

TABLE No. 3.

*Estimated Value of Furnishings, Materials, &c., in City Prison,
year ending 30th April, 1903.*

Bedding and clothing	\$1023 00
Furniture and utensils.....	283 00
Contents of surgery	200 00
Horses (4), carts, implements	1260 00
Other implements.....	69 50
Broken stone on hand.....	303 00
Tools and stock in workshops	140 00
Total estimated value.....	<u>\$3275 50</u>

TABLE No. 4.

*Quantities and Estimated Value of Farm Produce Raised and
Consumed, year ending 30th April, 1903.*

300 bushels potatoes at 40c.....	\$120 00
50 " carotts at 30c.....	15 00
150 " turnips at 30c.....	45 00
40 " parsnips at 30c.....	12 00
40 tons hay at \$12.00.....	360 00
Cabbage, beans, mangolds, etc.....	40 00
Total estimated value.....	<u>\$592 00</u>

CHARITIES COMMITTEE REPORT.

HALIFAX, N. S., April 30th, 1903.

To His Worship the Mayor and Members of the City Council :

GENTLEMEN,—I have the honor to herewith submit for your information the report of the Charities Committee for the year ending April 30th, 1903.

The total number of inmates in the Poor's Asylum May 1st, 1902, was 322, made up of 178 men, 136 women and 8 children. During the year there were 353 admitted, 20 born, 344 discharged and 41 died, leaving in the institution at this date 179 men and 131 women, a total of 310.

The number supported during the whole or part of the year was 695. The largest number at one time was 378 on January 20th, 1903, and the smallest number 302 on August 10th, 1902. The daily average was 336.

In the wards set apart for the Insane there are at present under care 54 men and 59 women—a total of 113. In addition to the Insane in the Poor's Asylum, there is an average of 26 patients in the Nova Scotia Hospital chargeable to the City. The sum of \$3290.42 was expended on this account during the year.

Coffins, from which no revenue is derived, have been supplied to the Infant's Home, Tower Road, and to the Home of the Guardian Angel and also to persons in the City who were unable to pay.

The receipts from the Provincial Government for the maintenance of transient poor are getting smaller every year. This is accounted for by the falling off in the number of persons applying for relief who have no settlement within the Province, and also because a great many of those who do apply are sent to their

respective homes by the Government after being a short time in the institution.

The condition of the various outbuildings necessitated more or less extensive repairs. The roof of the Annex, as well as the front side, was re-shingled, fascia and spouting renewed and the shingles on the sides and back re-nailed. The roof of the building adjoining the Annex was also re-shingled, shingles on sides re-nailed and fascias and spoutings repaired. The stable and coach-house, the barn in which the potatoes and straw are stored and the building which is used for the making of concrete and kindling wood were also repaired. All of these buildings were painted.

Minor repairs were made to the roof of the main building and also to the domestic boiler.

The offices, main hallway and church were painted. This was done by one of the inmates.

During the session of the Local Assembly in 1902 an Act was passed taking from the Appropriation voted by the City Council for the Maintenance of the Poor's Asylum for 1902-03 the sum of \$483.04 to pay bills contracted in the year 1901-02 for the fitting up of the Home for Incurables. This has been a serious drawback to this Committee, and, together with the decreased revenue from the Provincial Government, as well as the receipts from the making of concrete being very much smaller than in former years, made it necessary for this Committee at the end of March, 1903, to request the Council to borrow the sum of eight hundred and twenty dollars which at that time was the amount estimated to be required to provide for the institution for the remainder of the year. The actual amount required is seven hundred and sixty 48/100 dollars.

The following is a statement of the receipts and expenditure for the year:—

MAINTENANCE ACCOUNT.

RECEIPTS.

Appropriation.....	\$24300 00
Provincial Government Transient Poor.....	4708 32
Sales of Wood.....	5220 47
Maintenance of Patients N. S. Hospital and Poor's Asylum.....	2955 47
City Works Department for making concrete.....	103 02
Labor, coffins, sales of offal, empty bbls., &c.....	348 84
Special loan.....	760 48
	<u>\$38396 60</u>

EXPENDITURE.

Interest on \$80,000 at 5%.....	\$ 4000 00
Salaries.....	7616 16
Groceries.....	6462 28
Meats.....	3582 50
Pork.....	577 56
Fresh Fish.....	358 19
Milk.....	893 56
Potatoes and Vegetable.....	922 16
Herring.....	29 00
Yeast.....	48 15
Dry Goods.....	1089 75
Straw, Bran and Oats.....	327 25
Leather.....	206 83
Seed and Potatoes.....	25 28
Medicine and Dispensing.....	469 54
House expenses, removal of patients, &c.....	222 99
Coal.....	1967 99
Light.....	723 71
Hardware, Paints and Oil.....	139 44
Crockeryware.....	25 66
Advertising and Newspapers.....	42 02
Telephones.....	35 00
Lumber.....	42 94
Lunacy Certificates.....	55 00
Books, Stationery and Printing.....	48 70
Insurance on Boilers.....	35 00
Shoes and Slippers.....	65 50
Lime.....	5 90
Truckage of Coal.....	20 00
Coffin Fixtures.....	19 80
Hay.....	29 25
Window Shades.....	22 40
Hats and Caps.....	31 10
Fly Paper.....	3 80
Bake Oven Grates.....	6 96
Brass Fittings.....	7 65
Spectacles.....	7 06
Repairs to Electric Bells.....	15 00
Sundries for Coronation Dinner.....	51 83
Horseshoeing.....	64 09

Harness and Repairs	\$42 40
Repairs to Wagons	45 65
Sundry Furnishings	147 22
Burial Expenses	24 00
Water Rates	500 00
2 Horses	235 00
Express Wagon	105 00
Repairs to Outbuildings	485 35
" Main Building	58 95
" Boilers	28 23
Wood and Woodyard Expenses	2654 40
Maintenance of Insane Nova Scotia Hospital	3290 42
Transfer to Construction Account	483 04
	\$38396 60

HOSPITAL ENDOWMENT FUND.

The amount to the credit of this fund is the same as on May 1st, 1902, viz., \$43.60. This balance has been carried forward to 1903-04.

Respectfully submitted,

T. J. BARRY, *Chairman.*

POOR'S ASYLUM REPORT.

HALIFAX, N. S., April 30th, 1903.

To the Chairman and Members of the Charities Committee:

GENTLEMEN,—I herewith beg to submit for your information the Annual Report of the Poor's Asylum for the year ending April 30th, 1903.

Number remaining April 30th, 1902:—

Males.....	178
Females.....	136
Children.....	8
	322

Admitted from May 1st, 1902, to April 30th, 1903	353
Born.....	20
	373

Discharged from May 1st, 1902, to April 30th, 1903	344
Died.....	41
	385

Remaining April 30th, 1903:

Males.....	179
Females.....	131
	310

Total number supported during the whole or part of the year.....	695
Largest number at one time.....	378
Smallest number at one time.....	302
Daily average.....	336

The number of harmless insane inmates is 113.

Extensive repairs have been made to the outbuildings and considerable painting has been done to the interior of the main building. The Church and hallways have been painted, which is a great improvement.

We have made but very little concrete during the year, as there was no great demand for it; consequently the receipts from this source have fallen off considerably. We began making concrete on January 5th, 1903, and are still engaged at it.

The sale of kindling and hardwood has been greater this year than ever; but owing to the scarcity of hardwood we have had to pay a much higher price for it than at any time since the wood yard has been in operation. Notwithstanding this, however, the results from the wood yard have been very good, as the receipts will show.

The male inmates have been employed white washing, sawing and splitting wood, making and mending clothes and shoes and all other necessary work; while the females have been engaged in house work, sewing, mending and knitting.

In addition to making all the clothing and nearly all the shoes used in this institution, we supply the inmates of the Nova Scotia Hospital, who are chargeable to the City, with clothing and shoes when required.

To the many kind friends who have remembered the inmates during the year by sending books and magazines, fruit, confectionery and flowers, to the ladies and gentlemen who have assisted at the musical and literary entertainments and to all who have helped in any way to brighten the lives of our people, I extend my most sincere thanks.

On behalf of myself and the other officials, I tender you our grateful thanks for your many kindnesses and courtesies extended to us during the year.

Respectfully submitted,

JAMES H. DOW,
Superintendent.

REPORT OF PUBLIC GARDENS.

OFFICE OF SECRETARY TO COMMISSIONERS PUBLIC GARDENS,

HALIFAX, N. S., October 16th, 1903.

To His Worship the Mayor and Members of the City Council :

GENTLEMEN,—In placing our Annual Report before you this year we feel that we can do so with considerable pride.

Since last year, through the effort of the Commission, we have brought to their successful completion both the Superintendent's Lodge and the Memorial Fountain in the Gardens—the latter placed there to perpetuate the memory of those who fought, fell and served in the recent South African disturbance.

We feel the greater degree of pride in the completion of both the Lodge and Fountain because they have been accomplished through the efforts of the Commission. The cost of both has been about \$7,000.00.

A serious problem for your Council to grapple with in the near future is the erection of a new fence around the Gardens of a permanent character to replace the one now there, which is quite beyond repair. This is an outlay too great for your Commission to undertake on its own responsibility, and we would respectfully ask your assistance and co-operation by way of an appropriation in the Estimates of the ensuing year sufficient for the purpose.

The cost of maintenance for the year, we are happy to say, has been kept well within the appropriation, and for an account of receipts and expenditures we would refer you to the Auditor's detailed report.

Respectfully submitted,

W. F. PICKERING,

Secretary Commission.

CITY ENGINEER'S REPORT.

CITY WORKS DEPARTMENT.

COMMITTEE ON WORKS 1902-03.

A. B. CROSBY, MAYOR, *Chairman.*

ALD. D. H. CAMPBELL,

ALD. W. S. ROGERS.

OFFICERS.

F. W. W. DOANE, M. CAN. SOC. C. E., CITY ENGINEER.

H. W. JOHNSTON, *Assistant City Engineer.*

WATER WORKS.

EWEN MORRISON *Foreman.*

CLAUDE DONOVAN *Plumbing Inspector.*

JOHN E. BURNS *Water and Meter Inspector.*

STREETS, SEWERS, &c.

JOHN McDONALD *Foreman.*

J. W. BRUSH *Storekeeper.*

OFFICE.

JAMES J. HOPEWELL *Clerk of Works.*

MISS MINNIE HUNTER *Stenographer.*

CITY ENGINEER'S OFFICE, CITY HALL,

HALIFAX, N. S., May 1st, 1903.

To His Worship the Mayor:—

SIR,—I have the honor to present the report of the Department of City Works for the Civic year ending April 30th, 1903, my twelfth annual report:

WATER WORKS.

Amount of funded debt on Water Account.....	\$1,086,600	00
“ transferred from Revenue	26,000	00
“ of debt redeemed by Sinking Fund	8,000	00
“ “ “ Premiums on Loans	4,073	33
		<u>\$1,124,673 33</u>
Amt. expended to April 30th, 1902....	\$1,113,772	61
“ “ May 1st, 1902,		
to April 30th, 1903....	\$9,088	62
“ repaid do do ...	2,475	77
	<u>6,612</u>	85
“ of total cost to date	<u>1,120,385</u>	46
“ balance on hand		<u>\$4,287 87</u>

COST OF MAINTENANCE, 1902-03.

Interest	\$48,942	00
Sinking Fund	3,250	00
Maintenance of system	17,845	57
	<u>\$70,037</u>	57

The cost of maintenance exceeds the amount expended last year by \$1,830.28; but the increase is in the interest and sinking fund.

Our City is fortunate in having a water system which is well worth more than one hundred cents for every dollar that it has cost. Not only has extravagance been avoided in construction, but

the management of the works has been carried on with zealous economy. No unnecessary increases in the staff are permitted and no expenditure is made unless the efficiency of the system demands it. At the same time the officials of the Water Department are active in adopting and carrying out anything that will improve the service.

The water tax is below the average rate charged in other cities, nevertheless the revenue collected is not only sufficient to pay interest sinking fund and ordinary annual maintenance charges, but also contributes directly towards the reduction of the water debt and leaves a balance each year for renewal of old mains and works. The tax paid by the poorer class of householders is small and there is no class in the City upon whom the amount they are required to pay is burdensome except that class who use water extravagantly and have to pay for it by meter measurement.

It has been argued that the rate could be reduced as there is a balance remaining every year. Such a proposition suggests only a superficial knowledge of the conditions which affect the rate. Any movement in the direction of such a change should be opposed strenuously. The rate is low, as already stated, and the claim that it is a hardship on even the poorest is without foundation. In proof of this many instances may be mentioned. The tax for water was in one case thirty cents for six months in a house of the poorer class and the returns of the Water Inspector show several cases where the bill was less than two dollars for one year and for a good class of houses. Any householder who finds the charge of four dollars too large may now apply for a meter and by a little care obtain a reduction in his bill.

We should not be satisfied to go on from year to year with the present large debt for the water works undiminished. Every dollar that can be collected and saved legitimately should be used to reduce the debt as the bonds become due. Our water works would then become a valuable asset which would largely reduce the nett debt of the City and enable us to improve the other public services which are now almost at a stand still, as we have exceeded the limit of our borrowing powers.

We need all of the balance on hand for renewal of old worn-out mains, connection of dead ends and other much needed improvements in the system. There is a great deal of the old 3 inch pipe through-

out the City which is almost completely filled up with an incrustation of rust and the original shell of the pipe in many cases has nearly disappeared. It is very difficult to make connections with these pipes when laying new service pipes and the supply to householders is very unsatisfactory. The dead ends should be connected to improve the circulation, prevent the deposit of rust and sediment and give a better supply to water takers in the neighborhood of them.

The Council decided on January 26th, 1903, not to divert the balance then to the credit of maintenance account for any other purpose, but to use it for the works already mentioned. Some of those requiring attention in the immediate future are:

Three inch pipe	Argyle St. from Buckingham to George St.
"	" " " " Sackville to Blowers St.
"	" " " " Cumberland House to Jacob St.
"	" " South St. connect Pleasant and Queen St.
"	" " Carleton St. from Spring Garden Rd. to College St.
"	" " Creighton St. from Cunard to Falkland St.
"	" " " " Gerrish St. south to hydrant.
"	" " Dresden Row from Morris to Rottenburg St.
"	" " Fawson St. from Water to Hollis St.
"	" " Granville St. from Prince to Buckingham St.
"	" " " " Salter to Sackville St.
"	" " Grafton St. from Buckingham to Sackville St.
"	" " Hollis St. from George to Water St.
"	" " " " Salter to Bishop St.
"	" " Maitland St. from Gerrish to Brunswick Lane.
"	" " Spring Garden Rd. from Tower Rd. to Robie St.
"	" " Sackville St. from Hollis to Granville St.

DEAD ENDS:—

Bloomfield St. West of Agricola St.
 Henry St. South of Coburg Road.
 Williams St. East of Windsor St.
 William St., Agricola and Maynard St.

There are many others which will require early attention.

Another, and perhaps the strongest, argument against the diversion of this money or any reduction in the rate is the certainty that the present revenue will not be sufficient to pay the additional

annual expenditure if it becomes necessary to augment the supply. It would not be wise to make any change until this feature of our water works policy is determined. In this connection we are confronted again with that perennial complaint respecting inefficient service in the more elevated districts of the City. It is an old story, but is not less serious on that account, and we must not shut our eyes to it. Practically nothing has been done to effect a remedy and the people who suffer will not stand a do-nothing policy much longer. It is unnecessary to weary the Council with a repetition of former reports. Suffice it to say that the service is no better and on the 20th of January the matter was again brought before the Council. Cold snaps emphasize the difficulty and during the first cold weather the gauge at the Superintendent's house on Compton Avenue fell from thirty-five pounds to twenty-two pounds. A thorough examination was made in the whole high service system to discover, if possible, a leak in the main or some similar cause for the enormous decrease in pressure; but the pipe system was in good order and after the cold weather moderated the gauge rose again to thirty-five pounds and remained at that pressure until the next cold snap when it again fell to twenty-two pounds. While the pressure was low complaints were loud and vigorous, hot water boilers were in danger, fire and domestic service were at zero and the woes of the long-suffering residents of the higher districts surpassed even those of the officials who have to bear the brunt on such occasions.

Inspectors do a great deal of good in ordinary weather, but it would take an army of inspectors to stop waste during a cold snap. After the waste is discovered notice must be sent and a reasonable time given before taking action. In the meantime the weather moderates and the culprits stop the waste, not because of the warning, but because they think it is no longer necessary.

A special Committee of the Council reported on this matter on the 20th March, resulting in some progress being made towards a solution of the problem. The Council adopted a recommendation that wherever pipes are found laid in exposed or cold positions the water shall be turned off until the pipes are located to the satisfaction of the City Engineer. A recommendation was also adopted providing for the placing of fifty meters each year on premises where waste has not been stopped on second inspection. All complaints come from the high service district, yet a rider was added

providing that half of the fifty should be put on low service pipes. It is somewhat difficult to understand how the sick man can be cured by pouring half the medicine into his healthy brother. Another decided change for the better resulted from the Committee's report, viz: the repeal of the one-sided law providing that the rate paid for metered water should not be less than the charge by assessment. Under the law as amended only the water actually passing through the meter is paid for and the man who saves water gets a money prize for it instead of a fine. Already several who were using every means to obtain the removal of their meter have ceased their complaints and are now congratulating themselves on the reduction of their water tax. The first written request for a meter has been received and a source of much dissatisfaction has been removed. It is rumored that the fear has been expressed by officials connected with the financial service of the City that the effect of the change on the water revenue would be disastrous. There is no cause for alarm, however. When any material loss of revenue becomes apparent in consequence of the change the officials of the Water Department can name many places where a meter would increase the revenue. Many consumers do not pay under the assessment method for one-quarter of the quantity legitimately used, and it is unfair to others in the same line of business who may be paying by meter.

It is encouraging to note these steps forward, as there seems to be only one alternative—additional supply—which would mean the expenditure of a large sum and the water tax must go up. On the other hand, if the Council proceeds on the course upon which it has entered and applies the remedy more stringently and without delay the result will be to postpone for years the spending of a large amount of money and the saving of the additional interest and extra cost of maintenance.

The service on Campbell Road and streets adjoining has been affected injuriously by the large consumption at the Sugar Refinery, and notice has been served on the Company stating that they will be required to provide a tank capable of holding a days' supply, which can be filled at night so that the drain on the mains will come at a time when there is less draught in houses in the same district.

The water tax exemption to the Cotton Factory expired in April and in future they will be charged at the regular rate.

Under the provisions of Chapter 76 of the Acts of 1903, Moir's, Limited, successors to Moir, Son & Co., will be exempt from water tax on 2,500,000 gallons each year until April 11th, 1918. They will pay for all water used in excess of that quantity and also the usual fire protection tax.

The agreement fixing a flat rate for the Intercolonial Railway property has been running since 1883, without change, although the quantity of water used has increased largely. Under the agreement the City was obliged to keep the reservoir in Mulgrave Park filled and a good deal of water was wasted. These conditions were brought to the notice of the City Works Committee on June 16th and by them laid before the Council on June 19th with a recommendation that the agreement be cancelled, which was adopted. The railway authorities and your engineer are at present discussing the terms of a proposed new agreement which will be more satisfactory to the City.

NEW WORK.

There were eight petitions for the extension of main distribution pipes presented to the Council and seven orders passed.

Extensions were made in eight streets, one of which measuring 116 feet, was in the Low Service district, the remainder aggregating 3,220 feet High Service. The total length of mains laid during the year was 4119, the total now in use being 69 miles.

Four hundred and fifty-seven feet of old 3 inch pipe in Queen St. and three hundred and twenty-six feet in Dresden Row was renewed with four inch pipe.

Six inch service pipes were laid to the Street Railway Station and Victoria General Hospital and four inch pipes to Central Wharf and North St. depot.

Seven new main stop valves and nine hydrant valves were placed in position. The total number in use is 779.

Nine old hydrants were replaced with improved City design frost jacket hydrants with steamer nozzles. Five new hydrants were installed, making the total 421.

Two thousand seven hundred and ninty-two feet of pipe was

laid for 76 new services and four hundred and fifty-three feet of old service pipe was renewed.

CLEANING MAINS

The High Service main was cleaned with the Kennedy scraper on Sept. 5th and Nov. 11th—72,680 feet, or nearly 14 miles at a cost of \$37.80. Arrangements were made for passing the scraper through the 24 inch Low Service main on November 12th, but on attempting to open the valve on the blow-off at the Dutch Village Road it was discovered that it was out of order and the pipe between the hills could not be emptied. The cleaning was therefore abandoned until warmer weather.

From 1880 to 1890 Mr. Keating cleaned 95 miles of mains with the scraper, and from 1891 to 1902 we have cleaned 161 miles, a total of 256 miles. During this work interesting data have been collected respecting the life of cast iron water pipes, the progress of corrosion or incrustation on coated and uncoated pipes before and after cleaning, the effect of tuberculation on the iron, the results of cleaning with the scraper, effect of the scraper on growth of tubercles and cost of scraping under various conditions. This information is being preserved for record and it is proposed to incorporate it in the next annual report.

PRECIPITATION.

In the City rain or snow fell on 188 days during 1902. The rainfall for the year was below the average. The depth recorded for July was 1.651 inches.

Long Lake overflowed in January, March, April and December. The surface of the lake on October 28th was 4 ft. 9½ inches below the waste weir.

Spruce Hill Lake reached its highest level for the year, 364.22, on April 26th. On October 28th it was 2 feet 7½ inches below waste weir level.

AT THE LAKES

no important work was performed. The appearance of the City property at the lakes is not as attractive as it might be made. By utilizing the spare time of the Gate House Keepers these properties

could be made beauty spots at comparatively small expense. The whole premises in the vicinity of the dams and buildings should be cleared and sown where there is sufficient soil, gravel walks and good roads made, and hedges, ornamental trees and shrubs planted and the grass kept closely cut in summer. The old buildings which are beginning to decay should be replaced with more ornamental structures of stone. The stone can be obtained in the vicinity and the quarrying and splitting can be performed by the keepers. Creepers and vines could be trained over the houses and the rocks could be hidden in a similar manner. In a few years we should have two water works parks (with very little outlay) which would be more in keeping with the important system of which they form a part and more creditable to the City and this Department.

AT SPRUCE HILL LAKE

the top of the dam requires a good soil. The wooden steps at the back of the gate house should be replaced by a substantial stone stairway with pipe railing. The wooden platform on the lake side of the house should be replaced by a permanent floor of concrete and steel with a pipe railing on the water side. The wooden bridge over the waste weir should be removed and a permanent structure erected. The wooden stop timbers in the waste weir should be taken out and granite substituted.

AT CHAIN LAKES

the bridges on the old highway are in a dangerous condition and unless the road is to be abandoned it should be carried over these crossings of the stream by permanent structures.

A vacancy was created in the

SHOPS

by the death of Mr. Joseph Scriven, for many years Foreman Blacksmith. While a great deal of work was performed in the blacksmith and machine shop, the staff were not able to do all of the work required. Nearly all of the iron work for the Water Department the fitting up of hydrants, sharpening and repointing of tools and other work of a similar character was attended to, but horseshoeing and sharpening, repairs to carts and sprinklers and work of that nature was sent outside. This resulted in extra

expense and much loss of time, especially for the horses. In looking for a new man a knowledge of horseshoeing was made an indispensable condition. Mr. Daniel McLeod was appointed by the Council, July 16th, and has proved to be well qualified for the position. In sending the applications to the Council the Works Committee recommended "that the successful applicant be engaged on such conditions and perform such work as the City Engineer shall require." Accordingly, he was asked to agree in writing to the regulations which each new employee of the Works Department (except day laborers) is required to subscribe to before going to work. A copy is appended. It is provided among other things that while an employee's work shall generally be along certain lines he may be required to perform any work or duty, night or day, Sunday or Monday, if it should be required. All the horses of the Department and those of the Pools Asylum are now shod in the shops. The first vacancy occurring should be filled by an assistant who understands shoeing so that Mr. McLeod will be able to give more time to general work.

SEWERS.

The only sewer completed during the year was on Parker St. It was 454 feet long and cost \$2.66 per foot.

Fourteen concrete catchpits were constructed making a total of 727.

HOUSE DRAINS AND PLUMBING.

One hundred and one permits were issued for laying, cleaning or repairing drains.

The Plumbing Inspector reports approval of 265 applications for permission to do plumbing work. The total number of permits issued is 2341. Two hundred and forty-three certificates were granted for work properly performed.

The Inspector complains that some of the plumbers neglect to file their application for a permit before beginning work and that they do not notify him when the work is completed. While this complaint is made generally, it is not intended to include all licensed plumbers. Most of the plumbers are anxious to comply with the regulations. There are a few, however, who take advantage of the leniency with which they were treated while the system was new

and for them there seems to be no other course to follow in the interest of the public welfare than a strict enforcement of the laws without further delay, and without fear or favor.

It is due to Mr. Donovan to say that he deserves the greater share of the credit for the success that has attended the efforts of the City Health Board to give to the citizens of Halifax the benefits of modern sanitary plumbing. In the face of determined opposition he has carried out the change and to-day the many householders who apply for his services testify to the value of the work performed. He has a thorough knowledge of the duties of his office and keeps up with the progress of this branch of sanitary science.

The Board of Plumbing Examiners held only two meetings during the year.

INTERNAL HEALTH.

Two sprinklers were operated by James Nolen for \$3.30 per day and one by J. M. McGrath & Co. for \$3.50 per day.

The old sprinklers on two carts were replaced by Studebaker sprinklers.

The exterior of all the sprinkling carts was painted in the shops under the supervision of the City Carpenter, the cost being \$152.46 for fourteen carts. The cost for each cart averages for material \$2.96, time \$7.93, total \$10.89. This work was formerly done outside for \$18.00 a cart.

Edward Hartnett had the contract for supplying teams for street cleaning work at 16½ cents and 33 cents per hour.

An important change was made in the system of removing ashes and garbage. Previous to January 1st, 1903, ashes and all kinds of garbage were thrown into the same receptacle, removed in the same cart and dumped at the nearest place of deposit. In consequence, in nearly every ward there was a festering heap of decaying matter too close to dwelling houses for safety or comfort and giving off noxious odors to taint the air and the good name of the City. The change was made with the New Year and met with the usual opposition and adverse criticism. All garbage collected in the City is taken to the Exhibition Grounds where it is remote from dwellings. The ashes is now used for filling without any danger to health

and also for grading new and unfinished streets and sidewalks. The work already accomplished in this way would have cost hundreds of dollars if performed by the street squads. In fact, we could not afford to do it at all from our limited street appropriation.

It has been charged that there has been a great increase in the cost of this work. The circumstances in connection with it, however, have been misrepresented.

Messrs. Stanhope Bros., who had the last contract for the work, asked to be relieved as they were losing money. They performed the work during the Summer only and received for about six months work \$1454.85. The City is performing the work every day of the year except Sundays. The average quantity removed in Winter is 50 per cent, more than the average quantity collected in Summer, and at times the quantity removed is double the collection in Summer.

Formerly, when the City was violating sanitary principles and its own laws, one cart passed through each street. Now two are required, one for ashes, the other for garbage. The Contractor unloaded at the nearest dump—always a short haul;—the City hauls all garbage to the Exhibition Grounds—always a long haul. The carts collect from a larger district of the City than that covered by the Contractor. Everything put out is removed now, while formerly the Health Inspectors had the yards cleaned by the property owners or tenants and the contractor removed only genuine ashes and garbage.

If under the circumstances any comparison of cost can be made it is safe to state that the work is being done quite as economically as before, considering the service now being performed. The removal of ashes and garbage last year cost for labor \$1425.95—city teams \$3763.60—total \$5189.55. Further, if we deduct from the cost the value of the street work being performed with the ashes, the net cost is comparatively lower than formerly, to say nothing of the improvement already made and the possibilities and advantages of the service as now performed under the direct control of the Works Department. It is not claimed that it is perfect, on the contrary it is freely admitted that there is much room for improvement; but it is infinitely better than formerly and will continue to improve with experience.

The total amount expended is greater, but the City was not spending enough before the change to give the service required by the taxpayers and modern sanitary regulations. In fact, if we are to abolish eye-sores and endeavor to remove a great nuisance objectionable to citizens and strangers alike we must spend more money and have all the garbage and ashes taken from inside the premises by the City men so that the sidewalks will not be decorated for a day or a night with rows of barrels, cans, boxes, &c., filled with garbage and refuse of every description, offensive not only to the sense of sight but also to that of smell, and littering the streets with paper, straw, excelsior and flying dirt. This extra work could not be overtaken by the existing force. At present the teams do not visit streets upon which they can see in passing that nothing has been put out for removal. If they were collecting from inside the premises two carts (one for ashes, the other for garbage) with driver and assistant must go through every street. Every property passed must be inspected and ashes and garbage carried out to the street and the empty receptacles carried back to the premises. A great deal more time would be occupied, and judging from experiments, at least two more teams would be required. The estimated cost per annum for two teams is

Drivers, horses, carts, &c.....	\$1536 00
Two assistants	391 25
	\$1927 25

or about \$2000.00.

STREETS.

The remaining lots on Lockman Street were sold, No. 39 and 41 being sold to E. P. Allison for \$775.00 and No. 157 and 163 to S. A. Heisler for \$258.63 and \$93.29 respectively.

The disposal of lots and buildings has been made as follows:—

No. on Plan.	Owner.	Sold to	Price.	Amt. received for old bldg.
1-3	J. F. Caldwell	Thos. P. Mulcahy	\$1000 00	\$ 5 00
7-9	Mary Roach	No land left		75 00
11	Simon Fitch	"		75 00
13-15	James Crawford	James Davidson	825 00	13 00
21	Catherine Healey, }	Estate of P. Power	225 00	15 00
23	Mrs. John Hall, }			10 00
39	Heirs J. Mulcahy, }	E. P. Allison	775 00	30 00
41	Miss Jennie Marshall, }			
43-45	Thos. L. Kent	M. A. Kent	402 00	225 00
47	Misses Rigby, }	Mrs. Mary Roach	300 00	105 00
49	Mrs. M. N. Moody, }			
77-81	John Osman	John O'Sullivan	50 00	116 00
83	Arch Mulvena	James Coolen	200 00	61 00
97	Daniel J. Smith, }	George McKerron	300 00	125 00
99	George F. Fenton, }			151 00
109	H. D. Blackadar	H. D. Blackadar	464 00	5 00
111	H. D. Blackadar	H. W. Trider	1000 00	20 00
151	Wm. Canavan	E. P. Allison	1750 00	Includes bldg.
157	Wm. Nisbet	S. A. Heisler	253 63	75 00
163	E. M. Power	S. A. Heisler	93 29	10 00
213-5	Thos. M. Power	Thos. M. Power	450 00	355 00

The widening of Harvey Street by purchasing a strip of land from the Ladies' College was before the Council, but was dropped in consequence of the cost. A small jib of Land was leased from the College to remove a corner projecting into the north sidewalk.

Charles Street between Robie Street and Windsor Street was taken over by the Council, July 16th, 1902.

William Robinson was granted a lease at the west end of South Street for a boat slip and E. Sullivan was given a lease on the North Ferry for a boat house, for the sum of one dollar.

Four hundred and thirteen enamelled street name signs were put up at corners during the year.

Four hundred and fifty-one yards of cement sidewalks were laid at a cost of \$1.48 for 43.42 yards and \$1.73 for 407.79 yards. Brick sidewalk relaid by Foreman Jas. Downie cost 23 cents and 34 cents, which is much lower than similar work formerly done by other Foremen.

The stone for breaking at the Poor Association sheds was supplied at $1\frac{3}{4}$ cents per bushel. The quantity broken was 20,174 bushels; total cost \$1,281.89, or $6\frac{1}{2}$ cents per bushel.

48,784 bushel of stone were delivered at the crusher at 2 cents per bushel.

The new roller was received and placed in service. The City carpenter had two (two-wheeled) coal carts made in the shops. They are constructed so that they can be attached behind the rollers and towed from place to place as the roller moves from one work to another. They hold a day's supply of coal, can be locked, and their use avoids the necessity of sending a team for coal, thus saving time and money.

During the last ten years a great many old cobble gutters have been replaced with granite. Whenever an old curb is reset or a new one laid granite gutters eighteen inches wide are used. There are still, however, miles of old cobble gutters and some new ones are laid occasionally on suburban streets where a curb would be too expensive for the amount of money available from the street appropriation. These gutters should be prohibited in future and something more up-to-date adopted. A design has been prepared for a combined concrete curb and gutter and moulds are being made in the shops so that it can be constructed at the Poor's Asylum in blocks about two feet or two and a half feet long in the same manner as the blocks for our concrete sewers are made. It is proposed that a street shall be selected where the soil is clayey and frost destructive and an experiment made to determine the cost, best method of laying to protect it from frost, durability and general results. Several tests have been made to determine the difference in cost of cleaning cobble and granite gutters. The granite gutters are smooth, frequently cleaned by rain storms, grass does not grow on them and the dirt is easily removed by a broom or square shovel. They also permit the use of the whole roadway from curb to curb. Cobble gutters catch all dirt, are not cleaned by rains, are very rough for wheel traffic and consequently contract the roadway, grass grows in them and all dirt must first be picked out before it can be removed with a broom. The first cost of granite is more than that of cobbles, but our experiments show that one man can clean as much granite gutter as eight men can cover on a dirty cobble gutter. In appearance, neatness, &c., there is no comparison, and the frost has a much more injurious

effect on cobbles than on granite. In fact, one winter in many cases where grades are flat, is sufficient to upheave a cobble gutter so that the water lies in pools. If the concrete curb and gutter can be made to withstand traffic and frost at reasonable cost the problem will be solved and the cobbles will find their way through the stone crusher.

PUBLIC BATHS.

The Beach Bath was opened June 21st, and closed Oct. 6th. The number of bathers was—males 4550, females 1575, total 6125. The average attendance for three years previously was—males 8401, females 2886—total 11287.

The expenditure was—Caretaker.....	\$123 43
Repairs, &c.....	145 07
Laundry.....	74 52
Insurance.....	18 00
	—————\$361 02

Receipts, \$241.70.

The Floating Bath was opened July 9th, and closed September 20th. The attendance was males 2489, females 385 total 2874. The average attendance for three years previously was—males 5375, females 1512, total 6887.

The expenditure was—Caretaker.....	\$74 00
Cooperage.....	73 00
Towage.....	30 00
Painting.....	99 00
Repairs, &c.....	49 03
Laundry.....	6 22
Insurance.....	18 00
	—————\$349 25

Receipts, \$21.60.

The falling off in attendance, and consequently in receipts, was caused by the cold weather during July and August. September was warmer and the patronage better than in former years. The closing of the Beach Bath was therefore postponed to a later date than usual.

CITY PROPERTY.

The promenade around the Citadel was widened and carriage approaches made so that teams carrying tourists, &c. may now drive around and obtain, without leaving the vehicle, the best view of the City.

The wharf at South Ferry has been knocked over by the Dartmouth ferry boats entering their dock. The Ferry Commission have refused to repair the damage and the City has taken no action. Meantime the wharf is in a dangerous and disgraceful condition and the City should move in the matter. The Commission asked for a reduction in the rent of the dock and claimed that a reduction would benefit the City as much as Dartmouth; but it was subsequently discovered that the Ferry paid the Town of Dartmouth in 1902 the sum of \$1921.00 taxes and the Council declined to reduce the rent.

Later the Commission introduced a bill in the House of Assembly which His Honor the Recordæ reported was "to confiscate the dock and hand it over to the Dartmouth Ferry Commission as a private corporation." The bill was opposed by the City and defeated. It is to be regretted that the City and Dartmouth cannot agree when their interest in this and all other matters affecting them or the port of Halifax should be identical. United they would be much stronger and the union would result advantageously for both. With a ferry owned by Halifax and Dartmouth an up-to-date dock and head house should take the place of the old structures and the fare should be reduced to one cent. The tax paid to Dartmouth and the rent paid to Halifax would go a long way towards such a reduction.

A basin for the proposed fountain on the Grand Parade was constructed of concrete with a granite rim or curb. The granite was supplied by John Kline for \$237.00, labor cost \$172.56 and materials \$90.26—total \$499.82.

The exterior woodwork of the City Hall was painted at a cost of \$244.00 and the offices of the Auditor, Collector and Treasurer at \$221.33.

On February 20th the buildings of Moir, Son & Co. were destroyed by fire. The sashes and cornices on the western end of

the City Hall burst into flame and the fire followed the woodwork inside. It had made little progress, however, before it was checked and extinguished. Considerable damage was done by fire, smoke and water in the Library, Foremen's offices and City Engineer's offices. It was appraised at \$1575.00 for damage to the building and \$150.00 on furniture, fittings and fixtures. Tenders were at once invited and contracts made for repairing all damage.

One express sleigh was added to the stable equipment. It was made in the shops under the direction of the City Carpenter.

CABLE CONDUITS.

The Nova Scotia Telephone Company laid underground conduits in Spring Garden Road between a point west of Pleasant Street and a point west of Tower Road.

They have obtained permission to lay conduits during the coming season in Granville Street from Sackville Street to Buckingham Street, Buckingham St. to Barrington St., Barrington St. to Jacob St., Jacob St. to Brunswick St., Brunswick St. to Cogswell St., Cogswell St. to Gottingen St.

The several reports of the Foremen, Inspectors, &c., and statements of expenditure are appended.

Respectfully submitted,

F. W. W. DOANE,
City Engineer.

REPORT FOREMAN OF WATER WORKS.

CITY HALL, May 1st, 1903.

F. W. W. DOANE, Esq.,
City Engineer.

I have prepared the Annual Report of stock belonging to the Water Department and length of main and service pipes laid, with length of pipes re-cleaned; also location of houses supplied with water during summer of 1902.

All of which is herewith,

Respectfully submitted,

E. MORRISON,
Foreman Water Department.

NEW MAINS, 1902.

STREET.			CAST IRON MAIN PIPE.					HYDN'TS.		COST PER FOOT IN CRTS.						Total Cost.						
IN	FROM	TO	High or Low Service.	3 inch Pipe—feet.	4 inch Pipe—feet.	6 inch Pipe—feet.	9 inch Pipe—feet.	Joints.	Number of Valves.	Length of Pipe—feet.	Size of Pipe—Inches.	Number.	Number of Valves.	Percentage of Rock.	Pipes and Specials.		Valves and Hydrants.	Labor and Cartage.	Lead, Gasket, &c.	Dynamite and Fuse.	Incidentals.	Total.
Queen	S. G. Road	Rottenburg	L	457				T. & B.	2						41.4	0.7	39.8	0.8			89.0	\$ 406 63
Dresden Row	S. G. Road	326 feet North	L	320				"	1						41.8	4.9	44.5	1.0			92.3	300 90
Shirley	End of Pipe	To connect	H		241			"							60.0		91.1	0.8	3.4		155.3	374 33
Harvard	Quinpool Road	Yale	H		254			"	1						63.1	7.8	148.7	0.8	7.8		227.4	577 36
Yale	Harvard	End of Street.	H		660			"	130	6					61.4	27.9	119.0	0.8	6.3		215.4	1486 00
Almon	Windsor	East 726 feet	H				726	"	1	8	6	1	1		126.3	17.2	56.1	0.8	0.5		200.9	1474 26
Roome	Gottingen	East 954 feet	H					"	3	24	6	1	1	90	61.1	14.9	84.0	0.6	5.8		166 4	1627 41
West Young	End of Pipe	West 113 feet.	H					"							60.		102.0		6.8		168.8	190 80
Rector	School St.	West 116 feet.	L					"							60.	17.2	45.0				122.2	141 83
Acadia	Roome	South 272 feet	H				272	"	1						60.	7.4	99.9	0.4	5.7		178.4	471 67

Street Mains replaced with larger Mains, 1902.

STREET.			SIZE IN INCHES.		Length in Feet.
In	From	To	Old Pipe.	New Pipe.	
Queen Street....	Sp. Garden Road.	Rottenburg St....	3"	4"	457
Dresden Row...	" "	326 feet North..	3"	4"	326

Total length in feet of Cast Iron Water Mains in the Water Supply System of the City of Halifax.

	SIZE OF PIPE IN INCHES.										Less than 3 in.	Total.
	27	24	20	15	12	9	8	6	4	3		
Length December 31st, 1901	14560	20524	6712	44236	37201	42401	415	128865	19757	45508	898	361077
Laid during 1902						726		2694	783			4203
	14560	20524	6712	44236	37201	43127	415	131559	20540	*44725	898	*364497

Equal to $69\frac{177}{8280}$ miles.

*783 feet of 3 inch pipe taken up on Queen Street and Dresden Row.

N. B.—45 feet of 20 inch pipe in waste way Chain Lakes, and pipes from mains to hydrants (except wharves) laid previous to 1897, not included in above summary.

Pipes Cleaned by Mechanical Scraper, 1902.

DATE.	LOCATION.	Diameter in Inches.	Length cleaned in Feet.	Cost.	REMARKS.
Sept. 5...	High Service Main . . .	20	6712	\$19 20	Re-cleaned.
" . . .	" "	15	29628		"
Nov 11...	" "	20	6712	18 60	"
" . . .	" "	15	29628		"

New Service Pipes, 1902.

$\frac{1}{2}$ Inch. Feet.	$\frac{3}{4}$ Inch. Feet.	1 Inch. Feet.	Total Feet.
2458	292	42	2792

House Services Renewed, 1902.

$\frac{1}{2}$ Inch. Feet.	$\frac{3}{4}$ Inch. Feet.	Total Feet.
349	104	453

New Hydrants, 1902.

STREET.	LOCATION.	Kind.	Service.	Size of Pipe in Inches.	Length of Pipe in Feet.	No. of Nozzles.	Distance Valve from Hydrant.		REMARKS.
							FT.	IN.	
Summer . . .	Cor. Morris	City . .	High . .	6	22	3	..	..
Yale	Cor. Harvard	" . .	" . .	6	15	3	11	1	
Yale	East end	" . .	" . .	6	15	3	10	5	
Almon	ft. E. of Windsor	" . .	" . .	6	8	3	4	5	
Roome	Cor. Acadia	" . .	" . .	6	24	3	11	5	

Old Hydrants Replaced with Frost Jacket Hydrants, 190 .

STREET.	LOCATION.	Kind.	Service.	Size of Pipe in Inches.	Length of Pipe in Feet.	No. of Nozzles.	Distance Valve from Hydrant.		REMARKS.
							FT.	IN.	
Victoria Rd.	Cor. Tower Road	City . .	Low . .	6	..	3	..	..
Tower Road	Between South and Victoria Road	" . .	" . .	6	..	3	..	..
Morris	Cor. Water	" . .	" . .	6	..	3	..	..
Oxford	Cor. Quinpool Road	" . .	High . .	6	..	3	6	0	
Charles	Opp. John	" . .	" . .	6	..	3	..	..
Bilby	Cor. Gottingen	" . .	" . .	6	..	3	..	..
Agricola	Cor. North	" . .	" . .	6	..	3	4	0	
Quinpool Rd.	At Robie	" . .	" . .	6	..	3	..	..
Charles	Cor. Robie	" . .	" . .	6	..	3	6	9	

Summary of Hydrants, 1902.

Number of hydrants on streets, December 31st, 1901	363
" " wharves, "	20
" " Military and Naval property	20
" " private property	13
" " in use, December 31st, 1901	416
" " set on streets in 1902	5
Total number in use, December 31st, 1902	421

Total Number of Valves Main and Distribution Systems

Location and Size of Valves Set, 1902.

STREET.	LOCATION.	Size.	Service.
		Inch.	
Harvard ..	N. of Quinpool Road 30' 4" W. from E. side Harvard ..	6	H
.....	3' 2" S. of South rail of Tramway		
Yale	28' 10" N. E. Cor. of Harvard, W. 6"	6	H
Almon	22' 10" N. E. of Windsor E. of Cor. 2' 4"	9	H
Roome	60' 4" W. side St. N. of N. Cor. Harvey's house, 38' 7" ..	6	H
"	25' 11" N. W. Cor. Acadia a little West	6	H
"	34' 5" S. E. Cor. Acadia, West 3"	6	H
Acadia	30' 0" S. E. Cor. of Roome	6	H

Old Valves Replaced with Larger Valves, 1902.

STREET.	LOCATION.	Size in inches.		Service.
		Old.	New.	
Queen	North line Rottenburg St 27' 4" N. W. Corner ..	3	4	L.
"	South line Sp. Garden Road 25' S. W. Corner ..			
	35' S. E. Corner	3	4	L.
Dresden Row ..	6" S. North line Sp. Garden Road 28' 2" N. W. ..			
	Corner	3	4	L.

Hydrant Valves, 1902.

STREET.	LOCATION.	Size.	Service.
Yale	Corner Harvard 11' 1" from hydrant	6	H.
"	East end 10' 5" from hydrant	6	H.
Almon	feet E. of Windsor 4' 7" from hydrant	6	H.
Roome	Corner Acadia 11' 5" from hydrant	6	H.
Oxford	" Quinpool Road 6' 0" from hydrant	6	H.
Agricola	" North 4' 0" from hydrant	6	H.
Charles	" Robie 6' 9" from hydrant	6	H.
Robie	250 ft. North of Quinpool Road 4' 2" from hydrant ..	6	H.
"	117 ft. S. of Compton Ave 3' 8" from hydrant	6	H.

The Robie St. valves were placed in 1901 but omitted from report.

Total Number of Valves, Main and Distribution Services. December 31st, 1902.

	27"	24"	20"	15"	12"	9"	6"	4"	3"	1 1/2"	1 1/4"	1"	3/8"	Hydrant Valves 6"	Total.
In use December 31st, 1901.....	1	8	2	29	55	65	314	58	148	1	9	2	11	60	763
Set during 1902.....	..	..	..	..	..	1	6	3	....	..	..	..	..	9	19
	1	8	2	29	55	66	320	61	*145	1	9	2	11	69	*779

*Two 3 inch valves on Queen St. and one on Dresden Row replaced by 4 inch valves.

Pipe Stock on Hand Decemb-r 31st, 1902.

No. of Pieces.	Diameter in inches.	Weight of one, in lbs.	Total weight in lbs.	Val. per lb. in cts.	Total Value.	Remarks.
3	27	2870	8610	1 3/4	\$ 150 67	Class A, T. & B. 12 ft.
3	27	3206	9606	1 3/4	168 10	Class B, " "
1	27	3658	3658	1 3/4	64 01	Class C, " "
4	20	1504	6016	1 3/4	105 28	
10	15	1200	12000	2 1/2	270 00	
4	12	900	3600	2 1/2	81 00	
13	10	550	7150	2 1/2	160 87	
93	9	500	46500	2 1/2	1046 25	
36	8	386	13896	2 1/2	312 66	
179	6	380	68022	2 1/2	1530 45	12 ft. long, turned.
423	6	280	118440	2 1/2	2664 90	9 " "
6	6	280	1680	2 1/2	37 80	9 " plain.
17	5	222	3774	2 1/2	84 91	
153	4	204	31412	2 1/2	706 77	12 ft. long.
100	4	156	15600	2 1/2	351 00	9 " "
10	3	170	1700	2 1/2	38 25	12 " "
116	3	130	15080	2 1/2	339 30	9 " "
120	.....	26	3120	2 1/2	70 20	Stand pipes.
150	.....	12	1800	2 1/2	44 50	Plates.
250	.....	6	1500	2 1/2	33 75	Caps.
200	.....	18	3600	2 1/2	81 00	Sleeves for service.
185	.....	4	740	2 1/2	16 65	Caps for service.
157	.....	2	364	2 1/2	8 19	Thimbles for service
32	.....	12	384	2 1/2	8 66	Square caps for main stopcocks.
12	.....	19	228	2 1/2	5 13	Sleeves for main stopcocks.
2277			378380		\$8380 30	

Pipe—Specials.

No. of Pieces.	Diameter in Inches.	DESCRIPTION.	Weight of one in lbs.	Total weight in lbs.	Value per lb. in cents.	Total Value.
12	27	Thimbles				
2	27	Bell Mouth	831	1662	21 $\frac{1}{4}$	\$ 37 39
13	27	Bevel Collars	795	10335	3	310 05
1	27	Plain special, 2 feet long, Class A	404	404	1 $\frac{3}{4}$	7 07
1	27	" 2 " " B	460	460	"	8 05
1	27	" 3 " " B	700	700	"	12 25
1	27	" 4 " " B	920	920	"	16 10
1	27	" 5 " " B	1248	1248	"	21 84
2	27	" 5 " " B	1144	2288	"	40 04
1	27	" 3 " " C	820	820	"	14 35
1	27	" 3 " " C	930	930	"	16 27
1	27	" 4 " " C	1068	1068	"	18 69
1	27	" 5 " " C	1332	1332	"	23 31
1	24	Bevel Cellar	688	688	3	20 64
12	24	Thimbles	396	4752	21 $\frac{1}{4}$	106 92
1	24	Cap	290	290	"	6 52
6	24	Split Thimbles	620	3720	2 $\frac{3}{4}$	93 00
1	24	Y Branch 24"x24"	2372	2372	21 $\frac{1}{4}$	53 37
4	20	Thimbles	230	920	"	20 70
1	20	Split Thimbles	453	453	2 $\frac{3}{4}$	11 32
3	15	4-way branches	896	2688	21 $\frac{1}{4}$	60 48
3	15	4-way " 15"x6"	660	1980	"	44 55
1	15	3-way "	812	812	"	18 27
2	15	Y's	1112	2224	"	50 04
4	15	Thimbles	234	936	"	21 06
1	15	8-way branch 15"x12"x6"	580	580	"	13 30
1	15	Reducing to 6"	400	400	"	9 00
5	15	Saddles 15"x6"				
9	15	Split Thimbles	260	2340	2 $\frac{3}{4}$	58 50
1	12	4-way branch	615	615	21 $\frac{1}{4}$	13 84
3	12	" " 12"x9"	500	1500	"	33 75
4	12	" " 12"x6"	475	1900	"	42 77
2	12	3-way " 12"x12"	524	1048	"	23 58
3	12	" " 12"x9"	494	1482	"	33 34
1	12	" " 12"x6"	469	469	"	10 55
2	12	Reducing to 9"	240	480	"	11 00
8	12	" 6"	200	1600	"	36 00
2	12	" 6" with faucets	200	400	"	9 00

PIPE SPECIALS.—(Continued.)

No. of Pieces.	Diameter in Inches.	DESCRIPTION.	Weight of one in lbs.	Total weight in lbs.	Value per lb. in cents.	Total Value.
21	12	Thimbles	160	3360	"	75 60
5	12	Caps	45	225	"	5 06
2	12	Saddle 12"x4"	90	180	"	4 05
13	12	Split Thimbles	222	2886	2½	67 93
2	9	4-way branches 9"x9"x9"x5"	450	900	2¼	20 25
6	9	3-way branches 9"x9"	355	2130	"	47 92
10	9	3-way branches 9"x6"	335	3350	"	75 37
7	9	Reducing 9"x6"	157	1099	"	24 73
3	9	Offsets	156	468	"	10 93
20	9	Thimbles	112	2240	"	50 40
1	9	Saddle 9"x4"	45	45	"	1 01
20	9	Split Thimbles	139	2780	2½	69 50
7	9	Caps	34	233	2¼	5 35
5	6	Four-way branches	255	1275	"	28 74
5	6	Three-way branches 6"x6"	209	1045	"	23 51
4	6	" " 6"x3"	131	524	"	11 79
4	6	Reducing to 3", no faucet	105	420	"	9 45
5	6	Reducing to 3", with faucet	114	570	"	12 82
25	6	Thimbles	75	1875	"	42 19
4	6	Offsets	140	560	"	12 60
16	6	Caps	19	304	"	6 86
3	6	Bends	140	420	"	9 45
4	6	Y branches 6"x6"	250	1000	"	22 50
22	6	Split Thimbles	92	2024	2½	50 60
22	4	Four-way branches	123	2706	2¼	60 88
4	4	Three-way branches	114	456	"	10 26
6	4	Reducing to 3"	84	504	"	11 34
1	4	Y branch	96	96	"	2 16
10	4	Offsets	66	660	"	14 85
13	4	Bends	98	1144	"	25 74
3	4	Thimbles	29	87	"	1 96
5	4	Split Thimbles	64	320	2½	8 00
9	3	Crosses	90	810	2¼	18 22
8	3	Three-way branches	60	480	"	10 80
21	3	Thimbles	36	756	"	17 01
1	3	Bend	40	40	"	90
6	2	Four-way branches	30	180	"	4 05
2	2	Angle branches	23	46	"	1 03
8		Fire hydrants			66.50	532 00
9		Castings for fire plugs	418	3762	.03	112 86
6		Bases for fire plugs	140	840	.03	25 20
6		Jackets for fire plugs	340	2040	.03	61 20

PIPE SPECIALS.—(Continued.)

No. of pieces. Diameter in Inches.	DESCRIPTION.	Weight of one in lbs.	Total weight in lbs.	Value per lb. in cents.	Total Value.
11 . . .	Extension pieces for fire plugs	124	1364	.03	40 92
10 . . .	Cast iron caps for fire plugs	5	50	.03	1 50
17 . . .	“ “ suction hose	9	153	.03	4 59
6 . . .	Brass nozzles for fire plugs	2 $\frac{3}{4}$	15	.60	9 00
3 . . .	“ “ suction hose	5 $\frac{1}{2}$	16	.60	9 60
.	Brass castings, all sorts		100	.30	30 00
.	Tin tubing	250	250	.33	82 50
.	Refined iron		600	.02 $\frac{3}{4}$	15 00
12 . . .	Cast iron taps for stopcocks	5	60	.02 $\frac{3}{4}$	1 35
2 . . .	Bases for fire plugs, 6"x3" outlet	150	300	.03	9 00
					\$3137 44

Joint Staves.

For 6 inch pipe	For 9 inch pipe.	For 12 inch pipe.	For 15 inch pipe.	For 20 inch pipe.	For 24 inch pipe.	Keys.	Cost of each.	Total.	
1000	2700	2000	1700	600	7000	. . . . .	\$0 01 $\frac{1}{4}$	\$187 50
							1000	0 00 $\frac{1}{4}$	2 50

Valves.

No. of Pieces.	Size in Inches.	DESCRIPTION.	Weight of one in lbs.	Total weight in lbs.	Value of each.	Total Value.
1	12	Regulating Valve				\$206 66
1	6	“ “				103 33
4	15	Stop Valves			\$60 00	240 00
3	12	“ “			40 00	120 00
9	9	“ “			25 77	231 93
14	6	“ “			17 49	244 86
56	4	“ “			9 63	539 28
5	3	“ “			12 00	60 00
5	1	Service Stopcocks			2 50	12 50
5	“	“ “			2 00	10 00
2	“	“ “ Curb			2 25	4 50
8	“	“ “			1 60	12 80
60	“	“ “ at Main			1 50	90 00
4	15	Gun Metal Spindles	28	112	60	67 20
4	9	“ “	14	56	60	33 60
8	6	“ “	9	72	60	42 00
12	4	“ “	6	72	60	42 00
						\$2060 66

Meters in Stock.

Number.	Size in Inches.	DESCRIPTION.	Value of each.	Total Value.
7	6	Siemen's Meters.....	\$143 42	\$1003 94
3	4	" ".....	86 75	260 25
7	3	" ".....	65 67	459 69
2	2	" ".....	44 65	89 30
7	1½	" ".....	29 16	204 12
11	1	" ".....	21 50	236 50
14		" ".....	15 50	217 00
14		" ".....	14 50	203 00
164		Trident ".....	11 97	1963 08
1		Nash ".....	14 49	14 49
1		Disc ".....	12 34	12 34
1		Empire ".....	14 49	14 49
2		Hersey ".....	21 05	42 10
1		Niagara-Buffalo Meter.....	13 19	13 19
2		Frost Meter.....	31 42	62 84
1		Crown Meter.....	49 25	49 25
				\$4845 58

Miscellaneous.

Number.	DESCRIPTION.	Value of each.	Total Value.
1	Pipe tapping machine.....		\$127 60
1	5 H. P. steam engine and pump.....		625 00
1	4 H. P. gas engine.....		475 50
3	Derrick winches.....	\$ 7 00	21 00
2	Hand winches.....	8 00	16 00
2	Platform scales.....	25 00	50 00
	Tape packing for meters.....		65 00
1	Tapping and boring machine.....		80 00
3	Lathes.....		200 00
5	Pressure gauges.....	10 00	50 00
	Blacksmiths' tools.....		150 00
			\$1860 10

Recapitulation.

DESCRIPTION.	No. of Pieces.	No. of Pounds.	Value.
Pipes	22777	378380	\$8380 30
Specials			3137 44
Joint staves	14000		190 00
Valves	93		2 60 66
Meters	238		4845 58
Miscellaneous			1860 10
	37108	378380	\$20414 08

Rented Domestic Hydrants, 1902.

STREET.	LOCATION.
Cedar	N. E. corner Louisburg Street.
Wellington	S. W. corner Lundy Lane.
Duncan	North side.
Duncan	N. E. corner Harvard Street.
Preston	S. W. corner Jubilee Road.
Tower Road	At Fay's Lane.
Duffus	Corner Gottingen Street.
Oak	S. E. corner Beech Street.
Sullivan	Opposite May's Brewery.
Atlantic	Corner Brussel Street.
Mott	Corner Seldon Street.
Yale	East end.

Free Pumps Maintained by City.

No.	LOCATION.
1	Leahyville.
1	Lady Hammond Road.
1	Kempt Road.
1	Duffus Street.
1	Africville.
1	North Kline Street.
1	Campbell Road.

Hydraulic Hoists in Operation, 1902.

NAME.	Business.	Size of Service.	How Rated.
Dominion Government	Post Office	3 inch	Meter
Dominion Government	Appraisers' Office	3 "	"
G. M. Smith	Dry Goods	4 "	"
Wm Stairs, Son & Morrow	Hardware	4 "	"
Dillon Bros.	Groceries	3 "	"

MOTORS.

Brunswick Street Church (Methodist) ...	Organ	2 inch ...	Indicator ...
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Drinking Fountains, 1902.

No.	LOCATION.
1	Market Square.
1	St. Paul's Street, near Barrington Street.
1	Lockman St. immediately north of North St.
2	Public Gardens.

ORNAMENTAL FOUNTAINS.

3	Public Gardens.
1	Grand Parade.

Service Pipes Laid in 1902.

Number.	Name of Owner or Agent.	Location of Premises.	No of Stopcock Size of Pipe		Purpose for which water is used.
1	H. A. Brown	N. side Black Street	6729	1/2	Dwelling.
2	F. W. Moore	E. " Robie "	6730	"	"
3	H. J. Penney	W. " Edward "	6731	"	"
4	J. W. Sharp	W. " Shirley "	6732	"	"
5	J. McGrath	E. " Lockman Street	6733	"	"
6	A. King	E. " King's Place	6734	"	"
7	A. L. Pelton	N. " Williams Street	6735	"	"
8	Clayton & Sons	E. " Poplar Grove	6736	"	"
9	D. Wilson	N. " Macara St.	6737	"	"
10	Military School	S. " Cogswell St.	6738	1	School.
11	J. W. Brush	S. " Black St.	6739	1/2	Dwelling.
12	Dominion Government.	S. " George St.	6740	3	Customs House.
13	George Goldsmith	N. " Shirley St.	6741	1/2	Dwelling.
14	N. Ferguson	N. " "	6742	"	"
15		N. " Charles St.	6743	"	"
16	Felix Quinn	E. " Barrington St.	6744	"	"
17	J. McGrath	E. " Lockman St	6745	"	Barn.
18	Jas. Davidson	E. " "	6746	"	Dwelling.
19	John Snow & Son	E. " Seymour St.	6747	"	Coach House.
20	Geo. H. Heisler	N. " Yale St.	6748	"	Dwelling.
21	Chas. Share	N. " "	6749	"	"
22	James Hutt	N. " "	6750	"	"
23	B. Westhaver	N. " "	6751	"	"
24	B. G. Umlah	N. " "	6752	"	"
25	James Ryder	N. " "	6753	"	"
26	Henry Griffiths	N. " "	6754	"	"
27	George Tough	N. " "	6755	"	"
28	Chas. Carmichael	N. " "	6756	"	"
29	Lewis Brunt	N. " "	6757	"	"
30	Lewis Brunt	N. " "	6758	"	"
31	W. H. Cleverdon	S. " Coburg Road	6759	"	"
32	John Ryan	E. " Clifton St.	6760	"	"
33	J. W. Driscoll	N. " North St.	6761	"	"
34	Methodist Church	E. " Robie St.	6762	"	Church.
35	F. M. Hill	W. " Edward St.	6763	"	Dwelling.
36	S. H. Holmes	S. " Inglis St.	6764	"	"
37	J. Etterbridge	S. " Black St.	6765	"	"
38	Jennie Bateman	W. " Henry St.	6766	"	"
39	John Y. Payzant	N. " Duffus St.	6767	"	"
40	George Morton	S. " Almon St.	6768	"	"
41	F. W. Hodgson	S. " "	6769	"	"
42	Wm. Williams	S. " "	6770	"	"
43	M. J. Hill	W. " Edward St.	6771	"	"