, 24 double loads . . . . .	48 00
M. H. frames and covers, 12 . . . . .	96 32
Teaming . . . . .	553 50
Lumber, 2,691 feet . . . . .	44 08
Pipe . . . . .	938 57
Coal, 2 tons . . . . .	10 90
Wood, 17 cords . . . . .	144 50
Oil . . . . .	9 89
Tools and blacksmithing . . . . .	144 12
Manure, 1 cord . . . . .	6 00
Water . . . . .	274 18
	<hr/>
	\$6,480 01

*Size and Length of Sewer.*

99 feet 15 in., pipe.  
 1,547.80 feet 12 in., pipe.

**Western Avenue and Duck Lane.**

Labor . . . . .	\$2,136 48
Bricks, 97,000 . . . . .	1,042 00
Cement, 214 bbls. . . . .	267 50
Sand, 90 double loads . . . . .	180 00
Gravel, 35 double loads . . . . .	61 25
M. H. frames and covers, 3 . . . . .	19 95
Teaming . . . . .	334 50
Lumber, 1,094 feet . . . . .	16 83
Pipe . . . . .	78 13
Profiles, centres, etc. . . . .	52 42
Blacksmithing . . . . .	14 45
Water . . . . .	61 09
Miscellaneous supplies . . . . .	5 52
	<hr/>
	<b>\$4,270 12</b>

*Size and Length of Sewer.*

610.90 feet 2 ft. 6 in. × 3 ft., brick.

**Parsons, No. Beacon, and Faneuil Streets.**

Labor . . . . .	\$5,637 36
Bricks, 235,375 . . . . .	2,589 13
Cement, 521 bbls. . . . .	633 85
Sand, 51 double loads . . . . .	99 45
M. H. frames and covers, 4	} . . . . . 299 40
M. H. steps, 100	
I. S. G. M. H. F. and C. 2	
2 tide-gates	
1 keg powder and fuse . . . . .	3 10
Teaming . . . . .	473 75
Lumber, 25,415 feet . . . . .	414 92
Pipe . . . . .	178 60
Trench-machine hire . . . . .	525 49
Engine-hire . . . . .	228 02
Blacksmithing . . . . .	73 65
Engine and burning oil . . . . .	9 67
Profiles, centres, etc. . . . .	223 23
Miscellaneous supplies . . . . .	290 38
Coal, 32½ tons . . . . .	167 15
Wood . . . . .	49 00
Water . . . . .	117 88
	<hr/>
	<b>\$12,014 53</b>

*Size and Length of Sewer.*

14.16 feet 24 in., pipe.

766.90 feet 3 ft. 9 in. × 3 ft. 11½ in., brick.

12.00 feet 48 in., iron pipe.

102.05 feet 4 ft. 3 in. × 4 ft. 6 in., brick.



**Washington Street, Brighton.**

Labor . . . . .	\$10,320 15
Bricks, 261,000 . . . . .	2,870 75
Cement, 788 bbls. . . . .	997 35
Sand, 201 double loads . . . . .	391 95
Gravel and screenings, 261 double loads . . . . .	456 75
M. H. frames and covers, 17 } . . . . .	146 86
M. H. steps, 45 } . . . . .	
Powder, 80 lbs. . . . .	22 00
Teaming . . . . .	1,265 25
Lumber, 15,723 feet . . . . .	244 96
Pipe . . . . .	1,014 94
Hire of engine . . . . .	362 50
Hire of trench-machine . . . . .	508 46
Coal, 25 tons . . . . .	118 17
Profiles, centres, etc. . . . .	306 14
Engine and burning oil . . . . .	26 14
Miscellaneous supplies . . . . .	74 70
Blacksmithing and hardware . . . . .	515 53
Tide-gates . . . . .	172 09
Water . . . . .	295 42
	<hr/>
	<u>\$20,110 11</u>

*Size and Length of Sewer.*

715.37 feet 3 ft. 9 in. × 3 ft. 11 $\frac{1}{8}$  in., brick.  
 362.23 feet 18 in., pipe.  
 902.20 feet 15 in., pipe.  
 267.14 feet 12 in., pipe.  
 682.66 feet 2 ft. × 3 ft., brick.  
 Overflow chamber and tide-gate.

**Wexford Street, Brighton.**

Labor . . . . .	\$141 50
Cement, 41 bbls. . . . .	47 76
M. H. frames and covers, 5 . . . . .	40 46
Pipe . . . . .	550 08
Metropolitan Construction Company, contractors . . . . .	2,399 06
Coal . . . . .	2 60
	<hr/>
	<u>\$3,181 46</u>

*Size and Length of Sewer.*

491 feet 15 in., pipe.  
 755.38 feet 12 in., pipe.

**Sanford Street.**

D. F. O'Connell & Co., contractors . . . . .	\$4,244 90
Labor . . . . .	431 12
Cement, 63 bbls. . . . .	75 30
	<hr/>

*Carried forward,*\$4,751 32

<i>Brought forward,</i>		\$4,751 32
M. H. frames and covers, 6	.	47 72
Teaming	.	22 50
Pipe	.	554 65
Coal	.	8 75
Water	.	220 47
		<hr/>
		\$5,605 41

*Size and Length of Sewer.*

93.65 feet 18 in., pipe.

663.90 feet 12 in., pipe.

**Fellows Street.**

Labor	.	\$7,478 81
Bricks, 10,000	.	100 00
Cement, 53 bbls.	.	66 05
Sand, 10 double loads	.	18 20
M. H. frames and covers, 5	}	71 00
M. H. steps, 68		
Teaming	.	940 75
Lumber, 83,253 feet	.	1,264 09
Pipe	.	700 01
Blacksmithing and tools	.	144 99
Oil	.	20 99
Coal, 27½ tons	.	122 93
Water	.	105 48
Miscellaneous supplies	.	10 76
		<hr/>
		\$11,044 06

*Size and Length of Sewer.*

519.18 feet 15 in., pipe.

535.71 feet 12 in., pipe.

**Townsend Street.**

Labor	.	\$2,009 39
Bricks, 3,000	.	30 50
Cement, 13 bbls.	.	15 27
Sand, 5 double loads	.	8 90
Gravel, 19½ double loads	.	31 71
M. H. frames and covers, 2	}	23 79
M. H. steps, 14		
300 lbs. powder, and fuse	.	95 85
Teaming	.	321 25
Lumber, 1,372 feet	.	21 95
Pipe	.	72 35
Hardware and blacksmithing	.	358 35
Water	.	34 63
Coal and oil	.	8 08
Miscellaneous supplies	.	103 00
		<hr/>
		3,135 02

*Size and Length of Sewer.*

158.81 feet 12 in., pipe.

**Ivy Street.**

Quimby & Ferguson, contractors . . . . .	\$1,892 03
Labor . . . . .	151 40
Cement, 71 bbls. . . . .	88 75
M. H. frames and covers, 6 } . . . . .	182 83
M. H. steps, 56 } . . . . .	
C. B. frames and grates, 7 } . . . . .	
C. B. traps and hooks, 7 } . . . . .	
Teaming . . . . .	22 75
Pipe . . . . .	614 02
Granite and flagging . . . . .	66 50
Advertising . . . . .	35 96
Water . . . . .	89 88
	<hr/>
	<b>\$3,144 12</b>

*Size and Length of Sewer.*

22.43 feet 18 in., pipe.  
 62.59 feet 15 in., pipe.  
 933.80 feet 12 in., pipe.  
 127 feet 10 in., pipe, C. B. drain.  
 1,379 feet 6 in., pipe, house drain.  
 7 catch-basins.

**Newbury Street.**

Metropolitan Construction Company . . . . .	\$5,987 13
Labor . . . . .	345 85
Bricks, 157,600 . . . . .	1,650 50
Cement, 352½ bbls. . . . .	434 37
M. H. frames and covers, 5 } . . . . .	101 69
D catch-basin frames and grates, 6 } . . . . .	
M. H. steps, 61. } . . . . .	
Teaming . . . . .	1 50
Flagging . . . . .	24 00
Pipe . . . . .	602 47
Water . . . . .	120 12
	<hr/>
	<b>\$9,267 63</b>

*Size and Length of Sewer.*

924.10 feet 2 ft. 6 in. × 3 ft., brick.  
 280.40 feet 12 in., pipe.  
 370.30 feet 12 in., pipe, C. B. drain.  
 70.87 feet 10 in., pipe, C. B. drain.  
 1,809 feet 6 in., pipe, house drain.  
 3 catch-basins and 3 drop inlets.

**Parker Street.**

National Construction Company, contractors . . . . .	\$12,206 92
Labor . . . . .	867 90
Bricks, 193,300 . . . . .	1,888 15
Cement, 796 bbls. . . . .	991 25
M. H. frames and covers, 14	}
M. H. steps, 100	
D catch-basin frames and grates, 6	
C. B. covers, 15	
C. B. traps and hooks, 15	
Tide-gates, 2	354 30
Teaming . . . . .	96 00
Pipe . . . . .	1,471 27
Flagstones, 3	}
C. B. heads and gutters, 15	
Advertising . . . . .	59 50
Water . . . . .	268 39
	<hr/>
	<u>\$18,516 18</u>

*Size and Length of Sewer.*

1,105.40 feet 2 ft. 6 in. × 3 ft., brick.  
 163 feet 18 in., pipe.  
 7 feet 20 in., pipe.  
 1,189.41 feet 12 in., pipe.  
 385.93 feet 12 in., pipe, C. B. drain.  
 346.82 feet 10 in., pipe, C. B. drain.  
 1,794 feet 6 in., pipe, house drain.  
 18 catch-basins and 3 drop inlets.

**Dorchester Lower Mills Trunk Sewer.**

Labor . . . . .	\$10,408 32
Bricks, 200,450 . . . . .	2,204 95
Cement, 393½ bbls. . . . .	480 67
Sand, 110 double loads . . . . .	198 00
Gravel, 28 double loads . . . . .	46 20
Frames and covers, 5	}
Iron steps, 38	
Explosives . . . . .	892 42
Teaming . . . . .	197 50
Lumber, 16,110 feet . . . . .	258 20
Pipe . . . . .	102 33
Blacksmithing and hardware . . . . .	344 29
Fuel and oil . . . . .	271 96
Rent of steam-drill . . . . .	648 00
Miscellaneous supplies . . . . .	221 77
	<hr/>
	<u>\$16,328 00</u>

*Size and Length of Sewer.*

599.74 feet 2 ft. 6 in. × 3 ft., brick.  
 547.17 feet 2 ft. × 3 ft., brick.

## APPENDIX E.

## REPORT OF DEPUTY SUPERINTENDENT OF STREET-CLEANING DIVISION.

14 BEACON ST., BOSTON, February 1, 1895.

MR. B. T. WHEELER, *Superintendent of Streets*:

DEAR SIR: I respectfully submit my annual report of the expenditures and income of the Street-Cleaning Division of the Street Department for the financial year ending January 31, 1895:

## FINANCIAL STATEMENT.

Amount of appropriation . . . . .	\$273,000 00
Revenue from Brookline Gas Light Company on account of work done by this Division . . . . .	237 00
Transfers from Paving Division . . . . .	21,240 44
Transfer from Watering Division . . . . .	8,000 00
	<hr/>
	\$302,477 44
Transferred to County of Suffolk . . . . .	1,000 00
	<hr/>
Total amount of appropriation . . . . .	\$301,477 44
Total amount of expenditures . . . . .	\$301,477 44
	<hr/> <hr/>

## OBJECTS OF EXPENDITURES.

*Superintendence.*

Salary of Deputy Superintendent . . . . .	\$3,000 00
Office pay-rolls . . . . .	4,580 60
Stationery . . . . .	198 48
Printing . . . . .	378 72
Board of horses . . . . .	600 00
Telephone service . . . . .	142 56
	<hr/>
Total cost of superintendence . . . . .	\$8,900 36
	<hr/> <hr/>

## CLEANING STREETS.

*Including the Cost of Sweeping, Loading and Removal of Street-dirt.*

District 1.	West End . . . . .	\$17,388 13
District 2.	North End . . . . .	20,000 92
District 3.	South End . . . . .	21,352 50
District 4.	South End . . . . .	17,010 64
District 5.	Back Bay . . . . .	14,027 81
District 6.	South Boston . . . . .	11,868 20
District 7.	Roxbury . . . . .	14,868 93
District 9.	Charlestown and East Boston . . . . .	11,634 15
Total cost of cleaning streets . . . . .		<u>\$128,151 28</u>

## CLEANING GUTTERS.

*Including Cost of Sweeping, Loading and Removal of Street-dirt.*

District 1.	West End . . . . .	\$2,068 38
District 2.	North End } District entirely paved.	
District 3.	South End }	
District 4.	South End . . . . .	1,577 94
District 5.	Back Bay . . . . .	3,613 49
District 6.	South Boston . . . . .	5,272 19
District 7.	Roxbury . . . . .	4,362 01
District 9.	Charlestown and East Boston . . . . .	3,871 86
Total cost of cleaning gutters . . . . .		<u>\$20,765 87</u>

Total length of gutters cleaned, 2,175.65 miles.  
Average cost per mile, \$9.75.

## CLEANING CROSSINGS.

*Including Cost of Manual and Machine Labor.*

Cost of cleaning crossings . . . . .	\$618 95
Removing snow by patrol . . . . .	2,877 88
Total cost . . . . .	<u>\$3,496 83</u>

## COST OF MAINTAINING DUMPS.

District 1.	West End . . . . .	\$527 94
District 2.	North End . . . . .	524 22
District 3.	South End . . . . .	513 18
District 4.	South End . . . . .	521 02
District 5.	Back Bay . . . . .	470 40
District 6.	South Boston . . . . .	433 00
District 7.	Roxbury . . . . .	. . . . .
District 9.	Charlestown and East Boston . . . . .	453 00
Total cost of dumps . . . . .		<u>\$3,442 76</u>

## SNOW.

*Including Labor on Crossings, in Streets, Carting of Snow, etc.*

District 1.	West End . . . . .	\$2,683 98
District 2.	North End . . . . .	2,990 69
District 3.	South End . . . . .	3,780 73
District 4.	South End . . . . .	2,776 69
District 5.	Back Bay . . . . .	2,965 49
District 6.	South Boston . . . . .	3,153 55
District 7.	Roxbury . . . . .	4,381 44
District 9.	Charlestown and East Boston . . . . .	2,780 58
Total cost . . . . .		<u>\$25,513 15</u>

## MISCELLANEOUS WORK.

This shows the cost of such work as may not be characterized the same in all districts.

*Including miscellaneous work, sweeping and carting of leaves, etc. :*

District 1.	West End . . . . .	\$635 97
District 2.	North End . . . . .	1,115 10
District 3.	South End . . . . .	476 99
District 4.	South End . . . . .	707 29
District 5.	Back Bay . . . . .	1,641 65
District 6.	South Boston . . . . .	1,724 76
District 7.	Roxbury . . . . .	1,429 94
District 9.	Charlestown and East Boston . . . . .	640 83
Total cost . . . . .		<u>\$8,372 58</u>

## PATROLLING BY DISTRICTS.

This includes the cost of picking up and removal of refuse papers, etc., from the streets.

Cost of paper patrol . . . . .	<u>\$3,435 92</u>
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## PUSH-CART PATROL SYSTEM.

Superintendence . . . . .	\$1,196 52
Board of horses . . . . .	293 49
Push-carts, including labor and teaming . . . . .	22,747 94
<u>\$24,237 95</u>	

**Recapitulation of Expenses, exclusive of Superintendence, Stable and Yard Expenses, Stock and Miscellaneous Accounts.**

Districts.	Cost of cleaning streets.	Cost of cleaning gutters.	Cost of cleaning crossings.	Cost of dumps.	Cost of snow.	Miscellaneous work.	Patrolling in business districts.	Cost of patrol system.	Total.
1.....	\$17,388 13	\$2,068 38	.....	\$527 94	\$2,683 98	\$635 97	.....	.....	\$23,304 40
2.....	20,000 92	.....	524 22	524 22	2,990 69	1,115 10	.....	.....	24,630 93
3.....	21,352 50	.....	513 18	513 18	3,780 73	476 99	.....	.....	26,123 40
4.....	17,010 64	1,577 94	.....	521 02	2,776 69	707 29	.....	.....	22,593 58
5.....	14,027 81	3,613 49	.....	470 40	2,965 49	1,641 65	.....	.....	22,718 84
6.....	11,868 20	5,272 19	.....	433 00	3,153 55	1,724 76	.....	.....	22,451 70
7.....	14,868 93	4,362 01	.....	.....	4,381 44	1,429 94	.....	.....	23,042 32
9.....	11,634 15	3,871 86	.....	453 00	2,780 58	640 88	.....	.....	19,380 47
Cost of Sweeping Crossings.....	.....	.....	\$618 95	.....	.....	.....	.....	.....	618 95
Cost of Patrolling in Business Districts.....	.....	.....	.....	.....	.....	.....	\$3,435 92	.....	3,435 92
Push-cart Patrol System.....	.....	.....	.....	.....	.....	.....	.....	\$24,237 95	24,237 95
Total.....	\$128,151 28	\$20,765 87	\$618 95	\$3,442 76	\$25,513 15	\$8,372 58	\$3,435 92	\$24,237 95	\$214,538 46



## STABLE AND YARD EXPENSES.

*Including the Cost of the South End, West End, Roxbury, South Boston, and Charlestown Stables, as follows:*

Superintendence of stables . . . . .	\$2,691 78
Labor, including the cost of feeders, hostlers, broom-makers, blacksmiths, carpenters, watchmen, yardmen, etc. . . . .	19,122 83
Cart and carriage repairs . . . . .	4,568 73
Harness repairs . . . . .	795 97
Horse-shoeing . . . . .	3,276 65
Painting . . . . .	605 37
Sweeping-machine repairs . . . . .	2,904 72
Stable and shed repairs . . . . .	1,001 53
Street-car tickets and ferry passes . . . . .	1,285 00
Tool repairs . . . . .	172 03
Veterinary services and medicine . . . . .	1,753 30
Total . . . . .	<u>\$38,177 91</u>

## STOCK ACCOUNT.

Broom stock purchased . . . . .	\$6,044 33
Carts and carriages purchased . . . . .	1,755 00
Harnesses and horse furnishings purchased . . . . .	1,730 79
Horses purchased. (Net) . . . . .	6,450 00
Sweeping-machines purchased . . . . .	3,240 00
Tools purchased . . . . .	706 12
Waste barrels purchased . . . . .	100 00
Patrol stock and maintenance of same . . . . .	1,127 12
Total . . . . .	<u>\$21,153 36</u>

## MISCELLANEOUS.

Fort Hill wharf repairs . . . . .	\$875 46
New shed in Roxbury, completing of . . . . .	241 05
Holidays . . . . .	10,981 45
Scow (cost of disposal at sea of 30,763 loads of street-dirt) . . . . .	6,765 20
Sundries . . . . .	2,602 03
Total . . . . .	<u>\$21,465 19</u>

\*  
GENERAL RECAPITULATION OF EXPENSES.

Superintendence . . . . .	\$8,900 36
Cleaning streets . . . . .	128,151 28
Cleaning gutters . . . . .	20,765 87
Cleaning crossings . . . . .	3,496 83
Maintaining dumps . . . . .	3,442 76
Removal of snow and ice . . . . .	25,513 15
Miscellaneous work . . . . .	8,372 58
Paper patrol in business districts . . . . .	3,435 92
Patrol system, push-carts . . . . .	24,237 95
Stable and yard expenses . . . . .	38,177 91
Stock account . . . . .	21,153 36
Miscellaneous . . . . .	21,465 19
<hr/>	
Total . . . . .	<u>\$307,113 16</u>

NOTE.—Of the above amount, the sum of \$5,635.72 was paid by other departments and divisions, on account of work done, etc., making the net expenses of this division, as shown in financial statement, \$301,477.44.

**Table showing the Cost per Mile of Cleaning the Streets in each District, exclusive of Supervision and other Expenses.**

DISTRICTS.	Miles of Streets Cleaned.	Cost of Cleaning.	Pro Rata Cost of Dumps.	Total Cost.	Cost per Mile.
No. 1. . . . .	1,582.07	\$17,388 13	\$471 22	\$17,859 35	\$11 28
No. 2. . . . .	1,837.88	20,000 92	524 22	20,525 14	11 16
No. 3. . . . .	2,330.33	21,352 50	513 18	21,865 68	9 38
No. 4. . . . .	1,785.09	17,010 64	476 29	17,486 93	9 79
No. 5. . . . .	707.78	14,027 81	373 13	14,400 94	20 34
No. 6. . . . .	894.96	11,868 20	299 80	12,168 00	13 59
No. 7. . . . .	494.51	14,868 93	.....	14,868 93	30 06
No. 9. . . . .	800.13	11,634 15	339 80	11,973 95	14 96
		<hr/>			
	10,432.75	\$128,151 28	\$2,997 64	\$131,148 92	

Average cost per mile of cleaning streets in eight districts, exclusive of supervision, etc., \$12.57.

STREET DEPARTMENT. — STREET-CLEANING DIVISION. 321

Table showing the Cost per Mile of cleaning Streets in each District, including Supervision, Labor, Yard and Stable Expenses.

DISTRICTS.	Miles of Streets Cleaned.	Cost of Cleaning Streets.	61% of the Total Cost of Superv'n.	69% of the Total Cost of Yard and Stable Expenses.	Total Expense.	Total Cost per Mile.
No. 1....	1,582.07	\$17,859 35	\$739 33	\$3,587 26	\$22,185 94	\$14 02
No. 2....	1,837.88	20,525 14	849 69	4,122 72	25,497 55	13 87
No. 3....	2,330.33	21,865 68	905 18	4,391 87	27,162 73	11 65
No. 4....	1,785.09	17,486 93	723 91	3,512 46	21,723 30	12 16
No. 5....	707.78	14,400 94	596 16	2,892 61	17,889 71	25 27
No. 6....	894.96	12,168 00	503 72	2,444 10	15,115 82	16 89
No. 7....	494.51	14,868 93	615 53	2,986 61	18,471 07	37 35
No. 9....	800.13	11,973 95	495 69	2,405 12	14,874 76	18 59
	10,432.75	\$131,148 92	\$5,429 21	\$26,342 75	\$162,920 88	

Average cost per mile of cleaning streets in eight districts, including supervision, etc., \$15.61.

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.....	9,517	\$2 04
2.....	9,916	2 01
3.....	9,777	2 18
4.....	10,641	1 74
5.....	12,590	1 40
6.....	9,611	1 78
7.....	16,312	1 17
9.....	10,970	1 41
Paper Patrol and Leaves.....	89,334	
Removed by Push-cart Patrol System.....	2,260	
	3,884	equal to 50,280 barrel-loads.
Total Cart-loads.....	95,478	

30,766 loads of the above dirt (or about 33 per cent.) were delivered at the dumping-scow, the towing of which to sea cost 22 cents per load. In addition to the above, 37,557 single loads and 1,948 double loads of street-scrapings were removed from the streets by the Paving Division.

## PUBLIC WASTE-BARRELS.

Total number of waste-barrels emptied . . . . .	<u>17,724</u>
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## INCOME.

Amount of bills deposited with the City Collector during the financial year ending January 31, 1895,	<u>\$8,163 77</u>
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## FORCE EMPLOYED.

Deputy Superintendent . . . . .	1
Clerk . . . . .	1
Messengers . . . . .	2
Employees in the Division, not including the above,	<u>327</u>
Entire force . . . . .	<u>331</u>

Average force employed during the year, 298.

Respectfully submitted,

PHILIP A. JACKSON,  
*Deputy Superintendent.*

## APPENDIX F.

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

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, Supt. Streets and Drains .....	1827 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.....	1827 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 H. 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. of Doc.
Annual Report.....	1859	1860	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.
Frederic W. Lincoln, Commissioner for Boston.....	} May 22, 1871, to March, 1891.
Ezra Parmenter, Commissioner for Cambridge.....	
William J. Marvin, Commissioner for Cambridge ....	

Harvard Bridge added in 1892.

**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.

**Street Department since 1891.***Superintendent.*

Henry H. Carter, Member 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 the present time.*

Member of the Boston Society Civil Engineers.

*Executive Engineer.*

Henry B. Wood, Member Boston Society Civil Engineers.

PAVING DIVISION.—Charles R. Cutter, *Deputy Superintendent until January 24, 1895.*

PAVING DIVISION.—Darius N. Payson, *Deputy Superintendent from January 24, 1895, to the present time.*

SEWER DIVISION.—Henry W. Sanborn, *Deputy Superintendent.*

Member Philadelphia Society Civil Engineers.

SANITARY DIVISION.—George W. Forristall, \* *Deputy Superintendent.*

SANITARY DIVISION.—Philip A. Jackson, *Acting Deputy Superintendent since January 16, 1894.*

STREET-CLEANING DIVISION.—Philip A. Jackson.

BRIDGE DIVISION.—John A. McLaughlin, *Deputy Superintendent.*

BOSTON AND CAMBRIDGE BRIDGES.—Henry H. Carter, *Ex-officio, Commissioner for Boston until December 8, 1894.*

Charles R. Cutter, *Acting, from December 8, 1894, to January 14, 1895.*

Bertrand T. Wheeler, *since January 14, 1895.*

William J. Marvin, *Commissioner for Cambridge.*

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\* Died January 12, 1894.

**Street Department.**

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual Report, Executive Department, Part II..	1891	1892	36
“ “ “ “ “ ..	1892	1893	34
“ “ “ “ “ ..	1893	1894	34
“ “ “ “ “ ..	1894	1895	34











