

# ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

## 1947



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February 2, 1948.

TO HIS WORSHIP THE MAYOR AND ALDERMEN  
OF THE CITY OF FREDERICTON.

Gentlemen:

I submit herewith this report which is a statement of the work done in the different City Departments under the direct supervision of the City Engineer, and covers the period of time from the first of December 1946 to the first of December 1947.

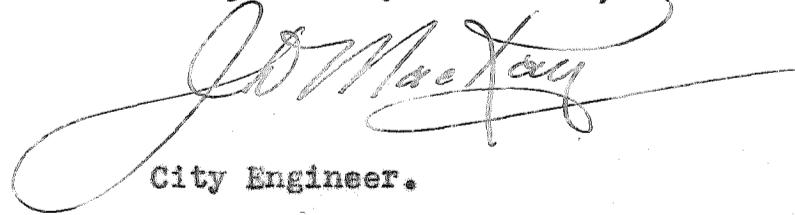
This report is written with the purpose of reporting to the Council on the costs of the various Departments for the year. It is also written with the idea of having an accurate record on file of the different activities and costs under these Departments.

The City of Fredericton occupies a total of some 23.5 square miles. This mileage includes the water area occupied by the St. John River within the boundaries of the City.

The City's population is, I believe, at the present time about 46,000 persons; some 3,000 of these living on the north side of the St. John River or in what was formerly the Town of Devon; some 12,000 living on the south side of the St. John River in the urban or built-up portion of the former City of Fredericton; and about 1,500 persons living in the rural districts on the south side of the St. John River.

Following in the body of this report is a detailed statement of work done, comparative expenditures and unit costs under the different Departments. The detailed report of any particular Department can readily be found by referring to the Index on the preceding page.

Respectfully submitted,



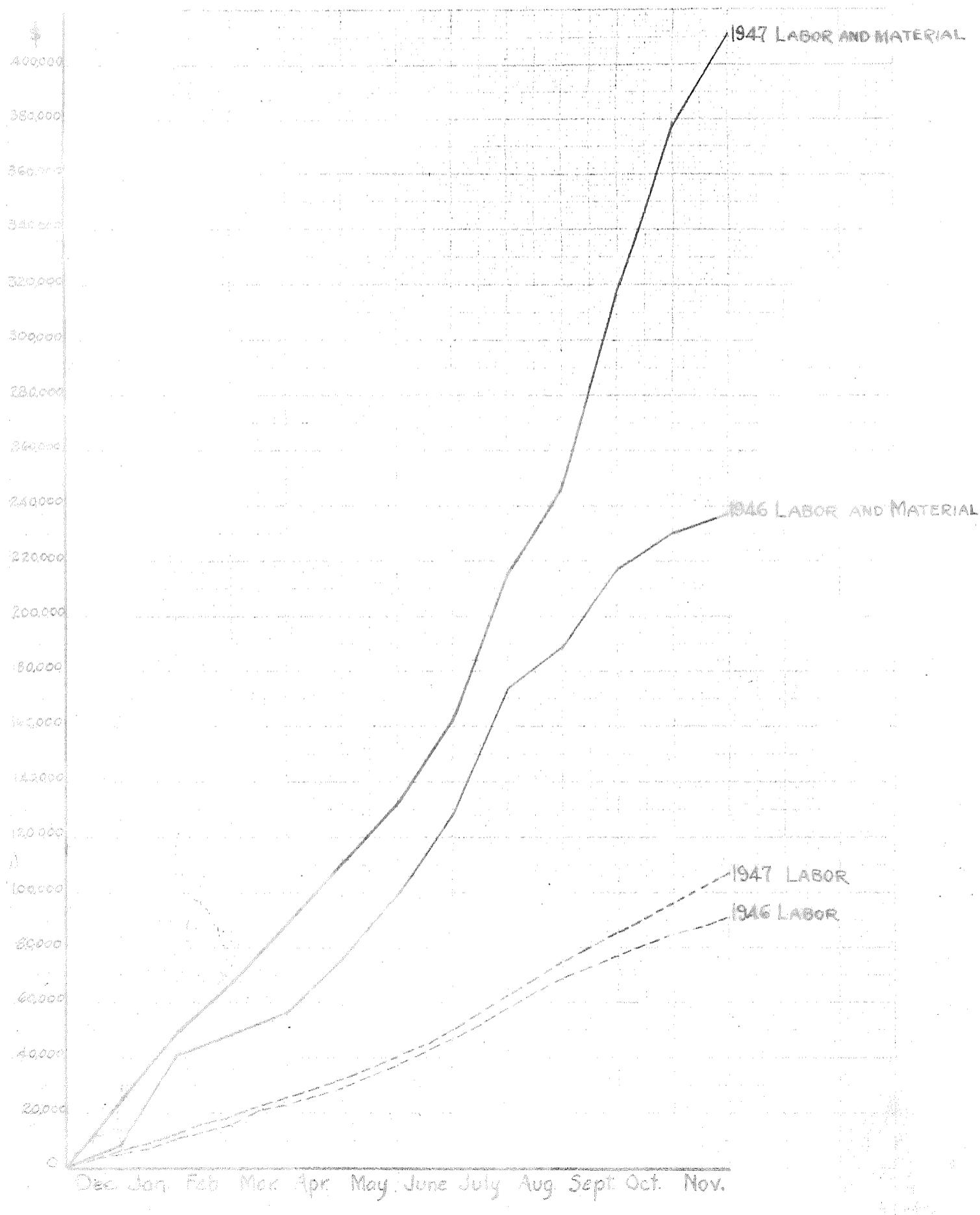
J. D. MacLay

City Engineer.

### TOTAL YEARLY EXPENDITURE

The Total Yearly Net Expenditure under the direct supervision of the City Engineer this year amounted to \$414,031.34. This expenditure will be taken up in detail under the different headings in this report. The total Gross Expenditure for this period amounted to \$448,181.75.

A graphic comparison of expenditure for labour and material for the year 1947 is shown on the following chart.



Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov.

TOTAL NET EXPENDITURE 1946 AND 1947.

## ROADS AND STREETS

This year we had an appropriation for Roads and Streets of \$50,000.00. We over-expended this appropriation by \$17,338.81.

We have in Fredericton altogether some 53 3/5 miles of roads and streets.

Our paved and unpaved streets are divided between the Rural and Urban Districts as follows:-

### Roads and Streets

	<u>Urban</u>	<u>Outlying</u>	<u>Total</u>
Paved	18.62	3.46	22.08
Gravel	8.31	23.21	31.52
Total	26.93	26.67	53.60

### Roads and Streets Expenditure 1947:-

Gross Expenditure.....	\$ 69,318.46
Credits.....	1,979.65
Net Expenditure.....	67,338.81
1947 Appropriation.....	50,000.00
Dr. Balance.....	\$ 17,338.81

The above Credits are made up as follows:-

J.L. Simms & Son Ltd. (Road Patrol ploughing snow on river).....	\$ 66.00
Fredericton Post Office (Road Patrol ploughing snow in yard).....	5.75
Ben Lawson (installing culvert per agreement).....	75.00
Northern Electric Co. (installing stop lights, labour one man).....	106.80
N.B. Telephone Co. (patching road at Victoria Public Hospital).....	68.10
Diamond Construction Co. (new sidewalk and driveway McFarlane Motors, King Street).....	<u>211.50</u> \$ 533.15
156 cds. wood sold from City Forest.....	<u>1,446.50</u>
Total.....	\$ 1,979.65

The credit of \$1,446.50 is for wood sold from the City Forest and is further explained under the heading "City Forest" on page \_\_\_\_ of this report.

The Gross Expenditure is divided as follows:-

Labour.....	\$ 42,445.99
Material charges and Workmen's Compensation.....	26,872.47
	\$ 69,318.46

I have divided the Labour Charges of \$42,445.99 into the following items. Although these items are made up entirely of labour costs, they give a good idea of the amount and kind of work done by the Roads and Streets Department during the year.

<u>Snowploughing sidewalks:-</u>	\$ 255.51
<u>Snow Control:-</u> Shovelling and hauling snow, ploughing or scraping roads, cleaning gutters of ice and snow and any other means of snow control.....	7,932.44
<u>Streets:-</u> General work of maintenance of streets and sidewalks and any other items such as building culverts, curbs and gutters or pavements which are not mentioned under some particular heading.....	7,158.80
<u>Surface Sewers:-</u> Cleaning, flushing and repairing surface sewers and building new surface sewers within street limits.....	596.70
<u>Salting Walks:-</u> Storing sand in winter storage piles and spreading same on slippery walks.....	1,997.76
<u>Yard:-</u> Men working in blacksmith shop and repair work in City Yard, taking summer equipment out and storing winter equipment, etc.....	1,943.19
<u>Gravel:-</u> .....	3,677.75
<u>St. John Road:-</u> All work done on the River Road from Alexandra Street to eastern city line other than work done by power maintainer and pavement maintenance.....	398.10
<u>Doak and Wilsey Roads:-</u> All work done on these roads other than work done by power maintainer.....	965.68
<u>New Maryland Road:-</u> From C.P.R. Crossing to southern city line. All work done on this road other than that done by power maintainer.....	---
<u>Killarney Road:-</u> .....	175.84
<u>Outlying Roads:-</u> Hanwell Road, Cross Road lying between Brick Hill and College Hill Road and Forest Hill Road. All work done on these roads other than work done by power maintainer.....	1,021.68
<u>Street Cleaning:-</u> All cleaning and removal of dirt, leaves, etc. from streets.....	12,072.44
<u>Tarvia Repairs:-</u> Patching and repairing asphalt or tar pavements and sidewalks and applying seal coat of light tar or asphalt to pavements.....	1,101.86
<u>City Road Patrol:-</u> .....	655.19
<u>City Forest:-</u> .....	2,493.05
Total.....	\$ 42,445.99

Following is a table comparing Labour Expenditure in these items from 1944 to 1947.

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS  
LABOUR ITEMS

Item		<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>
	Snowploughing				
1.	sidewalks	\$ 64.70	\$ 153.75	\$ 579.20	\$ 255.51
2.	snow Control	1,696.51	6,841.28	7,073.15	7,932.44
3.	Streets	4,595.09	6,366.49	5,450.87	7,158.80
4.	Surface Sewers	466.07	477.59	917.88	595.70
5.	Sanding Walks	530.74	386.09	591.66	1,997.76
6.	Yard	836.62	999.44	802.16	1,006.19
7.	Gravel	---	2,587.62	2,366.11	3,677.75
8.	Street Sprinkling	33.81	47.30	---	---
9.	St. John Road	352.01	187.11	176.42	398.10
10.	Doak & Wilsey Roads	106.84	231.47	2.56	965.68
11.	New Maryland Road	479.46	434.91	66.46	---
12.	Killarney Road	---	---	---	175.84
13.	Outlying Roads	852.65	185.01	474.51	1,021.68
14.	Street Cleaning	7,773.64	7,415.71	10,213.19	12,072.44
15.	Tarvia Repairs	2,482.69	1,784.63	728.62	1,101.86
16.	City Road Patrol	558.67	647.06	552.79	655.19
17.	Dunn's Crossing	---	30.66	957.01	---
18.	City Forest	<u>4,469.70</u>	<u>2,456.00</u>	<u>4,275.20</u>	<u>2,493.05</u>
	Total	<u>25,299.20</u>	<u>30,232.12</u>	<u>35,227.79</u>	<u>42,445.99</u>

Some of these above items for labour may be better understood by the following explanations:-

Item 2.	<u>Snow Control:-</u>	<u>1946</u>	<u>1947</u>
	Snowploughing roads and streets.....	\$ 538.45	763.60
	Shovelling and hauling snow.....	4,128.30	5,442.15
	Catch basins.....	778.25	760.20
	Snow fences.....	370.80	517.80
	Keeping drains on hills open.....	620.55	218.50
	Thawing culverts.....	197.75	38.75
	General Expenses.....	439.05	191.44
	Total.....	\$ 7,073.00	7,932.44

#### Snow Fences:-

In our snow fencing this year we used 10,400 feet of lathmade snow fence.

Item 3. Streets:-

Repairs to plant.....	603.75
Curb and gutter.....	---
Painting traffic lines and street signs.....	845.60
Weather Account (holidays).....	2,132.00
Repairs to bridges.....	566.35
Surveying.....	2,310.25
Unloading and spreading calcium chloride.....	73.90
Installation of stop lights.....	439.80
General Expenses.....	187.17
Total.....	\$ 7,158.80

This season we laid some 4,777 lineal feet of concrete curb and gutter, but as this was charged against Permanent Roads Account it will be discussed further along in this report under the heading "Permanent Road Account."

The above Weather Account of \$2,132.00 is made up chiefly of wages paid to workmen when they were on their holidays.

Stop Lights:-

This year, stop lights were installed at the corners of King and Regent Streets, Queen and York Streets and Regent and Queen Streets.

The lights were purchased from the Northern Electric Co. and were installed by this Company except for the installation of the bases and underground conduit which was installed by our own city crew at a cost of \$439.80 for labour and \$250.00 for material charges, making a total charge of \$689.90 for labour and material supplied by the City or a cost of about \$230.00 per intersection.

Item 4. Surface Sewers:-

All surface sewers in the City were flushed and all catch basins were cleaned and repaired during the summer season at a labour cost of \$596.70.

Item 7. Gravel:-

This year we hauled from our city gravel pit at Barker's Point some 9,926 cubic yards of gravel of which 5,466 cubic yards were used in our regular city maintenance and 1,261 cubic yards were used by the Coastal Asphalt Co. in paving city streets, and 3,199 cubic yards used on Wartime Housing, Carleton Ward.

Item 13. Outlying Roads:-

The labour expenditure of \$1,021.68 is made up of maintenance expenditures incurred in repairs on the Brick Kiln Road, York Street Hill, Hanwell Road, Cross Roads, Forest Hill and College Hill.

The actual maintenance by road patrol on these outlying roads does not appear in this item as it was charged under item headed "City Road Patrol."

Item 14. Street Cleaning:-

The labour cost of \$12,072.44 shows an increase of \$1,859.25 over last year's labour expenditure. This increase is partly due to additional pavement laid this year which had to be kept clean, but mostly due to increase in wage rates.

Item 15. Tarvia Repairs:-

The labour expenditure of \$1,101.86 is divided as follows:-

Patching streets.....	\$ 1,075.30
General Expenses.....	<u>26.56</u>
Total.....	\$ 1,101.86

The following table shows the Bituminous Material used in 1947.

	R.C.4	R.C.3	M.C.1	M.C.2	Asphalt Emulsion
Gals. in stock Spring 1947	90	1120	0	0	0
Gals. purchased 1947	0	0	0	536	540
Available 1947	90	1120	0	536	540
Stock on hand Fall 1947	0	0	0	0	40
Used season 1947	90	1120	0	536	500

This year the Saint John Road was patched from City line to Alexandra Street, also Carleton Ward and streets in city where it was necessary. Used on Saint John Road for patching - 442 tons at \$6.25 and \$4.00 per ton amounting to \$1,872.62.

The \$4.00 per ton charges were for patching taken from plant by city crew, while we paid \$6.25 per ton for patching put in place by the Coastal Asphalt Company.

Item 18. City Forest:-

Included in our regular Roads and Streets Costs is a labour expenditure for City Forest of \$2,493.05.

This labour item is sub-divided as follows:-

Hauling wood from City Forest to City woodyard.....	\$ 356.95
Cutting fuel wood in woods.....	620.95
Cutting wood with woodcutter in City Yard.....	301.05
Haying.....	45.00
Caretaker's wages and miscellaneous expenses.....	<u>1,169.10</u>
Total.....	\$2,493.05

Besides this labour cost, the City Forest shows an expenditure for material of \$288.24 making a total cost for the year of \$2,781.29.

The roads and trails in the City Forest proper were kept clear from fallen trees and brush.

A tree nursery which had been planted in 1944 was kept weeded and cultivated.

The before-mentioned merchantable material which was cropped from the City Forest this year would give the following revenue:-

19.11 cds. rough spruce pulpwood @ \$11.00.....	\$ 210.21
125 cds. hardwood (4 ft.) cut in woods and hauled to woodyard and later cut into 2 ft. or 16 in. pieces @ \$15.00.....	1,875.00
5 tons of hay in barn at \$18.00.....	<u>90.00</u>
Total.....	\$2,175.21

Following is a map of the City Forest with locations showing the 1941 cuts marked in Red, 1942 cuts marked in Green, 1943 cuts marked in Blue, 1944 cuts marked in Brown, 1945 Cuts marked in Yellow, 1946 cuts marked in Black, and 1947 cuts marked in Pink.



**TABLE SHOWING COMPARATIVE COSTS OF ROADS AND STREETS**

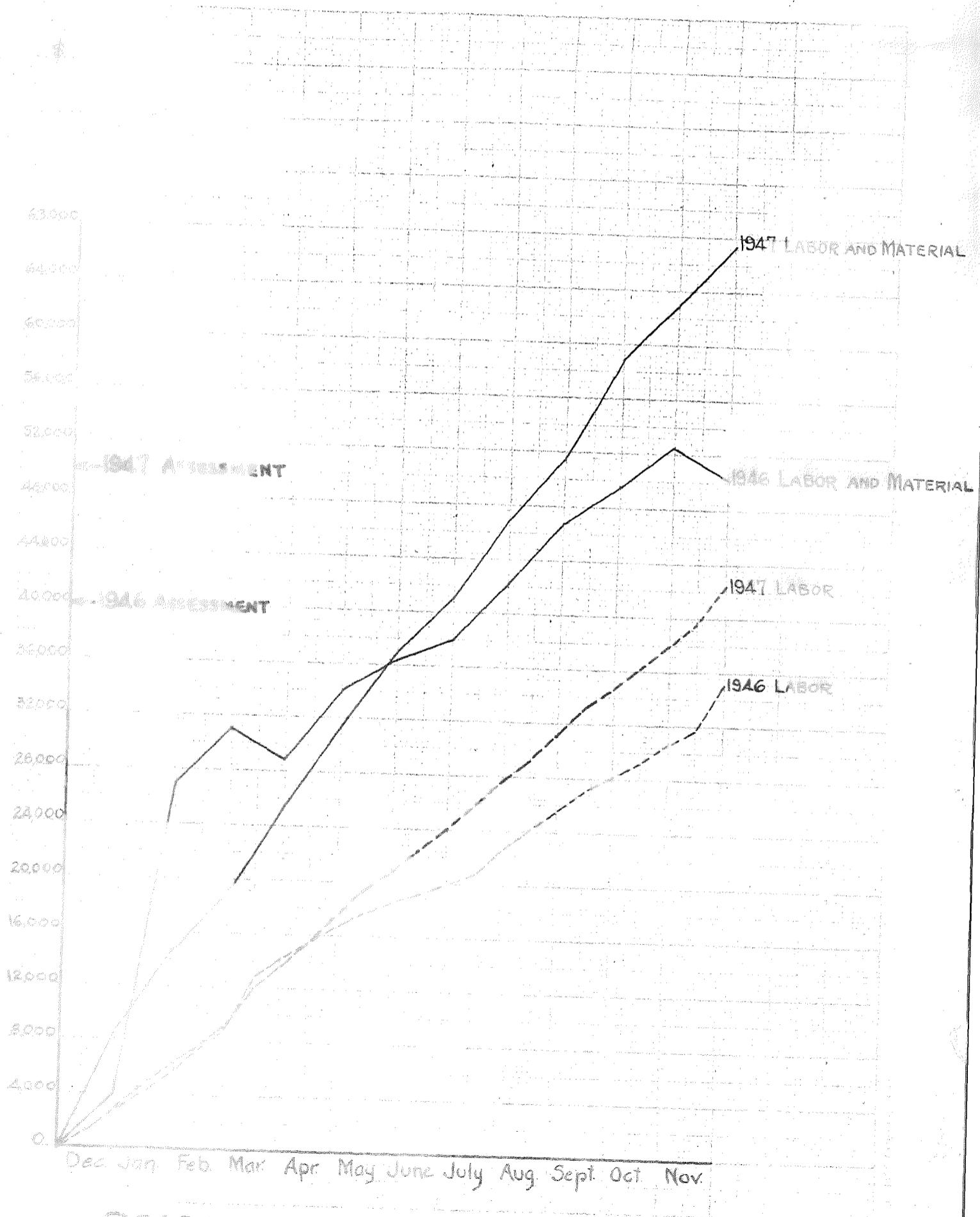
Years 1930 to 1947

Year	Expenditure for Labour	Gross Expend- iture Labour and Material	Credits	Net Costs Labour and Material	Appropriation
1930	16,553.53			34,556.53	32,000.00
1931	26,024.54	50,849.60	15,511.97	35,337.63	31,000.00
1932	25,430.96	39,101.62	4,822.19	34,279.53	25,000.00
1933	10,607.99	19,161.38	333.28	18,829.10	19,000.00
1934	13,332.51	23,665.94	2,311.50	21,554.36	20,000.00
1935	25,264.14	46,588.85	21,502.31	25,086.54	23,000.00
1936	18,357.05	33,238.01	11,059.77	22,178.24	23,000.00
1937	18,060.48	34,931.68	12,641.95	22,289.73	20,000.00
1938	15,601.78	24,373.83	781.88	23,491.95	22,000.00
1939	16,681.88	32,509.93	1,762.67	30,747.26	28,000.00
1940	17,959.36	33,058.59	2,190.50	30,868.09	28,000.00
1941	22,816.69	40,285.46	3,050.12	37,233.34	28,000.00
1942	22,545.62	39,215.84	3,416.91	35,798.93	30,000.00
1943	22,879.44	36,970.80	6,597.85	30,372.95	30,000.00
1944	25,299.20	47,285.36	4,316.50	42,968.86	30,000.00
1945	30,232.12	56,049.45	5,306.15	50,743.30	33,000.00
1946	35,227.79	67,961.39	18,649.68	49,311.71	40,000.00
1947	42,445.99	69,318.46	1,979.65	67,338.81	50,000.00

Our over-expenditure of \$17,338.81 in our Roads and Streets Department could not be avoided it seems to me under present conditions and labour and material costs.

Although we had a large expenditure for snow control, we could possibly have such an expenditure for a number of years running.

Considering our additional road mileage in Carleton Ward, I believe that our Roads and Streets appropriation of \$50,000.00 is too small and if present conditions continue will have to be raised to at least the \$60,000.00 mark to enable us to keep within it.



Dec Jan Feb Mar Apr May June July Aug Sept Oct Nov

ROADS AND STREETS COSTS 1946 AND 1947.

CAPITAL ACCOUNT PAVING

Gross Expenditure.....	\$ 19,171.48
Credits.....	118.50
Net Expenditure.....	\$ 19,052.98

The above Credits are made up as follows:-

Diamond Construction Co. (100 bags Cement @ 80¢ per bag) ..	\$ 80.00
N.H. Woods (385 cu. yds. Top Soil @ 10¢ per cu. yd.) ..	<u>38.50</u>
Total.....	\$118.50

The following streets in the City were paved by the Coastal Asphalt Products Ltd. under contract with the City of Fredericton:-

	Lineal Ft.	Sq. Yds.
Campbell Street - York St. to Carleton St.....	656	1848
St. John Street - Aberdeen St. to Scully St....	281	821
Scully Street - Aberdeen St. to Regent St.....	585	1872
Regent Street - C.P.R. Track to Albert St.....	855	1995
York Street - Back Drain to Dundonald St.....	620	1510
Wilmot Alley - Queen St. to King St.....	310	586
Barker House Alley - Queen St. to King St.....	302	587
Queen Hotel Alley - Queen St. to King St.....	270	570
Church Street - Churchill Row to Aberdeen St...	436	<u>1563</u>
Total.....	4315	11,352

About .81 miles of pavement.

All pavements were 4 inches in thickness. The before-listed pavement was, as I said, laid by the Coastal Asphalt Co. under contract with the City of Fredericton and consisted of a hot mix pavement.

The Coastal Asphalt plant was set up in the City gravel pit at Barker's point. The aggregate was taken off the run of this pit, heated and mixed with a cut-back asphalt, taken to the job in trucks, spread with a mechanical spreader box, and rolled to a thickness of four inches. The grading and preparation of sub-base for the pavement was done by City crews.

This year the following Curb and Gutter were laid by the City crews and charged to Capital Account Paving:-

	Lineal Ft.
Scully St. - St. John Street to Regent St. (north side)	635.0
Scully St. - St. John Street to Regent St. (south side)	643.5
Church St. - Churchill Row to Aberdeen St. (west side)	587.0
Church St. - Churchill Row to Aberdeen St. (east side)	361.8
St. John St. - Aberdeen St. to Scully St. (west side) ..	235.0
St. John St. - Aberdeen St. to Scully St. (east side) ..	<u>277.0</u>
Total.....	2,555.3

In addition, the following Curb and Gutter was laid by O'Dell Construction Co. crews and charged to Capital Account Paving:-

	<u>Lineal Ft.</u>
Parkhurst Drive - Rockwood Ave. to Brookmount Ct. (north side)	608
Parkhurst Drive - Rockwood Ave. to Brookmount Ct. (south side)	589
Manor Court - Parkhurst Drive to end of Court (west side)....	247
Manor Court - Parkhurst Drive to end of Court (east side)....	247
Brookmount Ct. - Parkhurst Drive to end of Court (west side)....	265.5
Brookmount Ct. - Parkhurst Drive to end of Court (east side)....	265.5
Total.....	2,222.0

Total Curb and Gutter laid 1947 - 4,777 ft.

The actual cost per square yard of pavement laid for the 4 inches of asphalt only without seal amounted to \$1.24 $\frac{1}{2}$  and is computed as follows:-

Total cost of asphalt from Coastal Asphalt Co. \$14,142.04  
Total square yards pavement laid 11,352 sq. yds.

Actual cost per square yard  $\frac{\$14,142.04}{11,352} = \$1.24\frac{1}{2}$

The cost of constructing Curb and Gutter at Sunshine Gardens was \$1.18 per ~~square yard~~ <sup>lineal ft</sup> and is computed as follows:-

Labour.....	\$ 1,600.20
Cement (535 bags).....	441.15
Miscellaneous (tools, lumber, rental, compensation, etc.).....	<u>581.76</u>

Total.....  $\frac{\$1,600.20 + 441.15 + 581.76}{2,222} = \$2,623.11$

Total ~~square yards~~ Curb and Gutter laid at Sunshine Gardens - 2,222 sq. yds.

Actual cost per ~~square yard~~  $\frac{\$2,623.11}{2,222} = \$1.18$

CAPITAL ACCOUNT SEWERAGE

Gross Expenditure.....	\$ 18,131.23
Credits.....	28.93
Net Expenditure.....	\$ 18,102.30

The Credit item of \$28.93 is cost of one manhole cover and frame sold to Acme Construction Company.

Included in this Gross Expenditure of \$18,131.23 is an item of \$13,805.42 which is the amount paid for Michigan Power Shovel f.o.b. Fredericton.

The following sewers were laid under this heading and all laid at Sunshine Gardens:-

600 ft. of 5" Terra Cotta pipe	(Domestic Sewer to houses)
650 ft. 8" Terra Cotta pipe	(Domestic Sewer)
200 ft. 10" Terra Cotta pipe	(Surface Sewer)
948 ft. 15" Terra Cotta pipe	(Surface Sewer)

2,398 lin. ft.

The above Terra Cotta pipe was laid by City Crews and O'Dell Construction Company.

In order to get the cost per foot of sewer laid, the following computation is made:-

Expenditure.....	\$ 18,131.23
Less cost of shovel.....	<u>13,805.42</u>
	4,325.81
Credit.....	28.93
Expenditure.....	\$ 4,296.88

To this Expenditure must be added the following:-

Bill from O'Dell Construction Co. work done in 1947 (bill will appear in 1948 accounts).....	<u>890.94</u>
Rental on Michigan Shovel including operator, etc. (116 hrs. @ \$10.00 per hr.).....	1160.00
Rental on Bulldozer (60 hrs. @ \$5.00 per hr.)	300.00
Labour on installing Domestic Sewer (12 houses @ \$25.00 per house).....	<u>300.00</u> <u>2,650.94</u>

Total Cost Sewer.....\$ 6,947.82

Total cost per lin. ft. sewer in place:- \$ 6,947.82 = \$2.90  
2398

### WARTIME HOUSING CAPITAL ACCOUNT

This year two hundred (200) homes were constructed or partially constructed by the Central Mortgage & Housing Corp. under an agreement which the Company entered into with the City. The Company built the houses and the City supplied the land, graded the lots, built the streets and supplied water and sewerage and street lighting.

LAND The streets were constructed as gravel roads only and no concrete curbs or sidewalks have been built to date.

PLACE At December 31st, 1947 some 141 of these houses were occupied and practically all the construction which was necessary for the city to do under the agreement had been completed.

Following are some figures showing the costs to the City for these 200 houses. These figures do not include the future cost of concrete sidewalks, curb and gutter, or street pavement, some of which will no doubt have to be done.

### WARTIME HOUSING #1 and #2

200 Houses		Total Cost \$207,027.38		
Year of Expenditure	Roads and Grading	Water and Sewerage	Land	Total for Year
1946	\$ 231.84	\$ 314.69	\$ 17,950.00	\$ 18,496.53
1947	38,265.84	96,890.77	37,926.01	173,082.62
1948	1,876.14	4,441.36	9,130.73	15,448.25
TOTAL	<u>40,375.82</u>	<u>101,646.82</u>	<u>65,006.74</u>	<u>207,027.38</u>

### Land Purchases:-

Dobie.....	\$ 17,950.00
Jas. McGill.....	8,500.00
Mrs. Hanson.....	8,096.00
A. D. Neill.....	5,386.00
Leo & Loretta Hayes.....	8,888.25
Wm. B. Hayes.....	485.25
Marjory Hayes.....	485.25
Mary Ellen Gourley.....	242.63
Jennie McManus.....	242.63
Fredericton School Board.....	5,400.00
Jos. MacDonald.....	200.00
Movement piece of Trans line.....	130.73
Estimate City cost to move Trans line.	<u>9,000.00</u>
	<u>\$ 65,006.74</u>

Cost

of Tax

2.35 Miles gravel road @ \$10,000.00.....	\$ 23,500.00
Grading around 200 houses @ \$84.37.....	<u>16,873.82</u>
Land Cost for 200 Lots @ \$325.03.....	<u>65,006.74</u>
9,675 lin. ft. of 6-inch Water Main in place @ \$4.00.....	38,700.00
1,213 lin. ft. 1" to 1½" Water Main @ \$2..	2,426.00
1,348 lin. ft. 18" T.C. Sewer @ \$6.00.....	8,088.00
2,590 lin. ft. 15" T.C. Sewer @ \$6.00.....	15,540.00
2,900 lin. ft. 12" T.C. Sewer @ \$4.00.....	11,600.00
530 lin. ft. 10" T.C. Sewer @ \$3.75.....	1,987.50
4,975 lin. ft. 8" T. C. Sewer @ \$3.50.....	17,525.00
1,002 lin. ft. 10" T.C. Surface Sewer @ \$3	<u>3,006.00</u>
	98,672.50

Material in Stock

Terra Cotta Pipe, Brick, Catch Basin and M. H. Castings.....	<u>2,974.32</u>	<u>2,974.32</u>
	<u>207,027.38</u>	<u>207,027.38</u>

## PUBLIC WORKS

Gross Expenditure.....	\$ 20,307.34
Credits.....	384.70
Net Expenditure.....	19,922.64
1947 Appropriation.....	13,000.00
Dr. Balance.....	\$ 6,922.64

I have divided the cost of Public Works Department into three items:-

### Cleaning

1. Public Works Ordinary.....	\$ 11,438.46
2. Public Works Playgrounds.....	7,400.64
3. Public Works Old Burial Ground.....	<u>1,468.24</u>
	<u>\$ 20,307.34</u>

### Public Works Ordinary

Gross Expenditure.....	\$ 11,438.46
Credits.....	34.20
Net Expenditure.....	\$ 11,404.26

The Credit of \$34.20 is made up of labour charged to private parties for cutting trees on their own property.

The Net Expenditure is made up of a labour charge of \$6,799.35 and a material charge of \$4,604.91. The labour item is divided as follows:-

Dump.....	\$ 2,791.86
Back Drain.....	178.50
Trees.....	829.59
Unforeseen Account.....	<u>2,999.40</u>
Total.....	\$ 6,799.35

### Back Drain:-

A small labour cost of \$178.50 was used up in some minor cleaning out of the drain bed and some repairs to the drain embankment.

### Trees:-

This labour item of \$829.59 was entirely expended in cutting and pruning our city shade trees and also in spraying against an elm parasite.

This spraying labour item amounted to \$142.00. The spraying was done under the guidance of Mr. R. E. Balch of the Dominion Entomological Laboratory. Spraying this year consisted entirely of fall spraying. The trunks of all trees in the infested areas were sprayed in an endeavour to kill the parasite which crawls up the tree in the fall to lay its eggs on the upper branches of the tree. These eggs hatch in the spring and produce worms which feed on the early elm foliage.

Unforeseen Account:-

The labour cost is divided as follows:-

Cutting bushes along river front.....	\$ 135.70
Bushing St. John River Ice Road.....	9.15
Cleaning monument (Robert Burns).....	11.20
Greens (cutting, raking, etc.).....	2,031.70
Benches (repairing, placing and storing).....	77.55
Curling Club (paid by Curling Club in 1948).....	631.30
Cleaning wharves.....	16.00
Forest Hill (fire).....	9.00
Brick Hill (fire).....	4.30
Experimental Station (fire).....	13.10
General Expenses.....	<u>60.60</u>
Total.....	\$ 2,999.40

	<u>Public Works Playgrounds</u>
Labour.....	\$ 3,851.36
Material Charges.....	<u>3,549.28</u>
Gross Expenditure.....	\$ 7,400.64

The above charge is divided as follows:-

Playgrounds:-	<u>Super-vision</u>	<u>City Labour</u>	<u>Material</u>	<u>Total</u>
Queens Square, Wilmot Park, Carleton Ward and Victoria Mills.....	\$ 2,323.84	353.34	2,587.92	5,265.10
Bathing Beaches.....	755.35	112.15	180.48	1,047.98
Rink (Officers' Square).....	---	676.71	347.54	1,024.25
General Expenses.....	---	63.31	---	63.31
Total.....	<u>\$ 3,079.19</u>	<u>1,205.51</u>	<u>3,115.94</u>	<u>7,400.64</u>

Note:- A new playground was opened this year at Victoria Mills.

A building at Wilmot Park formerly occupied by Military District # 7 and used as a fire station was acquired by the Playgrounds Committee. An expenditure of \$500.43 is shown in the cost book for plumbing, painting and sanding floors in the above building.

The above costs do not include all playground and recreation expenditures, but only those which appeared on the Public Works payrolls or costs of material ordered through my office; for instance the salary of the Recreational Director, Mr. Estabrooks, is not included.

Public Works Old Burial Ground

Gross Expenditure.....	\$ 1,468.24
Credits.....	350.50
Net Expenditure.....	\$ 1,117.74

The Credit is derived from trust funds in the hands of the City.

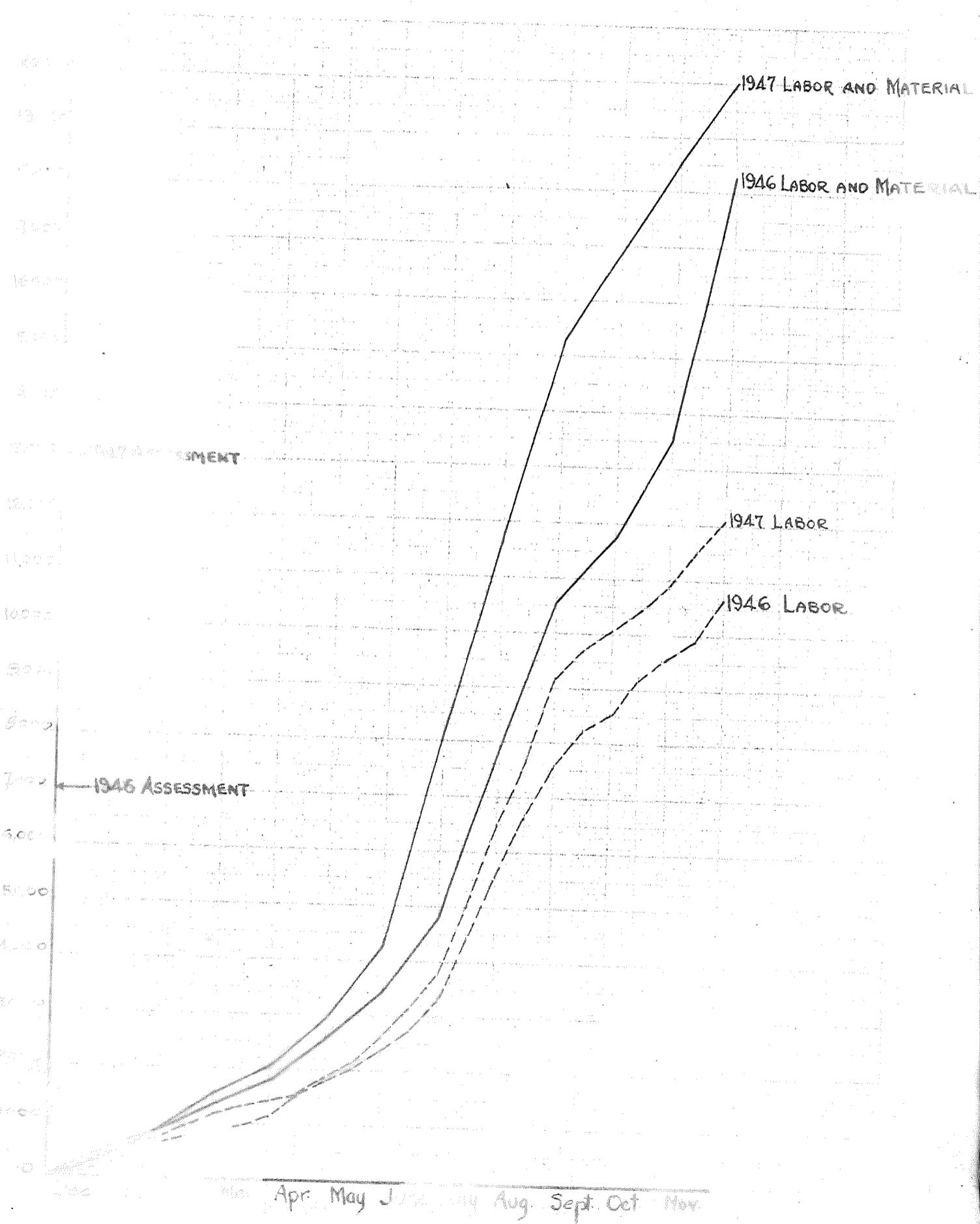
The Gross Expenditure of \$1,468.24 is divided as follows:-

1930 Labour.....	\$ 1,437.58
1931 Material.....	30.66
1932 Total.....	\$ 1,468.24

This above expenditure was used entirely in the Old Burial Ground in the centre of the City. For this amount the grass was kept clipped, the walks in order and tomb stones, many of which are old and fragile, were kept in as good a state of repair as possible. The care of this Burying Ground and the supervision of the above expenditure was this year in charge of the Chamber of Commerce.

TABLE SHOWING COMPARATIVE YEARLY COSTS OF  
PUBLIC WORKS, Years 1930-1947

Year	Expenditure for Labour	Gross Expend- iture Labour and Material	Credits	Net Costs Labour and Material	Appro- priation
1930	2,729.82	3,379.09	237.90	3,159.19	5,000.00
1931	1,574.17	1,982.81	61.95	1,920.96	2,500.00
1932	3,979.65	4,992.98	322.35	4,670.63	2,500.00
1933	3,849.39	5,394.06	474.89	4,919.17	4,500.00
1934	3,734.65	4,929.00	1,302.36	3,626.64	4,000.00
1935	2,906.24	4,425.84	2,776.96	1,648.88	3,000.00
1936	2,867.38	4,211.33	2.73	4,160.07	3,000.00
1937	3,673.48	4,283.52	123.45	4,208.60	5,000.00
1938	5,125.07	8,631.67	664.00	7,967.67	4,000.00
1939	3,937.07	4,606.53	255.10	4,361.43	4,000.00
1940	5,610.71	6,826.22	1,204.89	5,621.33	4,000.00
1941	4,751.76	7,204.65	204.95	6,999.70	4,000.00
1942	6,089.55	8,180.32	455.85	7,724.47	4,000.00
1943	5,063.23	5,890.39	280.43	5,609.96	6,500.00
1944	5,546.15	8,852.68	1,424.37	7,428.31	6,500.00
1945	8,307.69	11,843.69	644.61	11,199.08	6,500.00
1946	10,787.53	17,404.09	34.78	17,369.31	7,000.00
1947	12,088.29	20,307.34	384.70	19,922.64	13,000.00



PUBLIC WORKS COSTS 1946 AND 1947.

### MUNICIPAL HOME

On my accounts the following expenditure appears charged against Municipal Home:-

69.06 tons of coal delivered to Municipal Home.....	\$ 532.19
City water supplied to Municipal Home.....	25.00
Labour:- sawing, splitting and delivering wood to needy families in City along with some minor repairs to Municipal Home building.....	775.89
Cost of 155½ cds. of wood supplied to needy families and Municipal Home (148½ cds. @ \$9.00 = \$1255.50 ) ( 7 cds. @ \$15.00 = 186.00 ).....	<u>1,441.50</u>
Total.....	\$ 2,774.58

The above costs are, of course, only part of the Municipal Home expenditure for the year but they are the only expenditures made under the supervision of the City Engineer and therefore are shown in this report.

The Total  
Lower Town

### CITY HALL

Gross Expenditure.....	\$ 9,181.92
Credits.....	841.27
Net Expenditure.....	<u>\$ 8,340.65</u>

The Net Expenditure is sub-divided as follows:-

Wages paid for labour at City Hall - includes winding and repairs to clock; cost of night fireman and extra janitor service; cost of hauling and unloading coal, etc. (but not including regular janitor service) .....	\$ 1,469.97
Water used at City Hall.....	100.00
Coal - 183 tons burnt at City Hall.....	1,495.50
Maritime Electric Co. (light bills).....	362.10
Repairs to City Hall.....	4,876.07
Supplies, etc.....	<u>37.01</u>

Total.....	8,340.65
12 Month's salary to janitor City Hall.....	<u>1,080.00</u>

Total City Hall Costs for Year..... \$ 9,420.65

The Credit of \$841.27 is made up entirely of 101 tons of  
coal paid for by City Hall and sold to other City Departments.

Repairs to City Hall as shown in this report include con-  
struction of an office for the Building Inspector, installation  
of two 40 S 5 Weil McLain Heavy Duty Boilers and two McDand Miller  
Automatic Boiler Feeds, and construction of two new rooms in the  
basement of City Hall for meters and paint shop.

## STREET LIGHTS

The City Street Lighting System at the present time consists of:-

1. A series lighting system which lights most of the City on the south side of the St. John River.
2. A multiple lighting system on Queen Street.
3. A multiple lighting system in C.N.R. Subway.
4. A series lighting system in Carleton Ward.

System No. 1, the series lighting system, consists of some 17.9 miles of line and 383 lamps. This system is divided into four circuits two of which are controlled each by a 25 K. W. Constant Current Transformer, the other two of which are each controlled by a 15 K. W. Constant Current Transformer. These transformers, along with the main switchboard, are housed in a transformer room in the old street lighting building on Carleton Street.

The four circuits are made up as follows:-

Lower Front Circuit:-	Transformer Size
24-600 C.P. Lamps at .372 K.W. demand.....	8.928
34-250 C.P. Lamps at .155 K.W. demand.....	5.270
9-100 C.P. Lamps at .0716 K.W. demand.....	.644
	14.842 K.W.

Lower Rear Circuit:-

7-600 C.P. Lamps at .372 K.W. demand.....	2.604
137-250 C.P. Lamps at .155 K.W. demand.....	21.235
	23.839 K.W.

Upper Front Circuit:-

19-600 C.P. Lamps at .372 K.W. demand.....	7.068
36-250 C.P. Lamps at .155 K.W. demand.....	5.580
	12.648 K.W.

Upper Rear Circuit:-

4-600 C.P. Lamps at .372 K. W. demand.....	1.488
113-250 C.P. Lamps at .155 K.W. demand.....	17.515
	19.003 K.W.

System No. 2, the multiple lighting system on Queen Street, consists of 23 units located on Queen Street between Westmorland and St. John Streets. Each unit consists of a 500 W. 115 Volt lamp set in a novaulex luminar fixture and hung on a bracket attached to the pole, these units being controlled by a control switch which is energized by our series lighting system. This system was installed and is owned, maintained, and energized by the Maritime Electric Company, the City paying the Company \$75.00 per year for each unit.

System No. 3 consists of six multiple lights, each of 250 W. strength, located in the C. N. R. Subway. This system is also controlled by a control switch which is energized by the series street lighting system.

System No. 4 is a series lighting system which had formerly been installed in the former Town of Devon and consists of 4.6 miles of line and 90 - 100 C.P. Lamps. This system is all on one circuit and is controlled by a 7 1/2 K.W. Constant Current Transformer located on a pole at the corner of Union and St. Marys Streets. The circuit consists of:-

90-100 C.P. Lamps at .0716 K.W. demand..... 6.444 K.W.

The power for Systems 1, 3 and 4 is purchased from the Maritime Electric Co. at a contract price as agreed upon in a contract between the Maritime Electric Co. and the City made in 1927. This contract also covers the maintenance cost of \$20.00 a year per mile of pole line which is paid by the City to the Company.

All material such as wire, poles, pole fixtures, lamps, lamp fixtures, transformers, etc. is paid for by the City but installed by the Company under their contract price for maintenance. Any new installation which requires an enlargement of circuits must be paid for by the City both labour and material.

The street lighting costs for the year 1947 were as follows:-

Gross Expenditure.....	\$ 12,617.94
Credit.....	97.00
Net Expenditure.....	<u>12,520.94</u>
1947 Appropriation.....	<u>15,000.00</u>
Cr. Balance.....	\$ 2,479.06

The above Credit of \$97.00 is a bill against E.M. Young Ltd. for damage to light standard in front of Parliament Buildings.

The Expenditure is made up as follows:-

132-600 C.P. Lamps.....	\$ 213.42
232-250 C.P. Lamps.....	214.19
20-150 C.P. Lamps @ 30¢.....	6.00
7-100 C.P. Lamps @ 20¢ - 28¢.....	1.72
1-60 C.P. Lamps @ 15¢.....	.15
4-40 C. P. Lamps @ 15¢.....	.60
2-25 C. P. Lamps @ 15¢.....	.30
Current on Subway lighting and series lighting from Nov. 29/46 to Nov. 29/47 (293,895 K.W. hrs.).....	7,912.05
Charges on multiple fixtures installed on Queen Street at the contract price of \$75.00 per light per year.....	1,725.00
Maintenance, labour as per contract price.....	412.92
Material purchased for new installations and maintenance of lamp fixtures (including only such articles as lamp standards, lamp brackets, heads, sockets, shades, time switches, etc.).....	1,531.45
Material used and extra labour supplied by Maritime Electric Co. in line maintenance extension.....	469.57
Miscellaneous Charges.....	121.44
Telephone in transformer room.....	<u>9.13</u>
Total.....	\$ 12,617.94

The total per capita charge for street lighting 1947 population of 15,000 persons 12617.94 = 84.1 cents  
15000

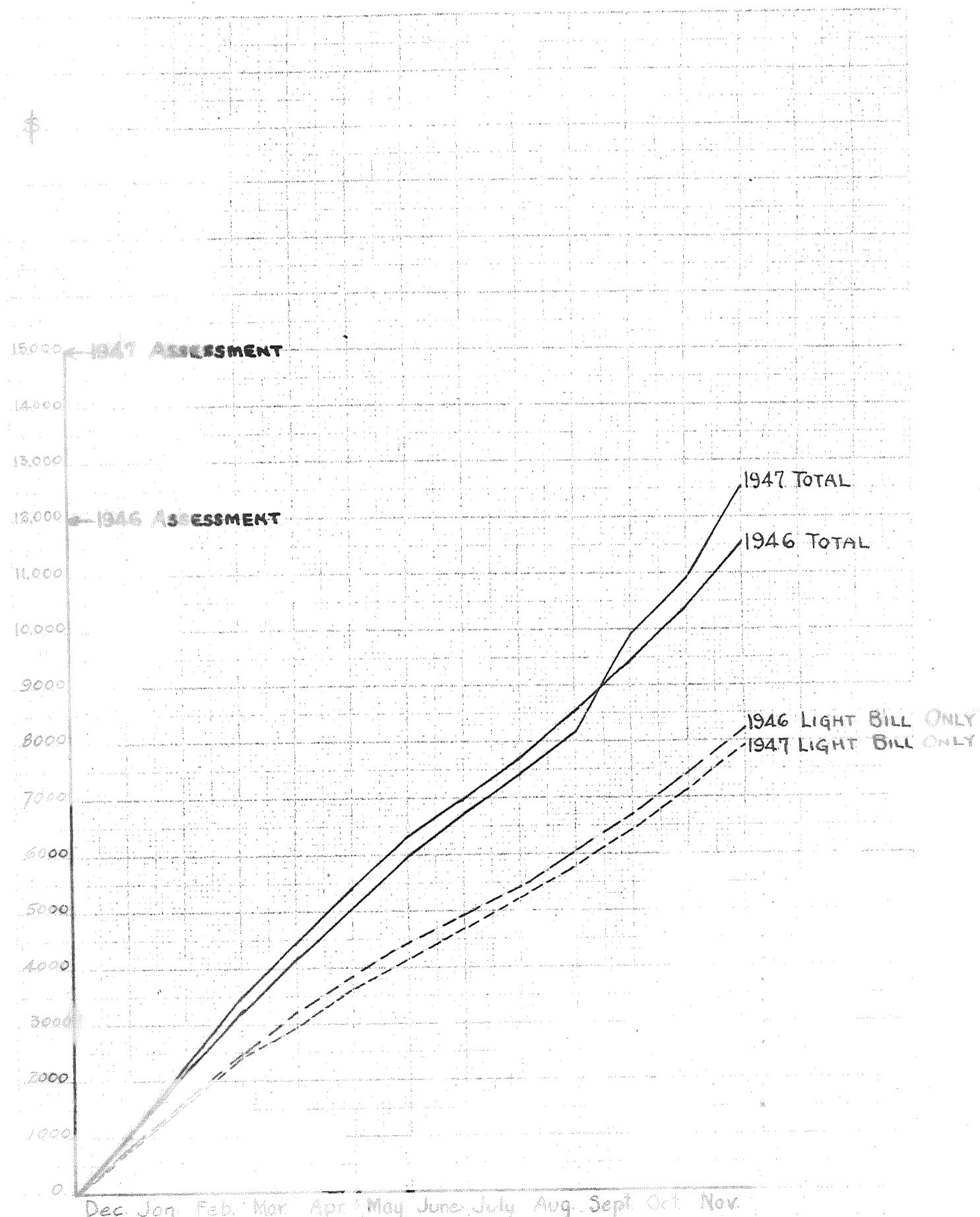
*L.B.  
B.M.  
F. 10,890 - Cost for Series 84.1  
10,890*

TABLE SHOWING CURRENT CHARGES FOR 1947  
ON SERIES STREET LIGHTING

Date of Bill	K. W. H.	Demand in K. W.	Average No. of Burning Hrs. per Night	Bill per Month
Nov. 29/46				
to Dec. 30/46	32,137	76.5	14 $\frac{1}{4}$	\$ 811.17
Dec. 30/46				
to Jan. 24/47	34,697	79.8	14 $\frac{1}{4}$	869.14
Jan. 24/47				
to Feb. 24/47	29,116	79.8	13	757.17
Feb. 24/47				
to March 25/47	19,570	71.1	11 $\frac{1}{4}$	547.46
March 25/47				
to April 24/47	23,750	75.1	9 $\frac{1}{2}$	639.85
April 24/47				
to May 27/47	18,602	78.5	8 $\frac{1}{2}$	543.85
May 27/47				
to June 25/47	18,452	78.5	7 $\frac{1}{2}$	540.63
June 25/47				
to July 25/47	18,064	78.5	7 $\frac{1}{2}$	533.01
July 25/47				
to August 26/47	18,651	77.8	8 $\frac{1}{4}$	543.48
August 26/47				
to Sept. 26/47	23,945	78.5	10 $\frac{1}{2}$	651.75
Sept. 26/47				
to Oct. 28/47	27,267	76.5	12	713.72
Oct. 28/47				
to Nov. /47	29,644	76.5	13 $\frac{1}{2}$	760.82
	293,895			\$7,912.05

TABLE SHOWING COMPARATIVE YEARLY COSTS IN STREET LIGHTING

Year	Total Yearly Cost	Yearly Appropriation
1930	\$ 7,115.40	\$ 7,000.00
1931	6,672.23	10,000.00
1932	6,532.51	6,000.00
1933	6,425.87	6,000.00
1934	6,165.28	6,000.00
1935	6,632.33	6,000.00
1936	6,957.72	7,000.00
1937	9,688.52	7,000.00
1938	8,314.06	9,000.00
1939	8,645.97	7,500.00
1940	8,172.25	7,500.00
1941	9,888.78	8,500.00
1942	9,803.27	10,000.00
1943	11,033.89	10,000.00
1944	10,673.80	10,000.00
1945	10,682.22	10,000.00
1946	11,611.43	12,000.00
1947	12,520.94	15,000.00



STREET LIGHT COSTS 1946 AND 1947

### SEWERAGE DOMESTIC

Gross Expenditure.....	\$ 5,581.32
Credits.....	<u>3,660.13</u>
Net Expenditure.....	\$ 1,921.19

The Credit of \$3,660.13 is made up entirely of work done on domestic sewerage system for private parties, and consisted of all sewerage installation and sewer maintenance other than that done on the main sewer which serves the street.

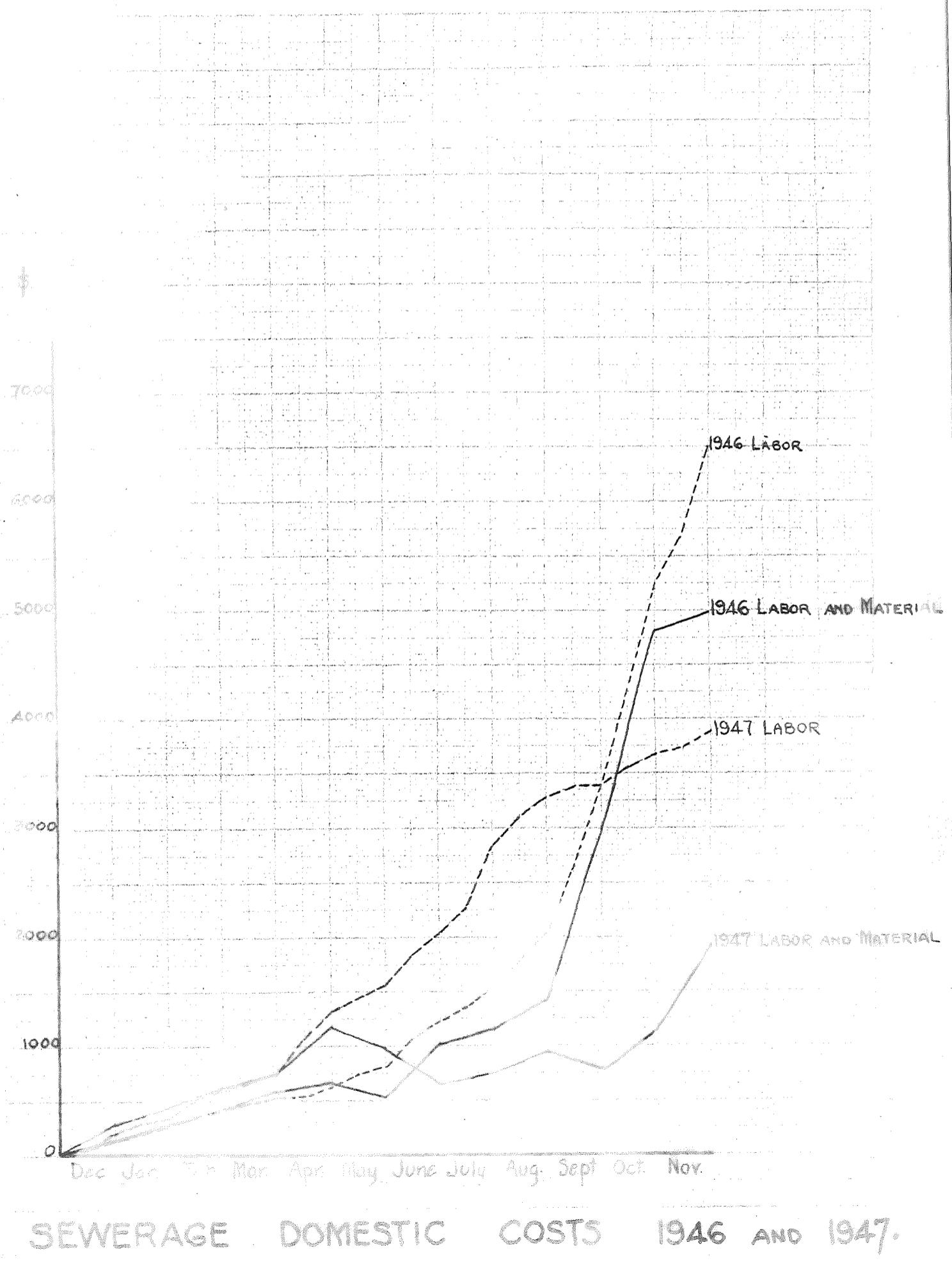
The number of new customers connected with the City sewerage system this year..... 54

Old sewerage connections dug out and relaid.... 6

Under this Sewerage Domestic cost, one extension was made this year. This consisted of 579 ft. of 8-inch sewer main laid on Waterloo Row and ran from the end of the then existing sewer just south of Alexandra Street to the junction of Waterloo Row with the new road to be built to serve a proposed sub-division known as Elmcroft Sub-Division.

Other extensions to our Domestic Sewerage System made this year are shown under Sewerage Capital Account on page 12 of this report.

6292  
17876



WATER

We have now two separate and distinct water systems in the City of Fredericton.

1. The system which supplies the City of Fredericton taking its water from the St. John River and which serves that urban part of the City of Fredericton lying south of the St. John River.
2. The system which derives its water from two drilled wells and is situated on the north side of the St. John River and serves that urban part of the City of Fredericton known as Carleton Ward. A description of this system may be found in my Yearly Report for 1946.

System No. 1, on the south side of the St. John River, has been discussed from time to time in my reports and I will not go into it at the present time except to say that it is a direct pumping system and working about to its capacity. A separate report on this water system was being prepared by Mr. W. S. Lee, Consulting Engineer of Montreal. Unfortunately Mr. Lee died a few months ago before making his report. His office in Montreal is preparing a report based on Mr. Lee's notes which report, however, has not arrived to date.

The water costs which follow in this report include the water costs of both the systems or the total Fredericton water costs. The water costs are divided into two headings, namely, Water Ordinary and Water Pumping Station.

Under first services.

Water Ordinary

This account takes in all expenditure for water outside the pumping station and pumping station grounds and includes all water expenditure in Carleton Ward. The expenditure under this heading is made up as follows:-

Gross Expenditure.....	\$ 23,278.59
Credits.....	2,828.65
Net Expenditure.....	\$ 20,449.94

The Credits are made up as follows:-

Work done for and material sold to private parties when installing a water service over ground other than City property or when the material is to be used on parts of systems which do not belong to the City.....	\$ 1,488.65
Rental on 67 hydrants @ \$20.00.....	<u>\$ 1,340.00</u>
Total.....	\$ 2,828.65

The Gross Expenditure is made up as follows:-

City Payroll for hydrants.....	\$ 798.10
City Payroll for meters.....	1,996.53
City Payroll for Water Ordinary.....	9,028.18
Total Payrolls.....	<u>11,822.81</u>
Material and other charges.....	11,455.78
Gross Expenditure.....	\$ 23,278.59

The following water extension was made under this heading:-

600 lin. ft. of 6-inch Cast Iron water pipe on Victoria Street - Northumberland to Smythe Street.

The above labour charge of \$9,028.18 includes labour charge on water extension laid on Gibson Street which should have been charged to Water Capital Account.

#### Hydrants:-

We have in the City 226 hydrants - 146 in the City proper, 6 on University of New Brunswick property, 7 in military areas, and 67 in Carleton Ward. The credit for rental of these hydrants, except for the 67 in Carleton Ward, appears under credits at Pumping Station.

The labour costs show an average yearly cost per hydrant of \$3.53.

#### Meters:-

Of all our water services in the City, 1227 are charged under flat rate and 1296 on meter, giving us altogether 2523 services.

The labour cost this year per meter for installation, reading, repairing, etc. is \$1.54.

All meters are read twice a year and bills are sent out twice a year. We have 89 customers whose meters are read once a month although they also are billed only twice a year. These are such customers who ordinarily have large consumptions and where a stopped meter or a meter turned over without being noticed would mean considerable loss of revenue to the City. All meters on military buildings are included in this group of monthly read meters.

Meters in store room January 1st, 1948:-

5/8 meters repaired and fit for service.....	12
New 5/8 meters.....	90
3/4 meters fit for service.....	2
1-in. meters that can be repaired.....	4
New 1-in. meters with 1½" connections.....	0
New 1-in. meters.....	0
Compound meters fit for service.....	0
Compound meters not fit but which can be repaired.....	1
1 1/2 Crest meters.....	0
1/2 meters that can be repaired and made fit for service.....	4

### DISTRIBUTION SYSTEM

New services installed this year.....	91 & 200 at Wartime Housing
Old services relaid this year.....	41
Frozen services which had to be thawed.....	0
Services discontinued.....	0

We had in the City on the 30th day of November 1947  
2523 water services.

The Fredericton Distribution System consists of 26.4 miles  
of water main made up of the following sizes:-

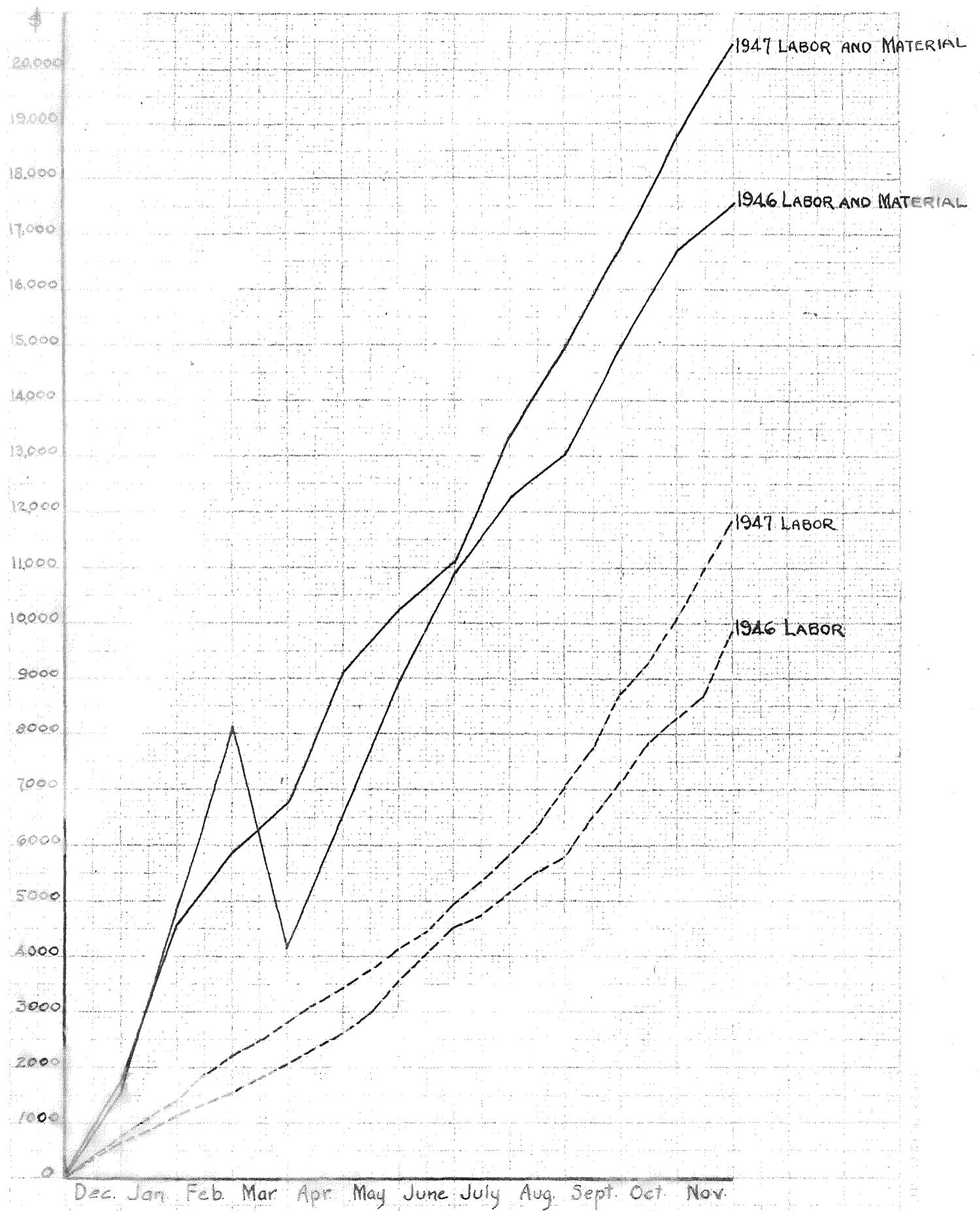
10 inch main.....	1.53 miles
8 inch main.....	5.85 miles
6 inch main.....	14.45 miles
4 inch main.....	4.33 miles
3 inch main.....	.28 miles

This does not include the water mains installed by the  
Department of National Defence at Military Training Centre No.  
70, Military Depot No. 7 or the Military Hospital.

TABLE SHOWING COMPARATIVE YEARLY COSTS

WATER ORDINARY

<u>Year</u>	<u>Labour</u>	<u>Material</u>	<u>Gross Expenditure</u>	<u>Credits</u>	<u>Net Expenditure</u>
1931	3,836.33	4,376.87	8,213.20	279.65	7,933.55
1932	2,666.30	1,854.06	4,520.36	122.47	4,397.89
1933	2,333.25	1,604.17	3,937.42	30.27	3,907.15
1934	3,247.51	4,112.54	7,359.85	891.23	6,468.62
1935	5,372.83	5,897.23	11,270.06	398.42	10,871.64
1936	4,303.14	3,725.91	8,029.05	392.35	7,626.70
1937	3,718.86	3,938.81	7,657.67	265.46	7,401.21
1938	4,797.47	2,254.68	7,052.15	155.11	6,899.04
1939	4,201.24	3,248.61	7,449.85	570.44	6,879.41
1940	4,231.75	2,708.22	6,939.97	808.48	6,131.49
1941	2,908.57	2,446.27	6,354.64	459.08	4,895.56
1942	3,407.91	1,989.02	5,396.93	411.44	4,895.49
1943	5,559.39	14,670.96	20,230.35	5,020.06	15,210.29
1944	7,713.27	5,772.85	13,486.12	3,501.14	9,984.98
1945	8,011.12	5,577.55	13,588.67	574.57	13,014.10
1946	9,873.28	14,044.55	23,917.83	6,351.37	17,566.46
1947	11,822.81	11,733.64	23,556.45	3,106.51	20,449.94



WATER ORDINARY COSTS 1946 AND 1947.

WATER PUMPING STATION

Water Pumping Station Costs 1947:-

Gross Expenditure.....	\$ 37,123.42
Credits.....	3,659.05
Net Expenditure.....	<u>\$ 33,464.37</u>

This Credit of \$3,659.05 is made up as follows:-

Francis Hankin Co.Ltd.....	\$ 32.93
32½ tons of coal charged to Pumping Station and sold to other City Departments.....	246.12
Water used in City Hall Building.....	100.00
Water used in Old Street Lighting Building on Carleton Street.....	25.00
Water used in City Alms House.....	25.00
Water used in City Parks.....	50.00
To yearly rental of only 159 hydrants @ \$20.00.....	<u>3,180.00</u>
	<u>\$3,659.05</u>

The Gross Expenditure is divided as follows:-

City Payroll for salaries of engineer at Pumping Station.....	\$ 7,310.00
Work done by other city employees in and around Pumping Station.....	545.35
Total City Payrolls.....	<u>7,855.35</u>
Material and Workmen's Compensation Charge.....	29,268.07
Gross Expenditure.....	<u>\$37,123.42</u>

The material cost of \$29,268.07 is itemized as follows:-

Item # 1 Light supplied and power supplied by the Maritime Electric Co. (410,400 K.W. hrs.)....	\$ 9,694.21
Item # 2 Transformer Charges.....	151.92
Item # 3 Lime, 17,600 lbs.....	791.75
Item # 4 Alum, 160,950 lbs.....	2,221.11
Item # 5 Coal, 245.92 tons.....	2,254.79
Item # 6 Fuel oil.....	---
Item # 7 Engine oil, 86 gals D.B. Oil.....	54.07
Item # 8 Motor oil, 45 gals.....	31.85
Item # 9 Gasoline, 250 gals.....	51.25
Item # 10 Maintenance and repairs of the building and machinery.....	821.71
Item # 11 New installations.....	11,730.52
Item # 12 Supplies, packing, rags, etc.....	291.71
Item # 13 Stationery, forms, charts, etc.....	---
Item # 14 Workmen's Compensation Board.....	---
Item # 15 Mr. E. W. Hagerman's salary.....	900.00
Item # 16 Hoisting chemicals.....	168.00
Item # 17 Miscellaneous.....	<u>105.18</u>
Total.....	\$ 29,268.07

COMPARISON OF WATER PUMPED AND COSTS  
FOR LAST SIXTEEN YEARS

Year	I. G. Water Pumped	Yearly Gross Expend- iture at Pumping Station	Pumping	Ordinary and Gross Expend- iture Water Pumping Station	Total Yearly Water Costs (Net Expend- ture Water Pumping Station)	Total Yearly Cost per 1000 Gallons
			Station Cost per 1000 Gals. Using Gross Expenditure			
1932	171,032,000	\$16,915.58	9.9 cents	\$ 21,313.47	12.5 cents	
1933	175,050,000	16,483.67	9.5 "	20,390.82	11.6 "	
1934	202,720,000	15,999.50	7.9 "	22,468.12	11.1 "	
1935	197,641,000	16,251.61	8.1 "	27,123.25	12.6 "	
1936	193,450,000	17,189.21	8.8 "	24,825.91	12.6 "	
1937	187,008,000	19,678.21	10.5 "	27,079.42	14.5 "	
1938	181,558,000	19,239.49	10.6 "	26,138.53	14.4 "	
1939	199,662,000	18,144.43	9.1 "	25,023.84	12.5 "	
1940	203,975,000	22,503.35	11.3 "	28,634.84	14.0 "	
1941	222,255,000	19,474.56	8.8 "	24,370.12	11.0 "	
1942	257,205,000	23,400.09	9.1 "	28,385.58	11.0 "	
1943	280,115,000	26,338.50	9.4 "	41,548.79	14.0 "	
1944	295,945,000	22,926.61	7.7 "	32,911.59	11.1 "	
1945	321,355,000	24,990.14	7.7 "	38,004.24	11.8 "	
1946	338,979,000	25,640.43	7.5 "	43,206.89	12.7 "	
1947	319,243,000	37,123.42	11.6 "	57,573.36	---	

\* Column showing I. G. water pumped does not include water used from wells in Carleton Ward, but above costs do include all expenditures made in the City including Carleton Ward.

All these preceding costs shown under Water Pumping Station and Water Ordinary do not include the cost of billing and collecting of water bills or any other overhead charges included in the City Government Costs, nor do they include bond payments or Sinking Fund Charges.

The water pumping station was as usual under the supervision of the plant superintendent and chief engineer, Mr. John Malloy.

The Coagulating Basin was cleaned out twice during the year.

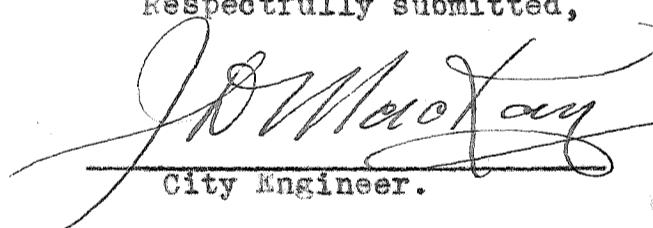
Item # 11 - new installation, with a total cost of \$11,730.52 included an amount of \$10,993.50 which was a partial payment made to Francis Hankin Co. who installed the complete mechanical equipment for one new filter and made all necessary repairs to our four old filters. We are now equipped with five filters in good condition at the pumping station.

The Francis Hankin Co. entered into a contract with the City to do this work at a contract price of \$13,842.00, but as the work had not been completed by the end of 1947 the total payments made to this company which show in our 1947 costs amount to the before-mentioned figure of \$10,993.50.

Other new installation appearing in the cost Item # 11 this year is the cost of construction and fitting up of a room in the filter room for the City Analyst to use in his work.

Following in this report appears the report of Mr. E. W. Hagerman, City Analyst, for the year 1947 and following Mr. Hagerman's report is a list of principal material purchased by the various City Departments during the year 1947.

Respectfully submitted,

  
J. O. MacKay  
City Engineer.

FREDERICTON WATER SUPPLY

Year 1947 - Jan. 1st. to Dec. 31st.

Examination of the results of tests listed later in this report will show that for eleven months the water, from the standpoint of bacteria content, complied with the requirements of the U. S. Treasury Standards. The month of December fell slightly below the requirements.

The physical qualities as to color, solids, tastes and smells have not always been as satisfactory as could be wished for.

The bluish cast caused by filters passing hydrate is nearly always present especially when the water is cold. This can only be eliminated by causing a greater settlement of floc or hydrate before it gets to the filters and this in turn accomplished by a larger settling basin.

Because we have been unable to correct this condition by adjustment of the alum, it has been the practise for the last twenty years, to cut out the use of alum for coagulation purposes after the river has reached its low level and is frozen over. The ice seal prevents the wind from stirring up the mud and the water becomes clear but with a slightly yellowish color. This year the alum was turned off as usual on December 10th.

The removal of the alum from the water always results in a change in taste, Ph, and hardness. The chlorine, under the new condition of higher Ph, becomes more active in forming compounds with the organic colour in the water, sludge and scale in the pipes and at the same time becomes less effective as a germicide. Very little seems to be known of these compounds but they can have a variety of tastes, mostly of a medicinal nature.

These tastes have, in former years, disappeared in a few days after turning off the alum but this year appeared to get worse and persisted, at least in some parts of the system, for ten days. As the tastes did not improve and as several tests showed positive, the alum was turned on again on December 15th. resulting in a return of the water to its original taste and bacteriological quality.

It is possible that the raw water is changing due to more industrial wastes or it may be that some particular algae growth has now become dominant due to the long periods of low warm water. If conditions have changed it is probable that alum will be needed throughout the year.

The positive results obtained on lactose broth were of a more serious nature than the bad taste. The chlorine demand of the un-flocked water is high and with the variable flow that goes past the point of chemical application, it is possible that some slugs of water did not get a sufficiently high dose of chlorine. We were adding about 2 ppm and sometimes more of chlorine and showing a residual of from .01 to 0.1 ppm. chlorine. It is doubtful if more chlorine can be delivered with our present tanks and orifice box.

The addition of the fifth filter has removed one of the bottlenecks in the plant. A large fire demand added to our normal consumption requires the use of both low lift pumps and these need four filters to filter their pumpage. In the last few years the increased burden of slime, carried by the river in the spring, can completely stop the flow of water through a filter in three or four hours. The fifth filter is now always washed and ready to replace the dirty one and the filtration plant can be continuously operated at the full capacity of the intake pumps.

Following are the particulars of the bacteriological tests made this year.

Standards by which the water quality is measured are taken from U. S. Health Reprint No. 2440 and may be obtained from the Superintendent of Documents Washington, D.C. They are in brief:-

1. A Sample consists of 5 portions
2. Each portion contains 10 cc. of water
3. The Confirmed test shall be used to show the presence of the Coli-Aerogenes group (b. coli.). The confirmatory media 2% Brilliant Green Bile shall be used in the confirmatory test.

#### Application of test.

1. Of all the 10 cc. portions examined per month not more than 10% shall show Positive.
2. When less than 20 samples per month are examined, one standard sample per month may have three positive portions out of five portions making up the sample.

By mathematical combination of the number of Positive and Negative results obtained in the tests it is possible to estimate the Most Probable Number of Coliform Organisms per 100 cc. of sample.

The average for the year for the city water was 2.26 organisms per 100 cc. of sample.

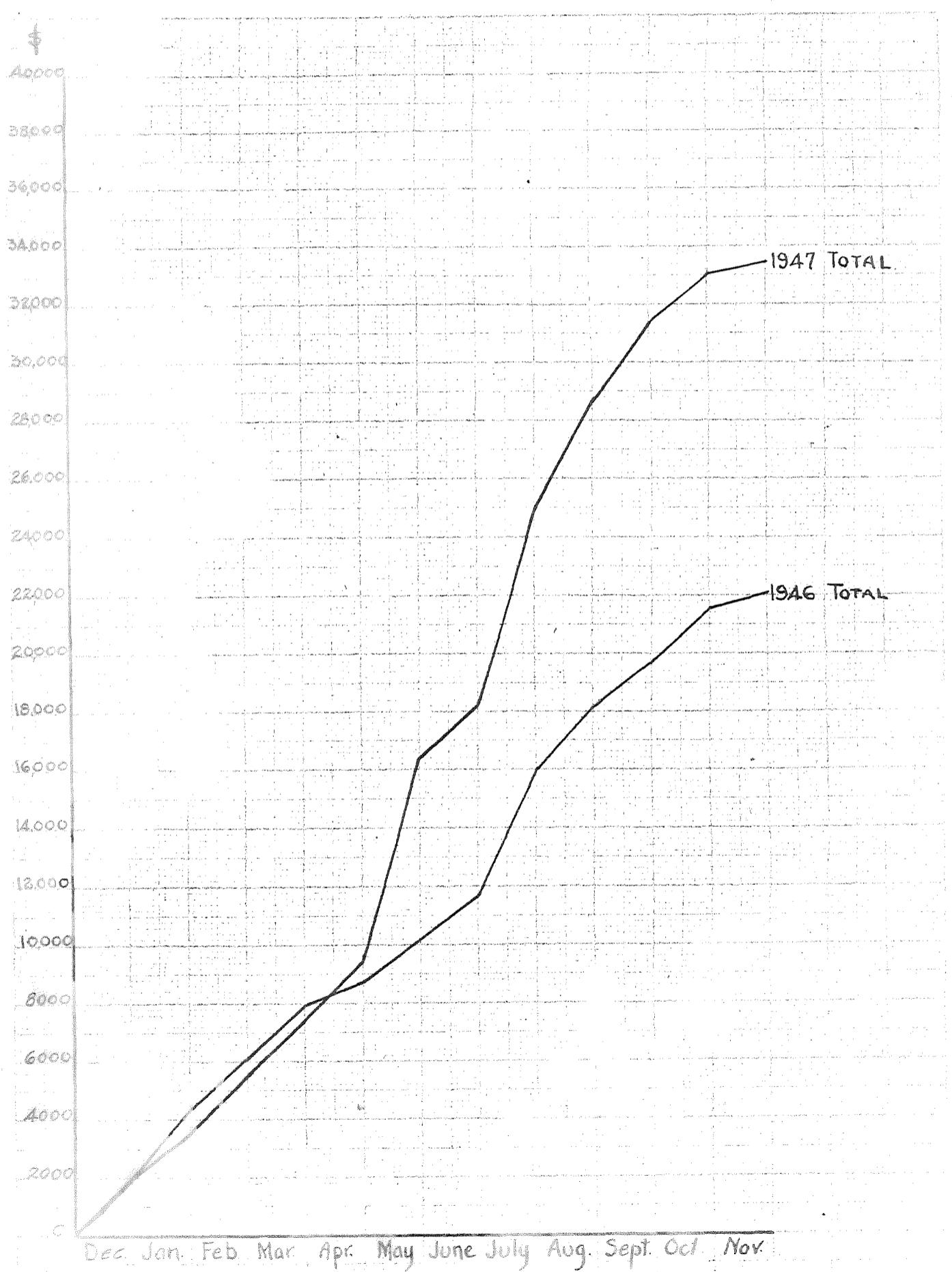
A list of the samples taken is given on the following pages.

Date of Test	Origin of Sample	Out of 5-10 cc. Portions results show as follows.	
		Positives	Negatives
January 6 1947	127 Charlotte St.	0	5
9	Pumping Station	0	5
10	Pumping Station	0	5
20	Pumping Station	0	5
15	U.N.B. Engineering	0	5
26	U.N.B. Engineering	0	5
	There were no Positives in the 30 portions tested		
February 3	123 Charlotte St.	0	5
11	Pumping Station	1	4
13	Pumping Station	0	5
20	U.N.B. Engineering	0	5
27	127 Charlotte St.	0	5
	There was one Positive in the 25 Portions tested or 4%		
March 1	Pumping Station	0	5
7	127 Charlotte Street	0	5
12	U.N.B. Engineering	0	5
16	Pumping Station	0	5
23	Alexander College Bld. 31	0	5
	There were no Positives in the 25 Portions tested		
April 3	Pumping Station	0	5
6	127 Charlotte St.	0	5
13	U.N.B. Engineering	0	5
21	Pumping Station	0	5
27	U.N.B. Forestry	0	5
	There were no Positives in the 25 Portions tested		
May 2	Capital Garage	0	5
6	U.N.B. Engineering	0	5
12	127 Charlotte St.	0	5
19	331 University Ave.	0	5
26	Pumping Station	0	5
31	123 Charlotte St.	0	5
	There were no Positives in the 30 Portions tested		
June 5	Pumping Station	0	5
10	Pumping Station	0	5
17	Charlotte Street	0	5
24	Pumping Station	0	5
28	U.N.B. Forestry	0	5
	There were no Positives in the 25 Portions tested		
July 1	Pumping Station	0	5
11	127 Charlotte Street	0	5
22	Capital Garage	0	5
28	U.N.B. Engineering	1	4
	There was one Positive in 20 portions tested or 5%		
August 3	Pumping Station	0	5
9	123 Charlotte Street	0	5
14	Pumping Station	0	5
25	Pumping Station	0	5
30	127 Charlotte St.	0	5
	There were no Positives in the 25 Portions tested		
Sept. 2	Pumping Station	0	5
7	127 Charlotte St.	0	5
13	Pumping Station	0	5
18	U.N.B. Engineering	1	4
23	C.P.R. Station	0	5
	There was one Positive in 25 Portions tested or 4%		

Date of Test	Origin of Sample	Out of 5-10 cc. Portions result show as follows.	
		Positives	Negatives
October 4	Pumping Station	0	5
9	U.N.B. Engineering	0	5
15	127 Charlotte St.	0	5
21	Capital Garage	0	5
26	Pumping Station	0	5
	There were no Positive portions that would confirm on Brilliant Green Bile.		
November 1	City Hall	0	5
6	Pumping Station	0	5
13	127 Charlotte St.	0	5
17	Pumping Station	2	3
19	Pumping Station	0	5
	There were 2 positive results out of 30 Portions tested or 6.6%. These were very late formers of gas. They did confirm on B.G.B. but seem doubtful.		
December 1	154 Aberdeen Street	0	5
5	127 Charlotte St.	1	4
7	127 Charlotte St.	0	5
13	City Hall	3	2
13	Pumping Station	0	5
18	City Hall	0	5
19	Pumping Station	1	4
21	127 Charlotte St.	0	5
28	Pumping Station	0	5
	There were 5 Positive portions out of 45 tested or 11%. This month falls below the requirements by 1%.		

Fredericton, N. B.  
January 14, 1948

E. W. HAGEMAN



WATER PUMPING STATION COSTS 1946 AND 1947

TABLE SHOWING PRINCIPAL PURCHASES - 1947

Material	Amount Purchased	Average Price f.o.b. Fredericton	Stock
4 in. Soil pipe	210 ft.	85¢ - \$1.48 per ft.	60 ft.
4 in. Terra Cotta Pipe	800 ft.	23¢ per ft.	
5 in. Terra Cotta Pipe	10,400 ft.	38¢ per ft.	1114 ft.
6 in. Terra Cotta Pipe	---	---	
8 in. Terra Cotta Pipe	5,720 ft.	54¢ per ft.	708 ft.
10 in. Terra Cotta Pipe	4,000 ft.	73¢ per ft.	67½ ft.
12 in. Terra Cotta Pipe	500 ft.	95¢ per ft.	3580 ft.
15 in. Terra Cotta Pipe	4,000 ft.	\$1.24 per ft.	1237½ ft.
18 in. Terra Cotta Pipe	1,500 ft.	\$1.65 per ft.	7½ ft.
24 in. Terra Cotta pipe	---	---	
15 in. Corrugated Iron pipe	300 ft.	\$2.35 per ft.	
Portland cement	3,380 bags	70¢ per bag	
Brick	13,000	\$18.75 - \$21 per 1000	
Dynamite	31 cases	\$16.00 per case	
Fill	---	---	
Gravel (Pit)	1864 yds.	\$1.05 per yd.	
Calcium Chloride	61 tons	\$32.08	
Road machine blades	40 blades	\$7.25 - \$9.95 per blade	
Lime	17,600 lbs.	\$4.49 per 100 lbs.	7½ bbls.
Alum	80.4 tons	\$1.38 per 100 lbs.	1½ cars
Coal - run of mine	8 cars (384.55 tons)	\$6.80 - \$8.30 ton	1 car
American Coal	84.41 tons	\$12.80 - \$15.80 ton	
Sydney Coal	8.905 tons	\$12.50 - \$13.30 ton	
Springhill Coal	3 tons	\$12.50 per ton	
R.C. 3	---	---	
M.C. 2	495 gals.	22¢ per gal.	40 gals.
Asphalt Emulsion	540 gals.	22¢ per gal.	
5/8" Copper Tubing	19,501 ft.	17.72 per ft. & freight	1782 ft.
5/8" Camelloy Pipe	957 lbs.	21.05¢ per lb. & freight	462 ft.
5/8" Lead Pipe	1819 lbs.	20.9¢ per lb. & freight	501 ft.
3/4" Lead Pipe	792 ft.	23.26¢ per ft. & freight	545 ft.
3/4" Copper Pipe			462 ft.
6 in. Cast Iron Pipe	539085 lbs. (14916 ft.)	\$90 - \$101.60 per ton	1020 ft.
6 in. Cast Iron Elbows	---	---	5
6 x 6 x 4 in. C.I. Tees	(B.B. & B.) 740 (4)	11.10¢ per lb.	1
8 x 8 x 6 in. C.I. Tees	602 lbs. (2)	10.14¢ per lb.	
6 in. Cross (B.B. & B.)	1063 lbs. (4)	9.95¢ - 10.55¢ per lb.	
6 in. ¼ Bends (B. & S.)	---	---	
6 in. 1/8 Bends (B. & S.)	754 lbs. (6)	10.55¢ - per lb.	
6 in. Offsets	440 lbs. (2)	10.50¢ per lb.	
6 in. Cast Iron Sleeves	1978 lbs. (27)	9.45¢ - 10.55¢ per lb.	11
6 in. Cast Iron Tees	9568 lbs. (45)	9.45¢ - 10.55¢ per lb.	28
8 x 8 x 6 x 6 Cross	1277 lbs. (3)	11.30¢ - 11.75¢ per lb.	2
8 x 8 x 6 Tee	-----	-----	1
8 in. Cast Iron Sleeves	-----	-----	0
10" to 6" Reducer	-----	-----	4
8" to 6" Reducer	-----	-----	1
8" to 4" Reducer	-----	-----	1
6" to 4" Reducer	380 lbs. (4)	9.40¢ per lb.	5
4" Cast Iron Sleeves	-----	-----	
Oakum	3310 lbs.	10.60¢ - 22¢ per lb.	
Lumber	33772 ft.	\$54 - \$67 per 1000	
Lead	12712 lbs.	17¢ - 21¢ per lb.	

Material	Amount Purchased	Average Price f.o.b. Fredericton	Stock
5/8" x 3/4" Trident Cold Water Meters	200	\$14.63 & freight	
1 1/2 in. Galvanized Pipe	820 ft.	28.50¢ per ft.	175 ft.
1 in. Galvanized Pipe	75 ft.	15.18¢ per ft.	
2 1/2 in. Galvanized Pipe	1260 ft.	11.52¢ - 17¢ per ft.	
1/2" Wire Cable	1359 1/2 ft.	12.30¢ - 13.55¢ per ft.	
Catch Basin (cover & frame)	59	\$30.22 each & freight	
Manhole (cover & frame)	89	\$28.76 each & freight	
Sliding type gate valve boxes	75	\$20.52 each	3
8 in. Gate Valve	3	\$60.07 & freight	2
4 in. McAvity Millwood Iron Body Bronze	4	\$18.01 - \$24.62 & freight	
Mounted Hub End Water Gate Valve	---	---	
6 in. McAvity Millwood Iron Body Bronze	78	\$35.77 each & freight	
Mounted Hub End Water Gate Valve	--	---	
6 in. Hydrants	24	\$124.30 each	
Gasoline	7225 gals.	20.5¢ - 33¢ per gal.	
Diesel Fuel Oil	3045 Gals.	11 1/2¢ - 22¢ per gal.	
1 only # 5 Flexible Sewer Cleaning set with tools		\$136.50	
3 Cleanout doors furnace & Chimney Steel		\$1827.83	
1 - 12391 TD6 Tractractor 50" Tread		\$3701.25	
1 - Cucyrus Erie Angledozer mounted on TD-6 Tractractor		\$1558.45	
1 - R.G.4-19 19 Plate Heavy Duty Battery		\$35.00	
1 - 9277 Wye Level (Set # 47104 with S.L. Tripod			
1 only P350 16 ft. slide		\$395.00	
1 only P403 3 Swing Outfit		\$105.45 & freight	
1 only P415 Baby chair		\$108.30 & freight	
1 only P431 Combination set		\$132.05 & freight	
2 - McDand Miller Automatic Boiler Feeds		\$205.00 & freight	
2 - 40-S-5 Weil McLain Heavy Duty Boilers		\$55.00 each	
1 - 6" I.BBM Swing Check Valve Hub End		\$1320.00 each & freight	
1 - 66 Gallon Rainge Boiler		\$65.00	
1 only Pipe Cutter for 4" to 12" incl.		\$30.96	
1 - Model T6K Michigan Trenchoe Serial 5480 powered by Hercules JXC Engine #1652564, equipped with Basic machine, shovel attachment, trenchoe attachment.		\$135.00	
1000 lbs. extra counterweight			
1300 lbs. extra counterweight		\$13,805.42	
400 lin. ft. Snow fence 48"	4000 ft.	11¢ per ft.	
Genetol EM-25	180 gal	\$2.35 gal.	
Genitox S-50	100 lbs.	43¢ per lb.	
1 - Willys Four Model CJ-2A Universal Jeep, Power takeoff pulley & Pulley Drive, Governor, Hydraulic Plow & Bulldozer complete-with-pam		\$2375.48	
1 - 2XP Jaegar Pump Serial P100716 Model AB Wisconsin Engine Serial 748117		\$240.00	

Installation of New Water Services  
and  
Maintenance and Repairs to old Services 1947.

Dec.	12/46	N.B. Telephone Co.	King St.	New
"	14/46	O'dell Construction Co. Ltd.	Rockwood Ave. Apt. House	New
Dec.	18/46	John Murray	Green Road	New
"	24/46	Hydrant replaced Victoria and Westmorland		
Jan	/47	Hydrant repaired in front St. Dunstans Church		
Jan.	29/47	O'dell Construction Co.	15 Brookmount Court	New
Feb.	27/47	" " "	204 Parkhurst Drive	New
Apr.	22/47	" " "	35 Brookmount Court	New
"	22/47	" " "	45 Brookmount Court	New
"	22/47	" " "	33 Brookmount Court	New
"	22/47	" " "	26 Brookmount Court	New
"	30/47	Mrs. Reta McGee	Gibson Street	New
May.	2/47	George Delong	Argyle Street	New
"	2/47	O'dell Construction Co.	160 Parkhurst Drive	New
"	5/47	Frank McMinniman	Victoria Street	New
"	5/47	Ralph Nason	Pine Street	New
"	7/47	Ben Millison	336 York Street	Relay
"	8/47	George A Ferris	332 York Street	Relay
"	9/47	Mrs Lillian Chippin	442 Charlotte Street	Relay
"	9/47	Mrs Everett Glen	Gibson Street	New
"	10/47	A A Bailey	357-359 Charlotte Street	Relay
"	13/47	Thomas Kane	662 Charlotte Street	Relay
"	16/47	Gerald Clayton	256 Gibson Street	New
"	21/47	Richard McTavish	Gibson Street	New
"	21/47	George Capen	Bridge Street	New
"	23/47	James Robertson	Dundon 1a Street	New
"	27/47	Mrs Patrick Cheevers	462 Northumberland Street	New
"	28/47	Edward Estabrooks	161 Argyle Street	Relay
"	28/47	John McKinnon	Pine Street	New
"	29/47	Frank C Alexander	Winslow Street	New
"	30/47	M E Morgan	Victoria Street	New

May	31/47	Mrs Dorothy Estabrooks	Northumberland St.	New
June	2/47	J F Vanbuskirk	325 Churchill Row	New
"	5/47	David Duncan	Jaffery Street	Relay
"	6/47	Eric Erickson	Graham Ave.	New
"	6/47	H P Gough	Avondale Court	New
"	7/47	William Bell	Victoria Street	New
"	10/47	Fredericton Hotel Co. Ltd.	Queen Street	New
"	15/47	John Watt	406 Union Street	New
"	17/47	Robert Stanley Goodspeed	Dundonald Street	New
"	17/47	United Pentecostal Church	Argyle Street	New
"	18/47	Kitchen Brothers Ltd.	McLeod Avenue	New
"	20/47	Roy Wood	35 Hayes Street	Relay
"	20/47	Douglas H Lawson	Beaverbrook Street	New
"	24/47	Mrs G Colter and Royden Colter	Queen Street	Relay
"	25/47	Bank of Montreal	Queen Street	Relay
"	25/47	Hollie Albright	Gibson Street	New
"	26/47	Mrs Robert Allen	164 Charlotte Street	Relay
"	26/47	Clowes Bishop	Dundonald Street	New
"	30/47	Wallace Titus	Barker Street	New
July	3/47	D W Harvey	127 Gibson Street	Relay
"	4/47	Mrs Bessie Wilby	Woodstock Road	New
"	7/47	Mrs Bessie Wilby	Woodstock Road	New
"	11/47	Walter Kitchen	346 Campbell Street	Relay
"	12/47	Mrs Kenny	176 Northumberland Street	Relay
"	16/47	Mrs Munroe	339 York Street	Relay
"	17/47	Eric Wheatley	Lansdowne Street	New
"	19/47	Frank Cooper	Westmorland Street	New
"	19/47	Hydrant repaired corner York and Charlotte Sts.		
"	22/47	Mrs E Cameron	265-265 York Street	Relay
"	21/47	Hydrant repaired in front Hawkins Fruit Phoenix Sq.		
"	23/47	Don Cameron	York Street	Relay
"	24/47	McFarlane Motors	King Street	New

July	25/47	Ashley Colter	Union Street	New
"	26/47	Frank W Steen	50 Hayes Street	Relay
"	26/47	Harry R Cornfield	Woodstock Road	New
"	30/47	Ken Golding	Waterloo Row	New
Aug.	1/47	Paul O'Hara	Dundonald Street	New
"	/47	Noble Snowden	Dundonald Street	New
"	/47	Leslie Vatour	334 Gibson St. (In to line only)	New
"	/47	Charles Hodgson	342 Gibson Street	New
"	/47	Church of England	Union Street	Relay
"	/47	Miss Francis McSorley	345 Gibson Street	New
"	23/47	Ferd McDonald	Titus Street	New
"	26/47	T E Tomilson	Charlotte Street	New
"	27/47	Miles Service Station	Westmorland Street	New
"	28/47	Judge Slipp	115 Church Street	Relay
"	29/47	J Alexander Crockett	746 Churchill Row	Relay
Sept.	2/47	J Burtt	345 Charlotte Street	Relay
"	2/47	Tractors and Equipment	Smythe Street	New/Relay
"	2/47	Diamonds Construction Company	Gibson Street	New
"	5/47	O'dell Construction Co. (Top Main for Mill)		New
"	5/47	Harry Gibson	Church Street	New
"	5/47	William A Clark	267 Charlotte Street	Relay
"	5/47	Thomas O'Leary	Tweedsmuir Street	New
"	9/47	Ashley Colter (Royal Stores)	York Street	Relay
"	11/47	Kenneth Owen	Bridge Street Extension	New
"	12/47	E E Crouse	Gibson Street	New
"	13/47	John Lawson	357 Gibson Street	New
"	16/47	Ctie Rushton	356 Gibson Street	New
"	18/47	Mrs J P Kaine	358 Gibson Street	New
"	20/47	Bennet Lawson	Gibson Street	New
"	24/47	Gerald Whitlock	St. Marys Street	New
"	29/47	Charlotte Street School		Relay
"	30/47	Estate Mary Minnehan & Sam Boyle	King Street	Relay
Oct.	1/47	Lyman Green	Carleton Street	Relay
"	1/47	Wilfred Wade	275 Charlotte Street	Relay
"	4/47	Robert Kerton	Gibson Street	New

Oct.	/47	Mrs Eleanor Sullivan	373 Gibson Street	New
"	/47	James Scott	333 Gibson Street	New
"	/47	E H Lint	342 Union Street	Relay
"	3/47	Martin Hornostyle	355 St. John Street	Relay
"	4/47	John Dugan	630-632 Scully Street	Rekey
"	4/47	R W McLellan	273 Church Street	Relay
"	5/47	Estate G W alter Kitchen	320 Queen Street	Relay
"	5/47	Gerald Hackey	Dundonald Street	New
"	5/47	Lawson Greer	Gibson Street	New
"	5/47	Mrs Bennett Lawson	Gibson Street	New
"	/47	Mrs Robert Currie	Jaffrey Street	Relay
"	16/47	F I Morrison & Son	344 Queen Street (Sprinkler)	New
"	22/47	H Leslie	320 Regent Street	Relay
"	23/47	Harry Wilson	127 George Street	Relay
"	24/47	Mrs Mary Hill	131 Carleton Street	Relay
"	/47	Hydrant repaired	Regent and Brunswick Street	
"	/47	Hydrant repaired	Carleton and Brunswick Street	
"	/47	Hydrant repaired	Regent and Aberdeen Street	
"	/47	Hydrant repaired	Alexander College	
"	/47	Hydrant repaired	Saunders and York Streets	
Nov.	1/47	Wilson Cleaners Ltd	Westmorland Street	New
"	4/47	Louise Sterling	596 Queen Street	Relay
"	5/47	George Watts	Victoria Street	Relay
"	5/47	Diamond Construction Co.	Smythe Street	New
"	10/47	Hon W G Clark	32 Waterloo Row	Relay
"	/47	Donald F Smith	264-266 King Street	Relay
"	/47	Fenwick Topley	426 Gibson Street	New
"	/47	Everett Murray	466 Gibson Street	New
"	/47	George Nason SR.	446 Gibson Street	New
"	/47	George Nason Jr	362 Gibson Street	New
"	/47	R B Vandine	George Street	Relay
"	/47	A Morrison	456 Gibson Street	New
"	7/47	William Irvine	501 Gibson Street	New
"	/47	William Irvine	436 Gibson Street	New
"	/47	Robert Irvine	521 Gibson Street	New

Nov.	/47	Mrs M V Stokoe	490 Gibson Street	New
"	25/47	Donald Horncastle	112 Aberdeen Street	Relay
"	/47	York Athletic Association	Carleton Ward	New
"	/47	A F Dickason	Gibson Street	New
"	/47	F.L. Boone	Union Street	New
"	/47	Miss Margaret Forbes	Union Street	Relay
"	/47	John H Evans	Orevar Avenue	New
"	/47	Stephen Mason	374 Gibson Street	New
"	/47	J J F O'Connor	Gibson Street	New
"	/47	Mrs M G Hollins	496 Gibson Street	New
"	/47	Hilton Love	Gibson Street	New
"	/47	Wartime Housing	Installation for 200 Houses	New

J  
Installation of New Domestic Sewers  
and  
Maintenance and Repairs to old Domestic Sewers.

Dec.	/46	B E Burden	Charlotte Street	New
"	/46	Joseph Fletcher	Green Road	New
"	12/46	N.B. Telephone Co.	King Street	New
"	/46	O'dell Construction Co. (Apt. Ho.)	Rockwood Ave.	New
"	13/47	John Murray	Green Road	New
Jan	29/47	O'dell's	15 Brookmount Court	New
Feb.	27/47	"	204 Parkhurst Drive	New
Apr.	22/47	"	35 Brookmount Court	New
"	/47	"	45 Brookmount Court	New
"	/47	"	35 Brookmount Court	New
"	/47	"	26 Brookmount Court	New
May.	1/47	Gordon Saunders	Needham Street	New
"	2/47	George Delong	Argyle Street	New
"	2/47	O'dell's	160 Parkhurst Drive	New
"	5/47	Frank McMinniman	Victoria Street	New
"	23/47	James Robertson	Dundonald Street	New
"	27/47	Mrs Patrick Cheevers	Northumberland Street	New
"	30/47	M H Morgan	Victoria Street	New
"	31/47	Mrs Dorothy Estabrooks	Northumberland Street	New
June	2/47	J F Vanbuskirk	326 Churchill Row	New
"	6/47	Eric Erickson	Graham Avenue	New
"	6/47	H P Cough	Avondale Court	New
"	7/47	William Bell	Victoria Street	New
"	12/47	Ernest Chase	146 Pine Street	New
"	16/47	Fredericton Hotel Co.	Queen Street	New
"	16/47	John Watt	463 Union Street	New
"	17/47	Robert Stankey Goodspeed	Dundonald Street	New
"	9/47	United Pentecostal Church	Westmorland Street	New
"	20/47	Roy Wood	33 Hayes Street	New
"	21/47	Douglas and Lawson Motors	Beaverbrook Street	New
"	25/47	Cloves Bishop	Dundonald Street	New
July	4/47	Mrs Bessie Wilby	Woodstock Road	New

July	7/47	Mrs Bessie Wilby	Woodstock Road	New
"	9/47	Thomas Jaffrey	Graham Avenue	New
"	7/47	Bruce Upton	306 Regent Street	Dug Out
"	8/47	Mr Cummings	Northumberland Street	Dug Out
"	12/47	William Lean	85 Mill Street	New
"	10/47	A E Williams	92 Mill Street	New
"	17/47	Eric Fleatley	Lansdowne Street	New
"	19/47	Frank Cooper	Westmorland Street	New
"	18/47	Cecil Gorman	725 Union Street	New
"	24/47	McFarlane Motors	King Street	New
"	25/47	Harry R Cornfield	Woodstock Road	New
"	27/47	Thomas Ford	Green Road	New
"	30/47	Kenneth Golding	Waterloo Row	New
Aug.	1/47	Paul O'Hara	Dundonald Street	New
"	5/47	Noble Snowden	Dundonald Street	New
"	/47	Fredericton Hotel Co	Queen Street	New
"	26/47	J R Tomilson	Charlotte Street	New
"	26/47	Cecil Noble	Brunswick Street	Dug Out
Sept.	5/47	Har v Gibson	Church Street	New
"	8/47	Thomas O'Leary	Tweedsmuir Street	New
"	10/47	Glass Service Station (Wash Stand Sewer)	Smythe Street	New
"	11/47	Gregory McGinnis	744 Albert Street	Dug Out
"	13/47	Frank C Alexander	Winslow Street	New
Oct.	/47	E E Burden	Green Road	New
"	/47	Gerald Hachey	Dundonald Street	New
"	14/47	Wartime Housing	200 Houses	New
Nov.	6/47	Tractors and Equipment	Smythe Street	New
"	24/47	J G B Pugh	261 York Street	Dug Out

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2

JOHN

RIVER

This historical map of Fredericton, New Brunswick, provides a detailed view of the city's street grid and surrounding areas as of 1947. The map includes labels for major streets such as University, Queen, King, York, Carrington, Allen, Brunswick, George, Charlotte, Scully, Aberdeen, Churchill, Row, Needham, Dundonald, Victoria, Grey, McLeod, Windsor, Albert, Beaverbrook, Graham, Maryland, and Rookwood. It also shows several railway lines, including the CNR and CPR, with specific tracks labeled like "TO NASHWAKSIS" and "TO MARYLAND". A large area in the northwest is labeled "UNIVERSITY". Handwritten labels "JOHN" and "RIVER" are prominent on the map. A compass rose indicates North, and a scale bar at the bottom right shows distances in chains (app.). The map is titled "PLAN OF THE CITY OF FREDERICTON" and includes a note about paved roads from 1947.

PLAN OF THE  
CITY OF FREDERICTON

ROADS PAVED 1947  
PAVEMENT PREVIOUS 1947

SCALE IN CHAINS  
(APP.)