

ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

1949



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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 1948 to the first of December 1949.

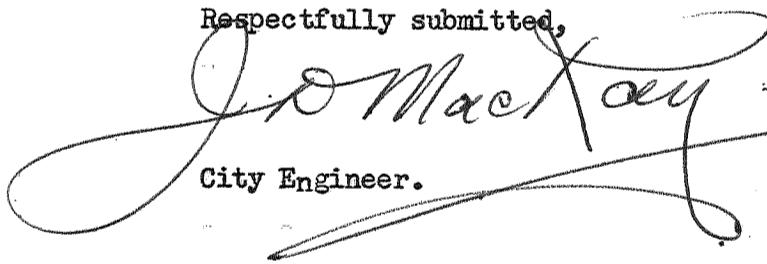
This report is written with the purpose of reporting to the Council on the costs of the various Departments for the year. It is also written with the idea of having an accurate record on file of the different activities and costs under these Departments.

The City of Fredericton occupies a total of some 23.5 square miles. This mileage excludes 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 18,000 persons.

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. MacKay
City Engineer.

John Hancock

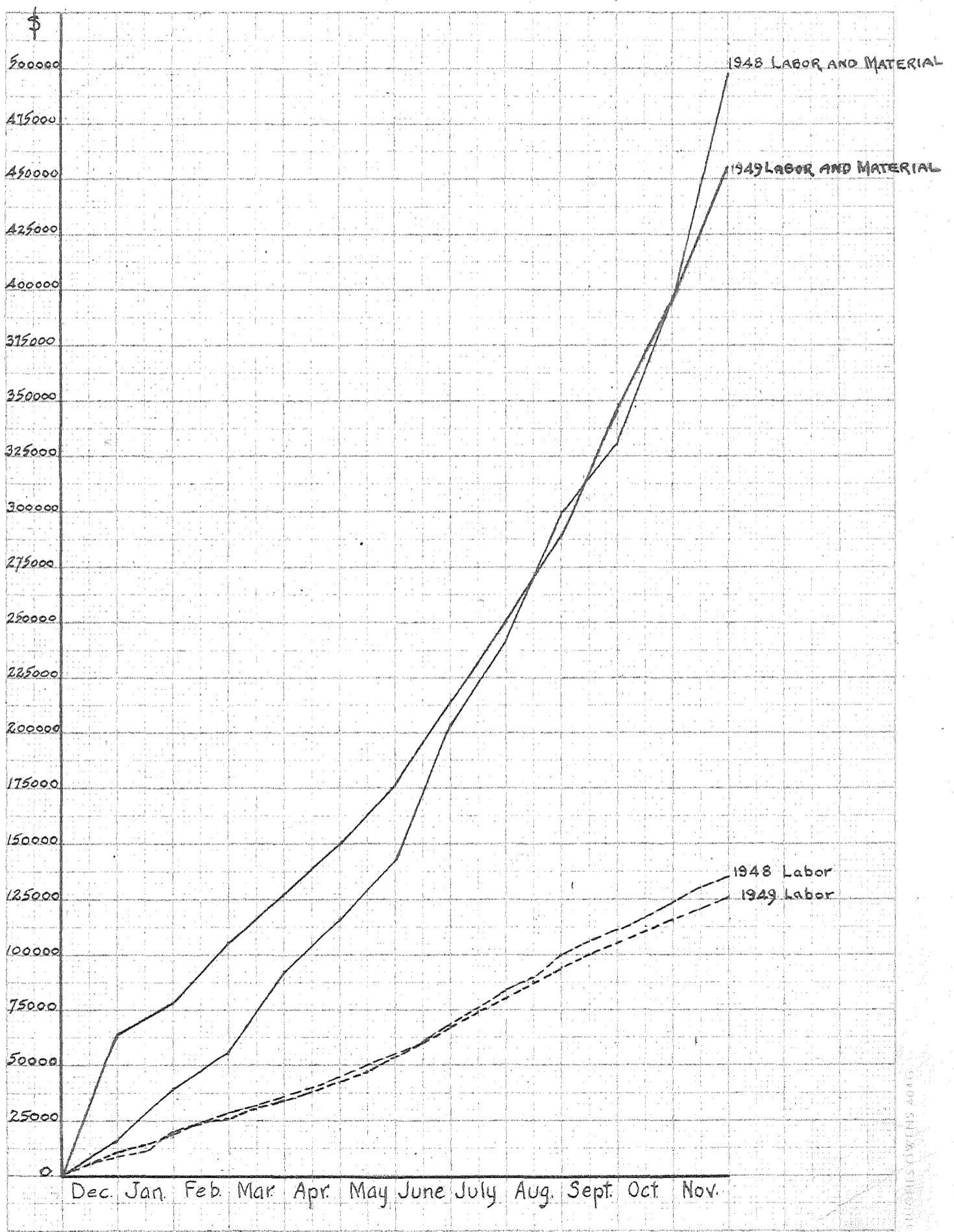
Total Tax Levy		1949 Expenditure Estimate	1950 Available Funds Authorized by Budget Act	Available Funds Left
Permit fees (including curbs and parking)	\$7,000 ²		* \$2,000 ²	* + \$32,000
Sewerage Domestic 13,000 ²	81,000 ²	25,000 ² 20,000 15,000 ² 2,800	*	*
Water & Sewer - Main Extensions	35,000 ²	5,000 ² *	*	*
Water & Sewer - Fort Hill	66,000 ²	8,000 ²	*	*
Water, Sewer - Maryland Hts.	11,000 ²			
Maryland Hts., Grading	800 ²	900 ²		
Trafficator	22,000 ²	9,000 ²		
Street Lighting	1,000 ²	5,000 ² (short)		
Curb Walks	1,000 ²	10,000 ²	*	*
Watertown Housing Develop.	7,000 ² (transient)	5,000 ² 3,000 ²	55,000 ² (50%) + \$50,000	0
Total	\$75,000,000	\$56,000 ²	\$29,000 ²	
Fire Dept. fees				
Motor Improvement	50,000 ²			
Special Roads 1000 + 32,000 ² 20,000				
141 P.C. Dist. 80,000				

TOTAL YEARLY EXPENDITURE

The expenditures shown in this report cover the period of time from December 1st, 1948 to December 1st, 1949.

The Total Yearly Net Expenditure under the direct supervision of the City Engineer this year amounted to \$453,267.95. This expenditure will be taken up in detail under the different headings in this report. The total Gross Expenditure for this period amounted to \$ 574,995.69.

A graphic comparison of expenditure for labour and material for the year 1949 is shown on the following chart.



TOTAL NET EXPENDITURE 1948 AND 1949.

ROADS AND STREETS

This year we had an appropriation for Roads and Streets of \$85,000.00. We under-expended this appropriation by \$4,251.75.

We have in Fredericton altogether some 56.87 miles of roads and streets.

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

<u>Roads and Streets</u>	<u>Urban</u>	<u>Outlying</u>	<u>Total</u>
Paved.....	19.60	3.46	23.06
Gravel.....	10.60	23.21	33.81
Total.....	30.20	26.67	56.87

Roads and Streets Expenditures 1949:-

Gross Expenditure.....	\$ 85,638.38
Credits.....	4,890.13
Net Expenditure.....	80,748.25
1949 Appropriation.....	85,000.00
Credit Balance.....	4,251.75

The above Credits are made up as follows:-

N.B. Contractors (Rental on City Boiler).....	\$ 169.00
J. L. Simms & Sons Ltd. (Plowing Road on River with Road Patrol).....	24.00
Wendall McFadgan (Sale of Tractor).....	550.00
N.B. Telephone Co. (Patching 20 holes on Queen St. @ \$4. each)....	80.00
Odell Construction Co. Ltd., (46 logs = 2366 bd. ft. spruce used in ramp @ \$30. per thousand.).....	70.98
Bemrose & Kilburn (Hire power shovel 6 hrs. @ \$7. per hr.).....	42.00
Victoria Public Hospital (10 bags Calcium Chloride @ \$2.10 per bag spread on ground).....	21.00
Canadian National Telegraph (Repairs to Barker House Alley).....	91.27
A. D. Neill (Spreading Calcium Chloride).....	24.50
Caldwell Construction Co. (29 Empty Barrels).....	29.00
Royal Ryan (Rental on Bulldozer 1 hr.).....	4.00
Journal Voucher (To proportion Expenses Engineer's Car).....	500.00
Journal Voucher (Sale of Boiler).....	350.00
Journal Voucher (Labor on surface sewer charged to Roads & Streets should have been charged to Capital Account Paving 197.38	
Journal Voucher (18 empty drums @ \$4. each used in float).....	72.00
Journal Voucher (500 ft. of 2½" hose @ \$1.75 per ft. Maryland Heights Water and Sewer).....	875.00
Journal Voucher (Wood from City Forest).....	1790.00

Total.....\$4,890.13

The Gross Expenditure is divided as follows:-

Labour.....	\$ 39,716.78
Material charges and Workmen's Compensation.....	45,921.60
	\$ 85,638.38

I have divided the Labour Charges of \$ 39,716.78 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.

Item 1.	<u>Snowploughing sidewalks:-</u>	\$ 197.26
2.	<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.....	7,130.54
3.	<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.....	5,945.38
4.	<u>Surface Sewers:-</u> Cleaning, flushing and repairing surface sewers and building new surface sewers within street limits..	1,627.19
5.	<u>Sanding Walks:-</u> Storing sand in winter storage piles and spreading same on slippery walks.....	2,403.32
6.	<u>Yard:-</u> Men working in blacksmith shop and repair work in City Yard, taking summer equipment out and storing winter equipment.....	1,734.12
7.	<u>Gravel:-</u>	2,594.78
8.	<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.....	72.65
9.	<u>Doak and Wilsey Roads:-</u> All work done on these roads other than work done by power maintainer.....	83.61
10.	<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.....	182.01
11.	<u>Kilarney Road</u>	-----
12.	<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.....	90.42
13.	<u>Street Cleaning:-</u> All cleaning and removal of dirt, leaves, etc. from streets.....	11757.46
14.	<u>Tarvia Repairs:-</u> Patching and repairing asphalt or tar pavement and sidewalks and applying seal coat of light tar or asphalt to pavements.....	1,508.48
15.	<u>City Road Patrol:-</u>	670.56
17.	<u>City Forest:-</u>	<u>3,719.00</u>
	TOTAL.....	\$ 39,716.78

Following is a table comparing Labour Expenditure in these items from 1946 to 1949.

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS
LABOUR ITEMS

Item		<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
	Snowploughing				
1.	Sidewalks	579.20	255.51	187.35	197.26
2.	Snow Control	7,073.15	7,932.44	11,281.23	7,130.54
3.	Streets	5,450.87	7,158.80	6,527.10	5,945.38
4.	Surface Sewers	917.88	595.70	480.03	1,627.19
5.	Sanding Walks	591.66	1,997.76	1,398.85	2,403.32
6.	Yard	802.16	1,006.19	1,605.38	1,734.12
7.	Gravel	2,366.11	3,677.75	3,105.20	2,594.78
8.	St. John Road	176.42	398.10	3,853.72	72.65
9.	Doak & Wilsey Roads	2.56	965.68	2,863.82	83.61
10.	New Maryland Road	66.46		121.48	182.01
11.	Kilarney Road		175.84	33.63	
12.	Outlying Roads	474.51	1,021.68	581.20	90.42
13.	Street Cleaning	10,213.19	12,072.44	13,948.03	11,757.46
14.	Tarvia Repairs	728.62	1,101.86	2,006.41	1,508.48
15.	City Road Patrol	552.79	655.19	836.33	670.56
16.	Dunn's Crossing	957.01			
17.	City Forest	4,275.20	2,493.05	2,212.27	3,719.00
	Total	55,227.79	42,445.99	51,042.03	39,716.78

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

Item 2.	<u>Snow Control:-</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
	Snowploughing roads and Streets..	763.60	786.24	707.68
	Shovelling and hauling snow....	5,442.15	8,857.88	3,738.13
	Catch Basins.....	760.20	406.78	663.11
	Snow Fences.....	517.80	443.51	670.99
	Keeping drains on hills open...	218.50	447.57	1,162.01
	Thawing culverts.....	38.75	47.98	164.76
	General Expenses.....	191.44	289.27	23.86
	Total	\$7,932.44	11,281.23	7,130.54

The purchase of a snow blower is the principal reason for the lower labour costs shown this year in 'shovelling and hauling snow' but must also take into consideration the fact that the season of 1948-49 had a snow fall of only 64 inches while the season of 1947-48 had a fall of 83 inches and the season of 1946-47 had a snowfall of 76 inches. The City purchased a Sicard Junior Snow Master through Capital Garage for \$12,898.00 F.O.B. Fredericton and this cost appears in this years Roads and Streets material charges.

Snow Fences:-

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

Item 3. Streets:-

Repairs to plant.....	\$ 617.54
Painting traffic lines and street signs.....	1,381.93
Weather Account (holidays).....	2,822.49
Repairs to bridges.....	751.39
Surveying.....	38.86
Unloading and spreading calcium chloride.....	311.51
General Expenses.....	<u>21.86</u>
Total.....	\$ 5,945.38

This year we purchased 140 tons of Calcium Chloride against a purchase of 82 tons last year.

The above Weather Account of \$2,822.49 is made up chiefly of wages paid to workmen when they were on their holidays.

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 \$1,627.19. Three new surface extensions were made under this heading:- 400 ft. of 10" Surface Sewer was laid from the corner of Rookwood Ave. and Parkhurst Drive East along the edge of Wilmot Park to intercept and take care of surface run off coming from the Race Course; 200 ft. of 12" Surface Sewer was laid on Albert St. West from the corner of Tweedsmuir Street; and 300 ft. of 8" Surface Sewer was laid on Union St. to relieve bad drainage conditions near the corner of Neill St. and west of Clark St.

Item 7. Gravel:-

This year we hauled from our city gravel pit at Barker's Point some 6,804 cubic yards of gravel of which 4,804 cubic yards were used in our regular city maintenance, and 2000 cubic yards used on Wartime Housing, Maryland Heights.

8 Item 9. St. John Road:-

The labour expenditure of \$72.65 was made in cutting and burning bushes on the side of the road.

Item 10. Outlying Roads:-

The labour expenditure of \$90.42 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."

9 Item 11. Street Cleaning:-

The labour cost of \$11,757.46 shows a decrease of \$2,190.57 over last year. This is mostly accounted for by early snow in November of this year which stopped our street cleaning activities.

Item 15. Tarvia Repairs:-

14

The labour expenditure of \$ 1,508.48 is divided as follows:-

Patching streets.....	\$ 1,483.37
N.B. Telephone Co.....	19.29
General Expenses.....	<u>5.82</u>
Total.....	\$ 1,508.48

All patching material this year was obtained from Diamond Construction Co. City trucks hauled from plant at Carleton Ward and Oromocto 35.36 ton base @ 6.00 per ton and 60.4 ton seal @ \$8.00 per ton.

Item 18. City Forest:-

Included in our regular Roads and Streets Costs is a labour expenditure for City Forest of \$ 3,719.00.

This labour item is sub-divided as follows:-

Logging.....	\$ 241.76
Hauling wood to City Yard.....	145.77
Cutting fuel wood in woods.....	1,317.41
Haying.....	60.26
Caretaker's wages and miscellaneous expenses.....	1,244.19
Cutting wood with machine.....	<u>709.61</u>

Total..... \$ 3,719.00

Besides this labour cost, the City Forest shows an expenditure for material of \$562.83 making a total cost for the year of \$4,281.83.

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

The following merchantable material was cropped from the City Forest this year. The lumber listed was sawed by the Odell Construction Co. mill and City Forest paid the sawing bill.

11,590 ft. bd. M. Hemlock @ \$50.	\$ 579.50
1,275 ft. bd. M. White Pine @ \$70.	89.15
19,144 ft. bd. M. Spruce @ \$50.	957.20
863 ft. bd. M. Hardwood @ \$70.	60.41
246 Cds. Hardwood (4 ft.) fuel wood @ \$12.	2952.00
7 tons hay in City Barn @ \$17.	<u>119.00</u>

Total....\$ 4,757.26

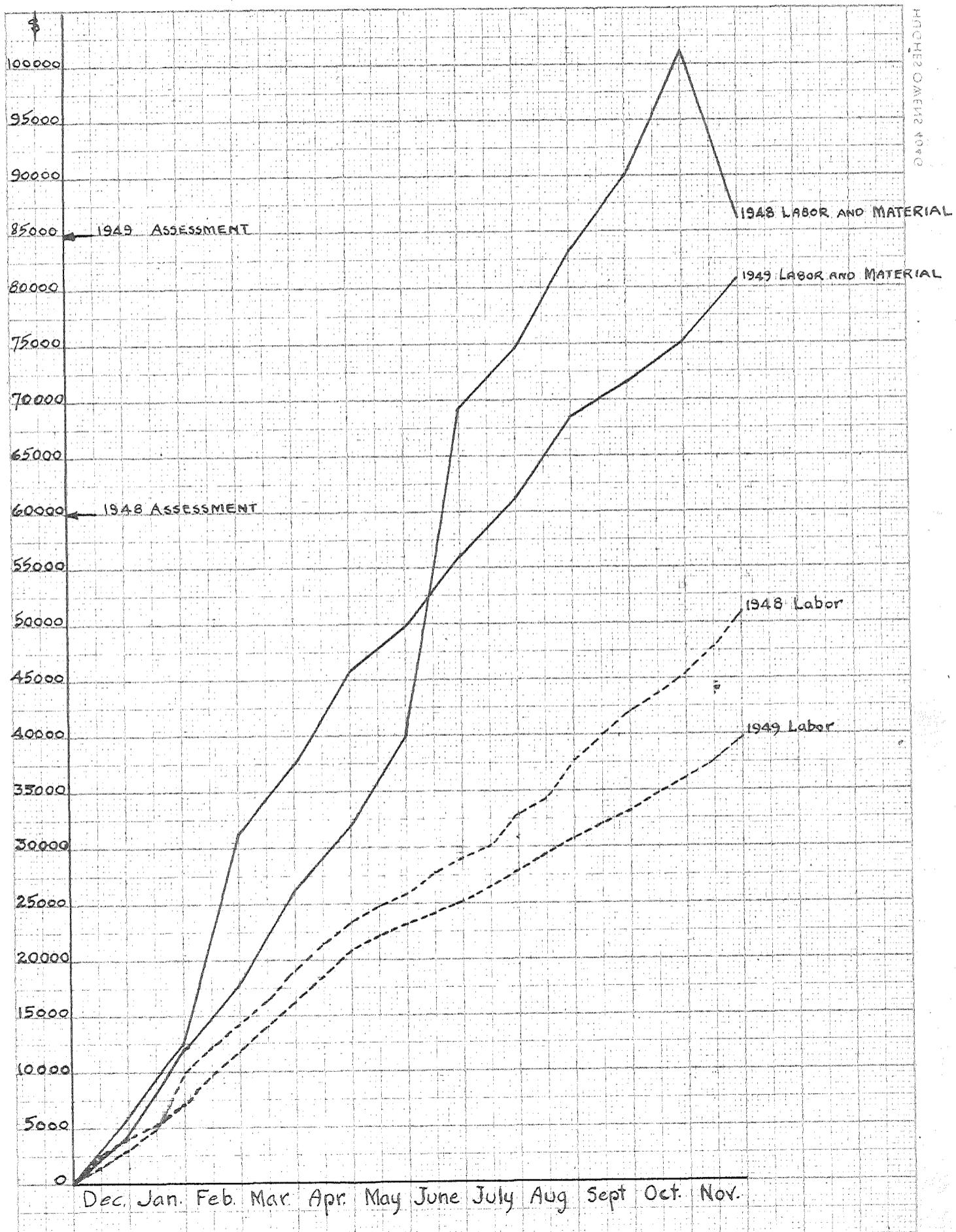
TABLE SHOWING COMPARATIVE COSTS OF ROADS AND STREETS

Years 1932 to 1949

Year	Expenditure for Labour	Gross Expend- iture Labour and Material	Credits	Net Costs Labour and Material	Appropriation
1932	25,430.96	39,101.62	4,822.19	34,279.53	25,000.00
1933	10,607.99	19,161.38	533.28	18,829.10 *	19,000.00
1934	15,332.51	23,665.94	2,311.50	21,354.36	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	40,283.46	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	4,318.50	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
1948	51,042.03	120,591.55	54,449.50	86,141.85	60,000.00
1949	59,716.78	85,638.38	4,890.13	80,748.25 *	85,000.00

It will be noted by the above table that this year is only the third time in the last eighteen years that the Roads and Streets Dept. has shown a surplus. Also this year's surplus of some \$4,250. is the only comparatively large surplus shown during this eighteen year period.

The fact that a surplus was shown this year does not mean that the appropriation was unnecessarily large. It had to take care of the purchase of the Snow Blower which was paid for by this year's Roads and Streets account. The surplus still shown could have been profitably spent on ordinary Roads and Streets but for the fact that a large portion of our energies were expended on Capital Accounts such as Water, Sewer, Street Lights, and street extensions. This leaves a considerable amount of maintenance work on outlying roads, and also on the City streets which should have been done this year but which we had to carry over.



ROADS AND STREETS COSTS 1948 AND 1949 .

CAPITAL ACCOUNT PAVEMENT

Gross Expenditure.....	\$ 37,482.88
Credits.....	553.72
Net Expenditure.....	<u>\$ 36,929.16</u>

The above Credits are made up as follows:-

Bemrose & Kilburn - 100 bags Cement @ 80 3/4¢ = \$ 121.12
Kitchen Bros. Ltd. - $\frac{1}{2}$ cost of pavement between curb & building on McLeod Street. = <u>432.60</u>
Total..... \$ 553.72

For the above expenditure of \$36,929.16 concrete curbs and gutters and asphalt pavements were laid at the below listed locations:-

Concrete Curb and Gutter

Lin. Ft.

1. Regent St.-C.P.R. Tracks to Albert	(both sides)	1458
2. Albert St.-Regent to Windsor	"	2180
3. Tweedsmuir St.-Albert to Beaverbrook	"	800
4. Beaverbrook St.-Regent to Tweedsmuir	"	1262
5. McLeod St.-Regent to St. John	"	1418
6. St. John St.-McLeod to Scully	"	434
7. Westmorland St.-Victoria to Dundonald	"	700
8. Churchill Row-St. John to C.N.R.	"	1584
9. Northumberland St.-Argyle to Victoria	"	714
10. Westmorland St.-Aberdeen to Valley tracks	(one side)	124
11. Aberdeen St.-Westmorland to C.P.R. tracks	"	150
12. Gill St.-Union St. North	"	<u>300</u>
		<u>11,124</u>

13. Sunshine Gardens:-

Parkhurst Drive-Brookmount to Haviland St.	(both sides)
Riverdale Court	"
Ashland Court	"
Brookmount St.-100 ft. north from Parkhurst Drive	"

2,861

Total 13,985

Streets Paved

Lin. Ft. Sq. Yd.

1. Regent St. - 20 ft. pavement widened and repaired	749	749
2. Albert St. - Regent to Windsor	1140	3597
3. Tweedsmuir St. - Albert to Beaverbrook	408	1292
4. Beaverbrook St. - Regent to Tweedsmuir	641	2030
5. McLeod St. - Regent to St. John	690	2097
6. St. John St. - Scully to McLeod	239	730
7. Queen St. - Widening opposite Farraline Home	198	110
8. A&B Club House - Walk	93	62
9. Kitchen Bros. - between curb and building on McLeod St.	<u>224</u>	<u>525</u>
Totals	4382	11192

Of the above listed curb and gutter laid items 1,2,3, and 4 were built completely by City crews. Items 5,6,7,8,9,10,11, and 12 were constructed entirely by the City excepting the concrete which was purchased ready mixed on the job from the firm of Bemrose and Kilburn at a contract price of 55¢ per lin. ft. of completed curb and gutter. Item 13 was built by O'Dell Construction Co. (the City supplying forms) at a contract price of \$1.25 per lin. ft. completed curb and gutter.

The cost per lin. ft. for all curb and gutter constructed this year, found by dividing the total footage into the total overall cost for the year, is \$1.29.

Re the Above Listed Pavement:-

The street grading and all preparatory work other than the actual supplying and laying in place of the 4-inch es of premixed pavement was done by the regular City crews at a cost of 10¢ a square yard. The pre-mixed pavement was supplied and laid by the Diamond Construction Co. from their small portable plant located near the company mills in Carlton Ward. The Company charged the City for this pavement in place ~~17 00~~ a ton for base and ~~5 70~~ a ton for seal. Altogether some 11192 sq. yds. (some .73 miles of City street) were laid at a unit price of \$1.69 for completed premixed pavement 4" thick, in place. This unit price includes all grading and preparatory work but does not include concrete curb and gutter in the price, nor is the concrete gutter included in the yardage.

Using these above prices the cost for an average mile of city streets with concrete curb and gutter and with 4" thickness of premixed pavement and being 30 ft. wide from curb to curb would be \$40,000.00.

CAPITAL ACCOUNT SEWER DOMESTIC

Gross Expenditure.....	\$ 90,147.48
Credits.....	9,656.40
Net Cost.....	<u>\$ 80,491.08</u>

This above Capital Account Sewer has been kept in two separate accounts:

- A - Capital Account Sewer Carleton Ward
- B - Capital Account Sewer South Side of River.

A - Capital Account Sewer Domestic Carleton Ward

Gross Expenditures.....	\$81,128.06
Credits.....	8,613.46
Net Cost.....	<u>\$72,514.60</u>

The Credits are made up as follows:-

Work done on domestic sewer system for private parties, mostly house connections.....	\$ 6,808.71
Labor account charged in error to Sewer Carleton Ward which should have been charged to Sewer on South side of River (See Journal Voucher)....	<u>1,804.75</u>
Total Credits.....	\$ 8,613.46

This account covers only the sewer construction in Carleton Ward which amounted in all to 10523 ft. of house connections and 19894 ft. of main sewer.

The house connections cost 95¢ a foot or some \$10,000.00. To get the cost of the main sewer, the \$1800.00 charged in error to this account must be added to arrive at the sum of \$11,800.00 which must be subtracted from our gross expenditure of \$81,128.00. The cost of the main sewer is therefore (\$81,128.00 - \$11,800.00) \$69,328.00 for 19,894 lin. ft. or a cost per foot of \$3.49.

This footage of Main Sewer consisted of the following sizes:

	Costs per Lin. Ft. for Labor only.
24" = 1534 Lin. Ft.	\$ 1.64 = 2414.76
15" = 1117 Lin. Ft.	1.67 1865.39
12" = 6116 Lin. Ft.	.93 5587.88
10" = 1078 Lin. Ft.	.84 905.72
8" = 10049 Lin. Ft.	.79 7938.71

19894 Total 19894 Lin. Ft. ~ @ 94 ~ 18712.46

The above labor costs may seem a bit out of order as the 15" pipe shows a greater cost than the 24". This occurred because most of the 24" pipe was not laid under a street and pavement breaking and traffic conditions did not have to be contended with. However, I believe they are good enough to be used in future estimates.

In laying this Carleton Ward Sewerage some 9980 Lin. Ft. of the total laid or about one half of the entire job was laid under paved streets. The pavement had to be cut and removed and after the sewer was laid and backfilled the pavement had to be replaced. The costs of this pavement removal and replacement are included in the above listed costs of this job.

The costs of the pavement repairs, which were made by Diamond Construction Co., amounted in all to \$8,006.30 for the 9,980 Lin. Ft. laid under paved streets or to 80¢ a lin. ft. Their repairs to pavement followed up the sewer construction very closely and I have no doubt there will be some settlement in the future. This will make necessary some additional expense to pavements over the sewer trench.

B - Capital Account Sewer Domestic on South Side of Saint John River.

Gross Expenditure.....	\$ 9,019.42
Credits.....	<u>1,042.94</u>
Net Cost.....	<u>\$ 7,976.48</u>

The Credits are accounted for as follows:-

Work done on house connections for private parties..... \$ 859.59
Ashfield Bros. for wages paid by City to shovel runner. 203.35

Total.....\$ 1,042.94

Under this heading 1382 lin. ft. of house connections and 2500 lin. ft. of 8" main sewer were laid. This 8" main sewer was laid at the following locations:

Sunshine Gardens - Parkhurst Drive	425 ft.
York Street.	1440 ft.
Green Road	285 ft.
Elmcroft Subdivision	<u>350 ft.</u>

Total.... 2500 ft.

To get the unit costs on this above sewer construction we must use the Gross Expenditure of \$9,019.42 less Credit for shovel operator of \$203.35 which gives us an over all cost for the work of \$8816.07 and which gives us a unit cost of 95¢ a lin. ft. for house connections and \$3. a lin. ft. for 8" main sewer.

The location of all sewers constructed this year is shown in Brown on a map on page 15 of this report.

CAPITAL ACCOUNT WATER.

Gross Expenditure.....	\$ 38,251.22
Credits.....	<u>3,427.67</u>
Net Expenditure.....	\$ 34,823.55

The above Credits are made up as follows:-

Cosfs installing water services over private property.	\$ 802.96
Ashfield Bros. payment by City to shovel runner.....	80.50
O'Dell Construction Co. - hire of bulldozer.....	20.00
Material used by Forest Hill Water-see Journal Voucher.	<u>2524.21</u>

Total..... \$ 3427.67

Installations were made at the following locations:-

	Lin. Ft. of	8"	6"	<u>1$\frac{1}{4}$"</u>
1. York Flooring Mill-Gibson to Barker		1500		
2. MacLaren Ave.-Medley to Gibson		1065		
3. MacLaren Ave.-to Hughes		150		
4. Hughes St.-MacLaren Ave. South		350		
5. Smythe St.-Victoria St. South	150			
6. Green Road-York to Palmer	250			
7. York St.-Albert to Green Road		940		
8. York St.-Albert St. North			350	
9. Sunshine Gardens-Parkhurst Drive		410		
10. Sunshine Gardens-Fairlawn Court			185	
11. Woodstock Road-Ryans to Golf Club Road		670		
12. Golf Club Road-Woodstock Road to City Line			679	
13. Albert St.-Mitchell to York		270		
14. Queen's Square-St. John to Church		640		
15. Elmcroft subdivision		450		
16. Rookwood Ave.-under Valley track		365		
<hr/>				
Totals		400	6810	1214

All the above items were laid by the City's own crews except Item 1., York Flooring Mill and Item 16., Rookwood Ave.

Item 1. 1500 ft. of 6" main was run from Gibson St. past the York Flooring Mill and the York Arena to Barker St. This installation was authorized by the City Council to enable sprinkler systems to be installed in York Flooring Mills and into a converted Hanger owned by Mr. Ashley Colter and also to improve fire protection at and near the York Arena and Barker Street. The City supplied pipe and material and Diamond Construction Co. did the work for the City. The installation was made during favorable weather and through dry sandy soil. The unit cost on this job was \$4.46 a lin. ft. This unit cost was made up of material cost of \$3.55 a lin. ft. and a labor cost of \$.91 a lin. ft.

Item 16. 365 ft. of 6" main was laid from the end of water line on Rookwood Ave. South along Rookwood Ave., under the C.P.R. Tracks to a location to supply water and fire protection to the O'Dell Woodworking factory and to the Kinghorn and Dickie plastic plant. The City supplied the material and the O'Dell Construction Co. did the work for the City. The installation was made during unfavorable weather conditions and through a very wet clay and sand soil. Pumps had to be used to keep the water table low enough to cork pipe. The unit cost on this job was \$6.22 a lin. ft. made up of a material cost of \$3.55 and a labor cost of \$2.67 per lin. ft.

Items 2 to 15 inclusive were installed by city crews and totalled

400 lin. ft. 8" water main @ \$5.06 per lin. ft.

4945 lin. ft. 6" water main @ \$4.50 per lin. ft.

1214 lin. ft. 1 $\frac{1}{4}$ " water main @ \$1.30 per lin. ft.

Map on page 15 of this report shows location of water mains laid this year outlined in Blue

CAPITAL ACCOUNT WATER AND SEWER FOREST HILL

This installation was let out under contract to Ashfield Bros., the City supplying all material and the contractor doing the work and supplying everything but actual pipe, pipeline material, and material for Catch Basins and Man Holes. The contract for the Construction of a 35,000 Imperial Gallon Concrete Reservoir was awarded to Colter King.

The work got under way in September and was discontinued in December because of weather conditions. To date the following amount of work was accomplished:

6" Water Main laid in place 7842 lin. ft.
8" Domestic Sewer laid in place 4758 lin. ft.
5" Domestic Sewer House Connections 1040 lin. ft.
5/8" Copper Water Connections 1380 lin. ft.

The water was taken from the City main at an elevation of 90. and repumped to the Forest Hill Reservoir at an elevation of 315.5. A small pump with a capacity against the above head of 18 G.P.M. is being used to pump into the reservoir. It is expected that the size of the pump will be adequate for some time to come.

We are now supplying from the reservoir 7 residences with water. These residences have also been supplied with sewerage.

Last year we had an expenditure of some \$3,453.75 on this system endeavouring to locate water by drilled wells. This did not give good results. A description of this operation appears in my 1948 report.

This year the following expenditure was made:-

Gross Expenditure.....	\$ 60,011.22
Credits.....	<u>485.17</u>
Net Expenditure.....	<u>\$ 59,528.05</u>

I am not going to try to work out unit prices for this job until after it is finished next year as a good part of the work is not in a state of completion.

MARYLAND HEIGHTS HOUSING CAPITAL ACCOUNT

This account with an expenditure of \$7417.83 is made up of labour and material in grading and graveling roads and sidewalks on the Maryland Heights sub-division. Last year at the first of December, which is the end of the time period taken up in this report, we were still laying water and sewer in Maryland Heights and most of the streets between York Street and Regent Street had not been graded. This year we completed the grading and gravelled the newly graded streets as well as regravelling some of the streets which had been partially gravelled last year.

MARYLAND HEIGHTS WATER AND SEWER CAPITAL ACCOUNT

This account has a net expenditure of \$10,815.92. The expenditure was made in completing the water and sewerage systems in December 1948 on Chestnut Street, also in the spring of 1949 we had to make repairs to parts of the sewerage system which proved to be faulty due to the difficulties of construction under late fall weather conditions. Included in the above expenditure is the cost of thoroughly cleaning the surface sewerage system which we found, in many cases, full of sand and gravel.

WARTIME HOUSING #1 & #2 CARLETON WARD - CAPITAL ACCOUNT

The expenditure of \$402.00 in this account was caused by paying outstanding bills incurred on this account last year.

CAPITAL ACCOUNT INCINERATOR

The expenditure of \$15,662.05 in this account completes the cost of supplying and installing an Incinerator for the City by the Francis Hankin Co. Ltd.

Most of this year's expenditure is accounted for by the final payment of \$15,326.64 to the Francis Hankin Co. Ltd.

The Total Costs of this Incinerator are:-

1947 Expenditure	\$ 8,065.43
1948 Expenditure	14,886.98
1949 Expenditure	<u>15,662.05</u>
Total	\$38,614.46

PUBLIC WORKS

Gross Expenditure.....	\$ 7,917.90
Credits.....	849.11
Net Expenditure.....	\$ 7,068.79
1949 Appropriation.....	8,000.00
Credit Balance.....	\$ 931.21

The above Credits are made up as follows:-

Labor at dump which had been charged to Public Works but which should have been charged to Sanitation - See Journal Voucher.....	\$ 499.11
Revenue from trust funds in the hands of the City for Old Burial Grounds.....	350.00
	\$ 849.11

The Net Expenditure is made up of a labour charge of \$4,430.77 and a material charge of \$2,658.02. The labour charge is divided as follows:-

Surface Sewers.....	\$ 148.71
Back Drain.....	33.09
Trees.....	442.18
Old Burial Ground.....	1,497.61
Unforeseen Account.....	2,309.18
	\$4,430.77

Surface Sewer:- This item is for expenditures on Surface Sewerage not within the boundaries of any road or street. This year the expenditure was made in widening an open ditch at Devonshire Heights and constructing catch basins on Pond property west of Gibson Street.

Trees:- The labour cost of \$442.18 was for cutting and pruning shade trees. We also supplied labour to the Entomological Department of the Federal Government who did some experimental spraying on some of our City elm trees which had shown damage due to the elm avis.

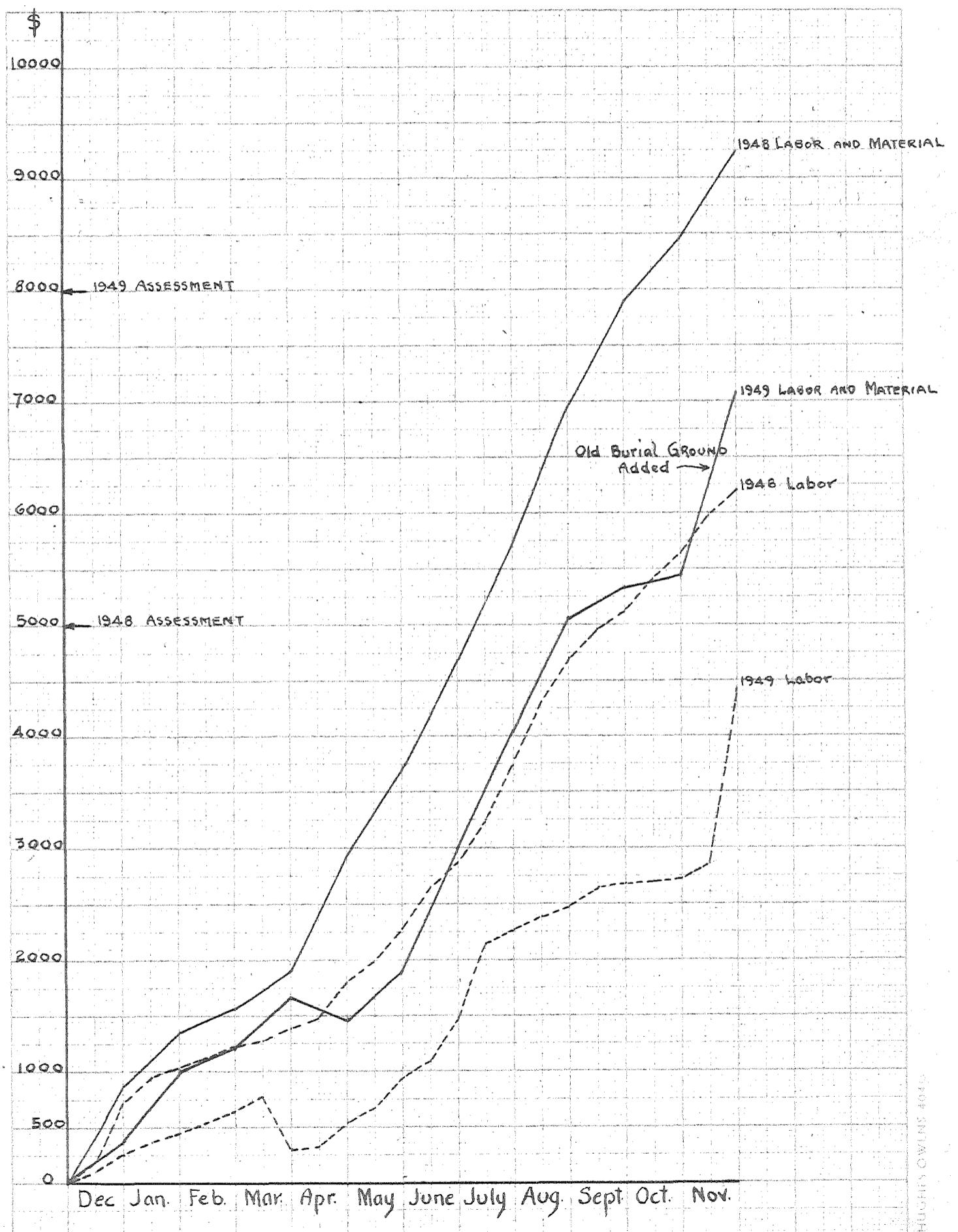
Old Burial Ground:- The labour expenditure of \$1,497.61 was used in the Old Burial Ground in the centre of the City. The work this year was in charge of a committee of the Chamber of Commerce. This Committee was headed by Mr. Cedric Cooper.

Unforeseen Account:- The labour charged to this item was expended as follows:-

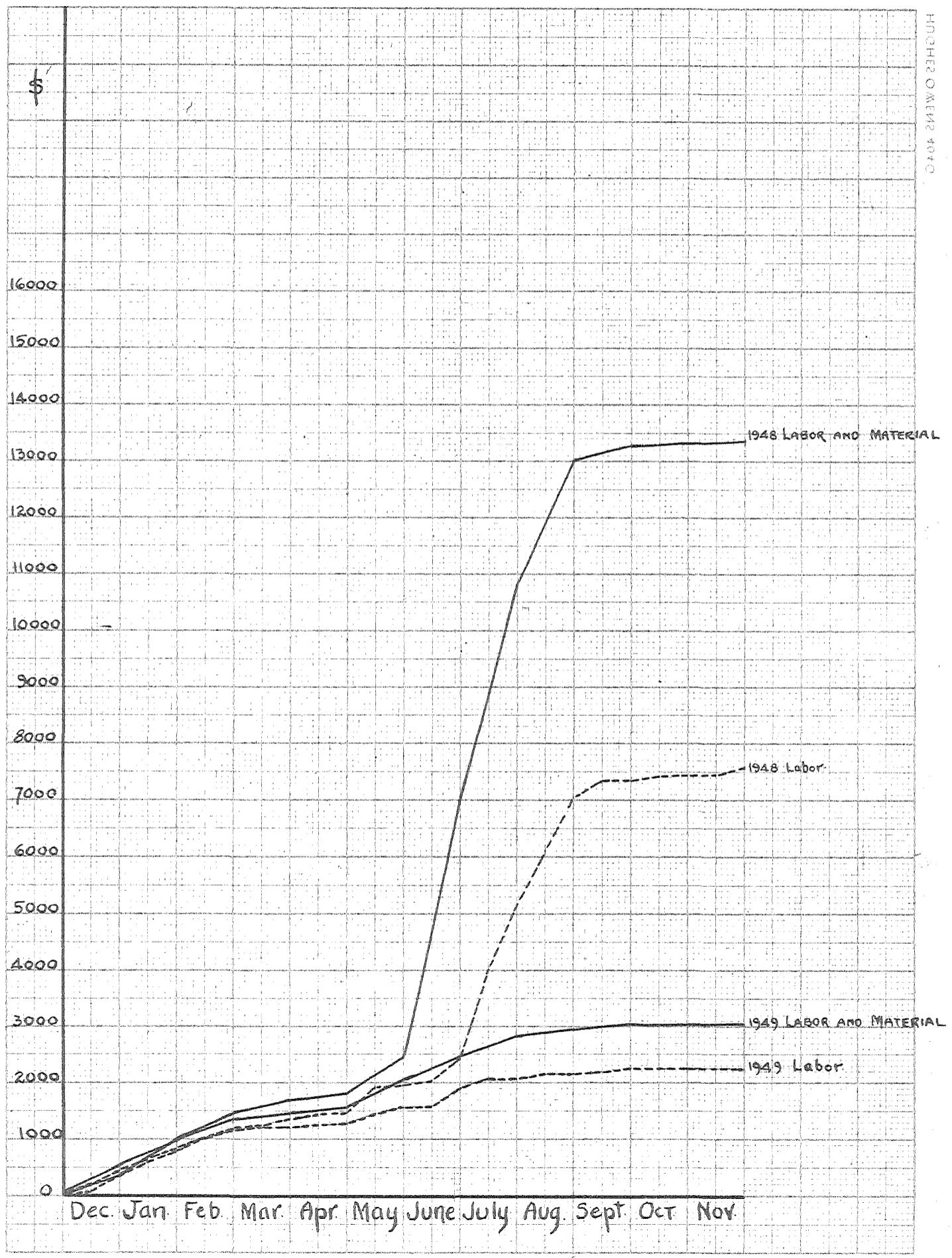
Cutting bushes along river bank.....	\$ 246.52
Community Christmas Tree.....	14.40
Children's Home.(Janitor.Service).....	186.24
Fire at Victoria Mills School.....	4.39
Labour on refuse cans.....	7.70
Traffic Count at University Ave. Railroad Crossing.....	11.56
Thawing sewer at U.N.B. Ranger School	9.26
Greens - Cutting, raking, etc.....	1048.09
Benches - Repairing and Painting.....	25.37
Digging testholes for Victoria Public Hospital.....	23.88
Construction of Parking Lots.....	288.45
Robert Burns Monument.....	14.30
Sodding around Lord Beaverbrook Hotel.....	107.71
Parking lot Lord Beaverbrook Hotel.....	87.34
Cleaning Regent Street wharf.....	10.93
Agriculture Dept. - digging cellar.....	17.56
John Blizzard - Rip Rap	134.94
Work at College Field.....	2.45
Spreading loam Fredericton Race Track.....	7.08
Hut #10 Alexander College.....	2.80
Airport - Snow ploughing and sanding.....	50.80
General Expenses.....	<u>7.41</u>
	\$ 2,309.18

TABLE SHOWING COMPARATIVE YEARLY COSTS OF
PUBLIC WORKS, Years 1932 - 1949.

Year	Expenditure for Labour	Gross Expenditure Labour and Material	Credits	Net Costs Labour and Material	Appropriation
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	3,734.85	4,939.00	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	2.75	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	4,610.71	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	8,180.52	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
1948	6,206.85	9,249.97	7.90	9,242.07	5,000.00
1949	4,430.77	7,917.90	849.14	7,068.79	8,000.00



PUBLIC WORKS COSTS 1948 AND 1949.



RECREATION COSTS 1948 AND 1949.

SANITATION

Expenditure.....	\$ 5,942.55
1949 Appropriation.....	6,000.00
Credit Balance.....	<u>\$ 57.45</u>

The expenditure on Sanitation has been kept under two headings, namely City Dump and Incinerator.

City Dump has in the summer season two dump tenders as material is deposited there from early morning until darkness. During the winter months when the daylight period is shorter one dump tender only is kept on. Besides the dump tenders the City Bulldozer works on the dump from time to time shaping up the dump for the dump tenders. This expenditure on dump for labour only (when the bulldozer works there only the operator's time is charged to dump) this year amounted to \$1,821.78.

City Incinerator:-

Material charges.....	\$ 513.66
Labour.....	3607.11
Total Expenditure.....	<u>\$4120.77</u>

The material charge is made up of repairs to incinerator, light and power bills, fuel used in starting fires, and purchase of rails to use on incinerator dump.

The labour charge is wages of incinerator attendants, along with some extra City labour used in bulldozing incinerator dump, shifting track etc. We are operating the incinerator with two attendants who work a nine hour day, starting at 7:30 a.m. and finishing at 5:30 p.m.

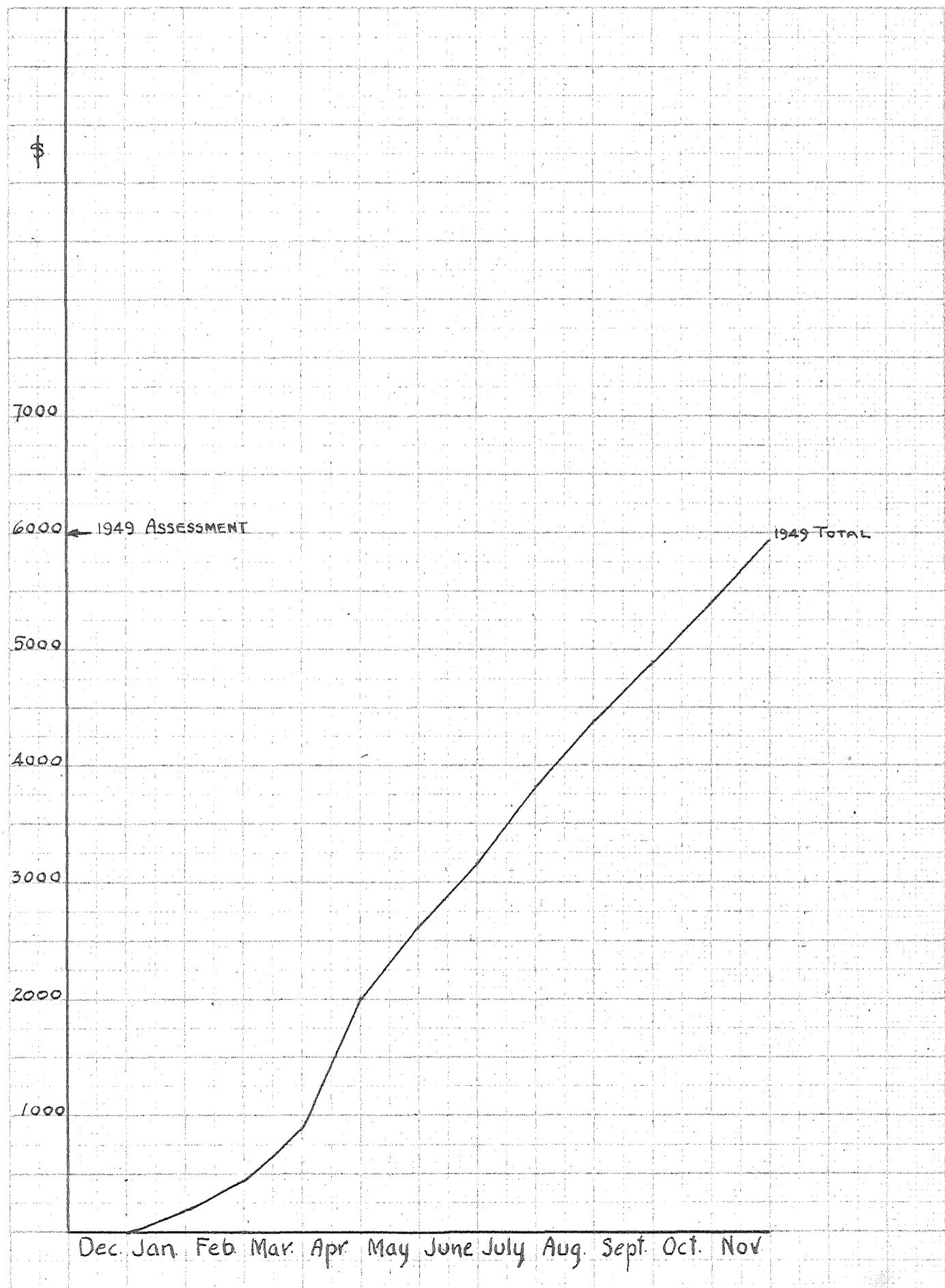
RIVERFRONT IMPROVEMENT

Gross Expenditure.....	\$ 13,758.31
Credits.....	<u>7,615.11</u>
Net City Expenditure.....	\$ 6,143.20

The above credits are made up as follows:-

Ashfield Bros. (rental of City Bulldozer).....	\$ 234.00
N.B. Dept. of Public Works (to $\frac{1}{2}$ cost of 20468 cu. yds. fill in place @ 59¢ per cu. yd.)	6,129.71
N.B. Dept. of Public Works (to $\frac{1}{2}$ expenditure made by City crews on riverfront from Lord Beaverbrook Hotel to C.N.R. Bridge (\$ 2,502.79))..	<u>1,251.40</u>
	\$7,615.11

The riverfront from the end of St. John Street to C.N.R. Bridge was filled out to the line of the location approved last year and to conform with the work done last year from St. John Street to the Lord Beaverbrook Hotel. The whole front from the Hotel to the C.N.R. Bridge was regraded, given a coating of 4" of loam, fertilized with commercial fertilizer and land lime and seeded with a recommended brand of lawn seed.



SANITATION COST 1949.

SEWERAGE DOMESTIC

Gross Expenditure.....	\$ 5,887.52
Credits.....	<u>4,616.98</u>
Net Expenditure.....	\$ 1,270.34

The above credit is work (mostly house connections) performed for private parties.

New customers connected with City sewerage system this year..... 213
Old house connections dug out and relaid..... 3

No Domestic Sewerage extensions were made under this heading this year. All extensions were charged to Capital account and appear under the Capital Account headings.

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 22.66 miles of line and 431 lamps. This system is divided into five circuits two of which are controlled each by a 25 K.W. Constant Current Transformer, the other three of which are each controlled by a 15 K.W. Constant Current Transformer. Four of these transformers, along with the main switchboard, are housed in a transformer room in the old street lighting building on Carleton Street. The fifth transformer is on a pole on McLeod Street and controls the new circuit for Maryland Heights.

The five circuits are made up as follows:-

Lower Front Circuit:-	Transformer Size
19-600 C.P. Lamps @ .350 K.W. demand..... 6.650	
30-250 C.P. Lamps @ .159 K.W. demand..... <u>4.770</u>	15 K.V.A.
	11.420 K.W.

Lower Rear Circuit:-

9-600 C.P. Lamps @ .350 K.W. demand..... 3.150	
135-250 C.P. Lamps @ .159 K.W. demand..... <u>21.465</u>	25 K.V.A.
	24.615 K.W.

Upper Front Circuit:-

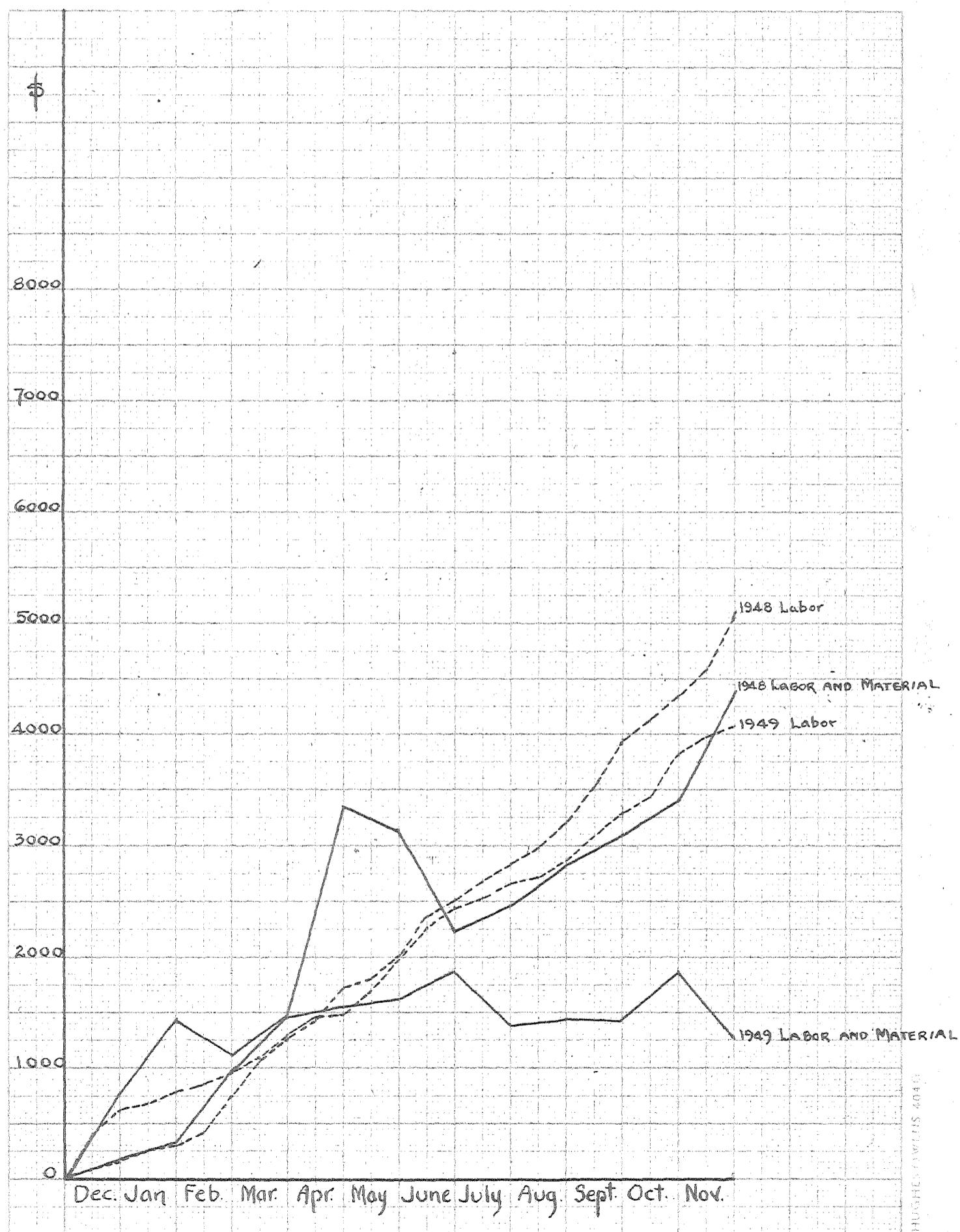
20-600 C.P. Lamps @ .350 K.W. demand..... 7.000	
33-250 C.P. Lamps @ .159 K.W. demand..... 5.247	15 K.V.A.
	12.247 K.W.

Upper Rear Circuit:-

3-600 C.P. Lamps @ .350 K.W. demand..... 1.050	
120-250 C.P. Lamps @ .159 K.W. demand..... <u>19.080</u>	25 K.V.A.
	20.130 K.W.

Maryland Heights:-

62-250 C.P. Lamps @ .159 K.W. demand..... 9.858 K.W.	15 K.V.A.
------------------------------------------------------	-----------



SEWERAGE DOMESTIC COSTS 1948 AND 1949.

System No. 2, the multiple lighting system on Queen Street, consists of 24 units located on Queen Street between Westmorland Street and St. John Street. Each unit consists of a 500 W. 115 Volt lamp set in a novalex 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 Co., the City paying the Company \$75.00 per year for each unit.

System No. 3 consists of six multiple lights, each of 150 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 8.59 miles of line and 146 lamps. This system is composed of two circuits and are both controlled by two 15 K.W. Constant Current Transformers, one located on a pole at the corner of Union and St. Marys Streets and the other on a pole on Pine Street.

The two circuits are made up as follows:-

Carleton Ward (down)	Transformer Size
80-250 C.P. Lamps @ .159 K.W. demand..... 12.720 K.W.	15
Carleton Ward (up)	
66-250 C.P. Lamps @ .159 K.W. demand..... 10.494 K.W.	15

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 1949 were as follows:-

Gross Expenditure.....	\$ 21,505.10
Credits.....	<u>5,784.17</u>
Net Expenditure.....	15,720.93
1949 Appropriation.....	<u>16,000.00</u>
Credit Balance.....	\$ 279.07

The above credit of \$ 5,784.17 is material and labour charged to street light account but transferred to Capital Account because the expenditure was for new extensions - See Journal Voucher.

The expenditure is made up as follows:-

84-600 C.P. Lamps.....	\$ 113.88
672-250 C.P. Lamps.....	519.83
16-150 C.P. Lamps @ 28¢ and 30¢.....	4.74
180-100 C.P. Lamps @ 20¢.....	73.23
Current on Subway lighting and series lighting from Nov. 29/48 to Nov. 30/49 (358,700 K.W. Hrs.).....	9,501.28
Charges on multiple fixtures installed on Queen St. at the contract price of \$75. per light per year.....	1,776.25
Maintenance, labour as per contract price.....	464.68
Material purchased for new installations and maintenance of lamp fixtures (including only such articles as lamp standards, lamp bracket, heads, sockets, shades, time switches etc.).....	5,972.79
Material supplied and extra labour supplied by the Maritime Electric Co. in line maintenance and extension.....	2,957.85
Miscellaneous charges.....	112.27
Telephone in Transformer Room.....	8.30

Total..... \$21,505.10

The total per capita charge for street lighting for 1949 population
of 18,000 persons $\frac{15,720.93}{18,000} = 88\text{¢}$

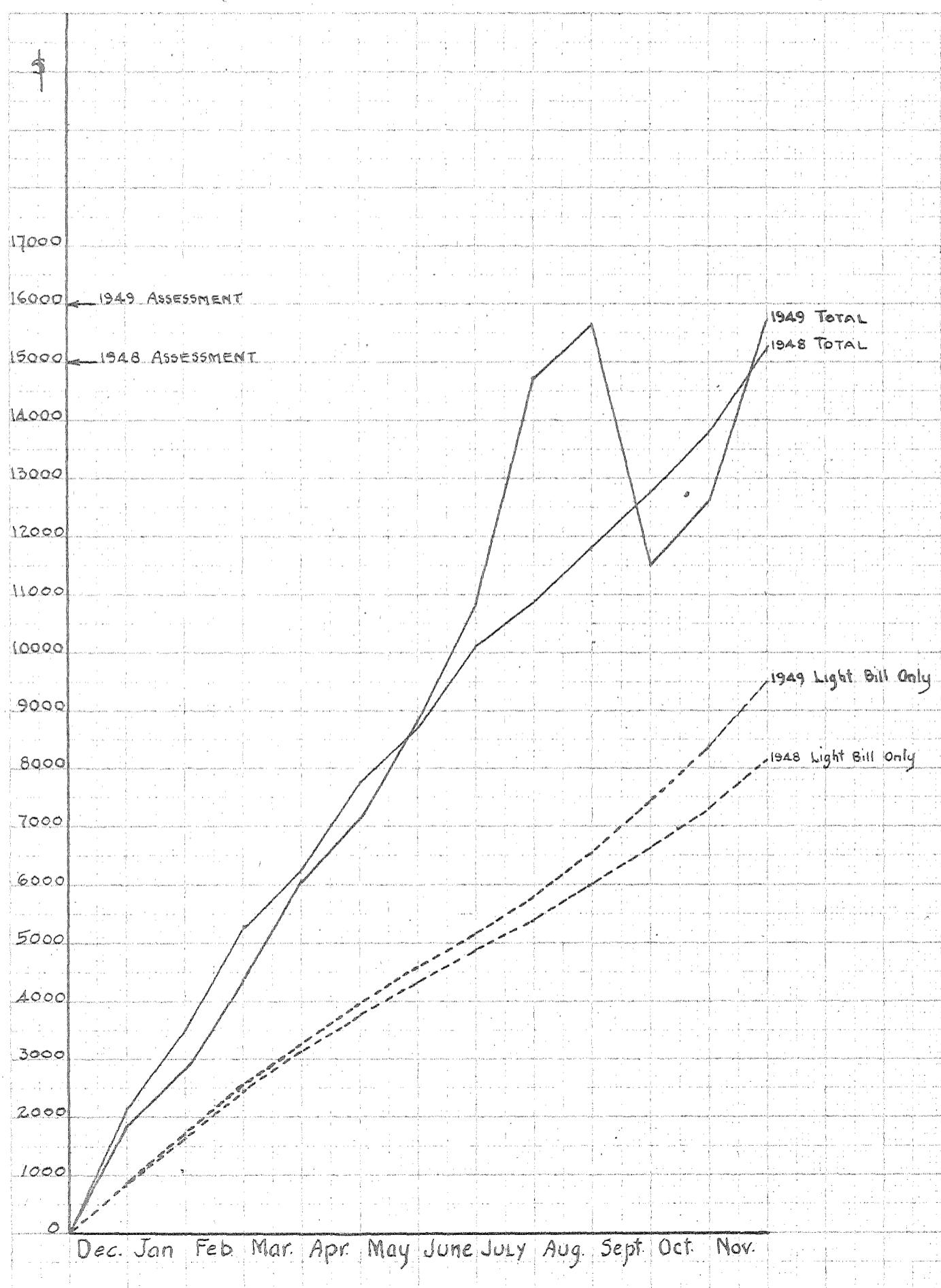
TABLE SHOWING CURRENT CHARGES FOR 1949
ON SERIES STREET LIGHTING

Date of Bill	K.W.H.	Demand in K.W.	Average No. of Burning Hrs. per Night	Bill per Month
Nov. 30/48 to Dec. 31/48	54,908	76.5	14 $\frac{1}{2}$	\$ 881.05
Dec. 31/48 to Jan. 29/49	34,073	81.3	14 $\frac{1}{2}$	859.59
Jan 29/49 to Feb. 28/49	33,494	77.8	13	840.66
Feb. 28/49 to Mar. 30/49	26,155	82.3	11 $\frac{1}{4}$	702.21
Mar. 30/49 to Apr. 30/49	25,555	83.0	9 $\frac{1}{2}$	692.12
Apr. 30/49 to May 31/49	21,849	82.8	8 $\frac{1}{2}$	617.45
May 31/49 to June 30/49	20,447	83.3	7 3/4	590.31
June 30/49 to July 31/49	21,547	93.	7 $\frac{1}{2}$	628.05
July 31/49 to Aug. 31/49	27,326	100.5	8 3/4	764.60
Aug. 31/49 to Sept. 28/49	32,818	101.	10 $\frac{1}{2}$	875.76
Sept. 28/49 to Oct. 31/49	36,719	100.0	12	951.70
Oct. 31/49 to Nov. 30/49	43,829	102.	13 $\frac{1}{2}$	1,097.80

358,700 \$ 9,501.28

TABLE SHOWING COMPARATIVE YEARLY
COSTS IN STREET LIGHTING

<u>Year</u>	<u>Total Yearly Cost</u>	<u>Yearly Appropriation</u>
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
1948	15,269.12	15,000.00
1949	15,720.93	16,000.00



STREET LIGHT COSTS 1948 AND 1949.

STREET LIGHT CAPITAL ACCOUNT

Gross Expenditure..... \$ 7,319.30

The above capital expenditure to street light was incurred by the necessity of extending our present lighting system.

The extensions were made at the following locations:-

- | | | | |
|---------------------|-----------------------|---------------------|--------------------|
| 1. Maryland Heights | 5. Devonshire Heights | 9. Jaffrey Street | 13. Avondale Court |
| 2. Friel Street | 6. Titus Street | 10. Union Street | 14. Wilsey Road |
| 3. Hanwell Road | 7. Charlotte Street | 11. Highland Avenue | 15. Church Street |
| 4. McEvoy Street | 8. Smythe Street | 12. Forest Hill | 16. Albert Street |

CEMENT WALKS

Gross Expenditure..... \$ 1,140.74

Under this heading a concrete sidewalk was laid on the East side of Westmorland Street between Victoria and Dundonald Streets, a distance of 359 feet. The City crew did the preliminary work while Bemrose and Kilburn poured the cement at a cost of 75¢ per foot.

An asphalt sidewalk was laid on the East side of Regent Street by the Diamond Construction Co. a distance of 220 feet from McLeod St. to C.P.R. Tracks.

The following dirt sidewalks were graded and coated with rock dust and charged to Cement Walks:-

Churchill Row both sides - St. John St. to Dunn's Wood Yard.
Beaverbrook St. both sides - Regent St. to Tweedsmuir St.
Tweedsmuir St. both sides - Regent St. to Albert St.
Northumberland St. both sides - Argyle St. to Victoria St.

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.

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.

Water - Ordinary

This account takes in all expenditures 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.....	\$ 33,402.10
Credits.....	3,095.86
Net Expenditure.....	\$ 30,306.24

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.....\$ 1,268.71

Material used in Forest Hill Water.....	667.15
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8 hydrants purchased from T. McAvity and Sons should have been charged to Capital Account Water.....	<u>1,160.00</u>
------------------------------------------------------------------------------------------------------	-----------------

Total.....	\$ 3,095.86
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The Gross Expenditure is made up as follows:-

City Payroll for hydrants.....	\$ 1,370.19
City Payroll for meters.....	3,513.67
City Payroll for Water Ordinary.....	6,939.33
Total Payrolls.....	<u>11,823.19</u>
Material and other charges.....	21,578.91
Gross Expenditure.....	\$33,402.10

No water extensions were laid under this heading. All extensions are under Capital Account Water on page no. 13.

Hydrants:-

We have in the City 271 hydrants - 184 in the City proper, 6 on University of New Brunswick property, 7 in military areas, and 74 in Carleton Ward. The credit for rental of these hydrants, appears under credits of Water Pumping Station.

The labour costs show an average cost per hydrant of \$5.05.

Meters:-

Of all our water services in the City, 1265 are charged under flat rate and 1619 on meter, giving us altogether 2884 services.

The labour cost this year per meter for installation, reading, repairing, etc. is \$ 2.17.

All meters are read twice a year and bills are sent out twice a year. We have 107 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 the group of monthly read meters.

Meters in store room January 1st, 1950:-

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

Distribution System:-

New services installed this year..... 57
Old services relaid this year..... 44
Frozen services which had to be thawed 67
Services discontinued..... 5

We had in the City on the 30th day of November 1949, 2884 water services. *31.96*

The Fredericton Distribution System consists of 28.7 miles of water main made up of the following sizes:-

	<i>South Side</i>	<i>North Side (Tideway)</i>
10 inch main.....	1.56 miles	1.7
8 inch main, 6.44	6.62 miles	4.48
6 inch main.....	19.28 miles	2.63
4 inch main.....	4.25 miles	
3 inch main.....	.27 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

Year	Labour	Material	Gross Expenditure	Credits	Net Expenditure
1933	2,333.25	1,604.17	3,937.42	130.27	3,907.15
1934	3,247.51	4,112.34	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	153.11	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	2,908.37	2,446.27	6,354.64	495.08	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
1948	12,827.95	17,668.25	30,496.20	8,117.82	22,378.38
1949	11,823.19	21,578.91	33,402.10	3,095.86	30,306.24

WATER PUMPING STATION

Water Pumping Station Costs 1949:-

Gross Expenditure.....	\$ 30,513.39
Credits.....	4,800.00
Net Expenditure.....	\$25,713.39

This Credit of \$4,800.00 is made up as follows:-

To yearly rental on 230 hydrants for 1949.....	\$ 4,600.00
Water used in City Hall Building.....	100.00
Water used in Old Street Lighting Building on Carleton St.	25.00
Water used in City Alms House	25.00
Water used in City Parks.....	50.00
Total.....	\$ 4,800.00

The Gross Expenditure is divided as follows:-

City payroll for salaries of engineer at Pumping Station.....	\$ 8,033.02
Work done by other city employees in and around Pumping Station...	936.59
Total City Payrolls.....	8,969.61
Material and Workmen's Compensation Charge.....	21,543.78
Gross Expenditure.....	\$ 30,513.39

The material cost of \$ 21,543.78 is itemized as follows:-

(429,480 K.W.Hrs.)

Item #1	Light supplied and power supplied by the Maritime Electric Co..	\$ 9,971.97
Item #2	Transformer Charges.....	113.94
Item #3	Lime, 22,500 lbs.....	1,444.28
Item #4	Alum, 77.63 tons.....	2,717.88
Item #5	Coal, 200.27 tons.....	1,927.22
Item #6	Engine Oil 45 gals.D.B..Oil.....	29.86
Item #7	Gasoline, 700 gals.....	180.60
Item #8	Maintenance and repairs of the building and machinery.....	3,812.06
Item #9	Supplies, packing, rags etc.	78.29
Item #10	Stationery, forms, charts, etc.	52.92
Item #11	Workmen's Compensation Board.....	228.00
Item #12	Mr. E. W. Hagerman's salary.....	900.00
Item #13	Miscellaneous.....	86.76

Total..... \$21,543.78

COMPARISON OF WATER PUMPED AND COSTS
FOR LAST SIXTEEN YEARS

Year	I. G. Water Pumped	Yearly Gross Expend- iture at Pumping Station	Pumping	Total Yearly Water Costs (Net Expend- iture Water Ordinary and Gross Expend- iture Water Pumping Station	Total Yearly Cost per 1000 Gallons
			Station Cost per 1000 gals. Using Gross Expenditure		
1934	202,720,000	\$ 15,999.50	7.9 cents	\$ 22,468.12	11.1 cents
1935	197,641,000	16,251.61	8.1 cents	27,123.25	12.6 cents
1936	193,450,000	17,189.21	8.8 cents	24,825.91	12.6 cents
1937	187,008,000	19,678.21	10.5 cents	27,079.42	14.5 cents
1938	181,558,000	19,239.49	10.6 cents	26,138.53	14.4 cents
1939	199,662,000	18,144.43	9.1 cents	25,023.84	12.5 cents
1940	203,975,000	22,503.35	11.3 cents	28,634.84	14.0 cents
1941	222,255,000	19,474.56	8.8 cents	24,370.12	11.0 cents
1942	257,205,000	23,400.09	9.1 cents	28,385.58	11.0 cents
1943	280,115,000	26,338.50	9.4 cents	41,548.79	14.0 cents
1944	295,945,000	22,926.61	7.7 cents	32,911.59	11.1 cents
1945	321,355,000	24,990.14	7.7 cents	38,004.24	11.8 cents
1946	338,979,000	25,640.43	7.5 cents	43,206.89	12.7 cents
1947	319,243,000	37,123.42	11.6 cents		
1948	322,339,000	31,050.97	9.6 cents		
1949	345,320,000	30,513.39	8.8 cents		

The column in the preceding comparison showing I.G. pumped does not include water used from wells in Carleton Ward.

By taking our average daily consumption of Carleton Ward as 121,000 G.P.D. arrived at from a number of test runs I estimate the yearly water pumpage from our wells there to be for 1949 some 45,000,000 I.G.

The total amount of water pumped during 1949 for the whole city is therefore 390,320,000 I.G.

Our total net water expenditure for the City for 1949 = \$56,019.63

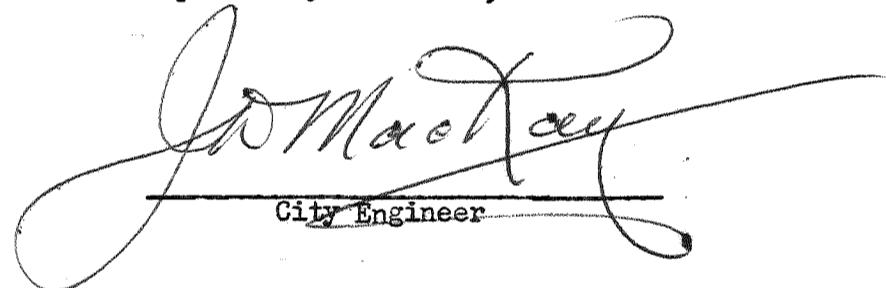
Therefore our net cost to pump and deliver to the customer 1000 I.G. of water in 1949 is $\frac{56,019.63}{390,320}$ = 14.3 cents.

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

The Water Pumping Station was as usual under the supervision of the plant superintendent and chief engineer, Mr. John Malloy.

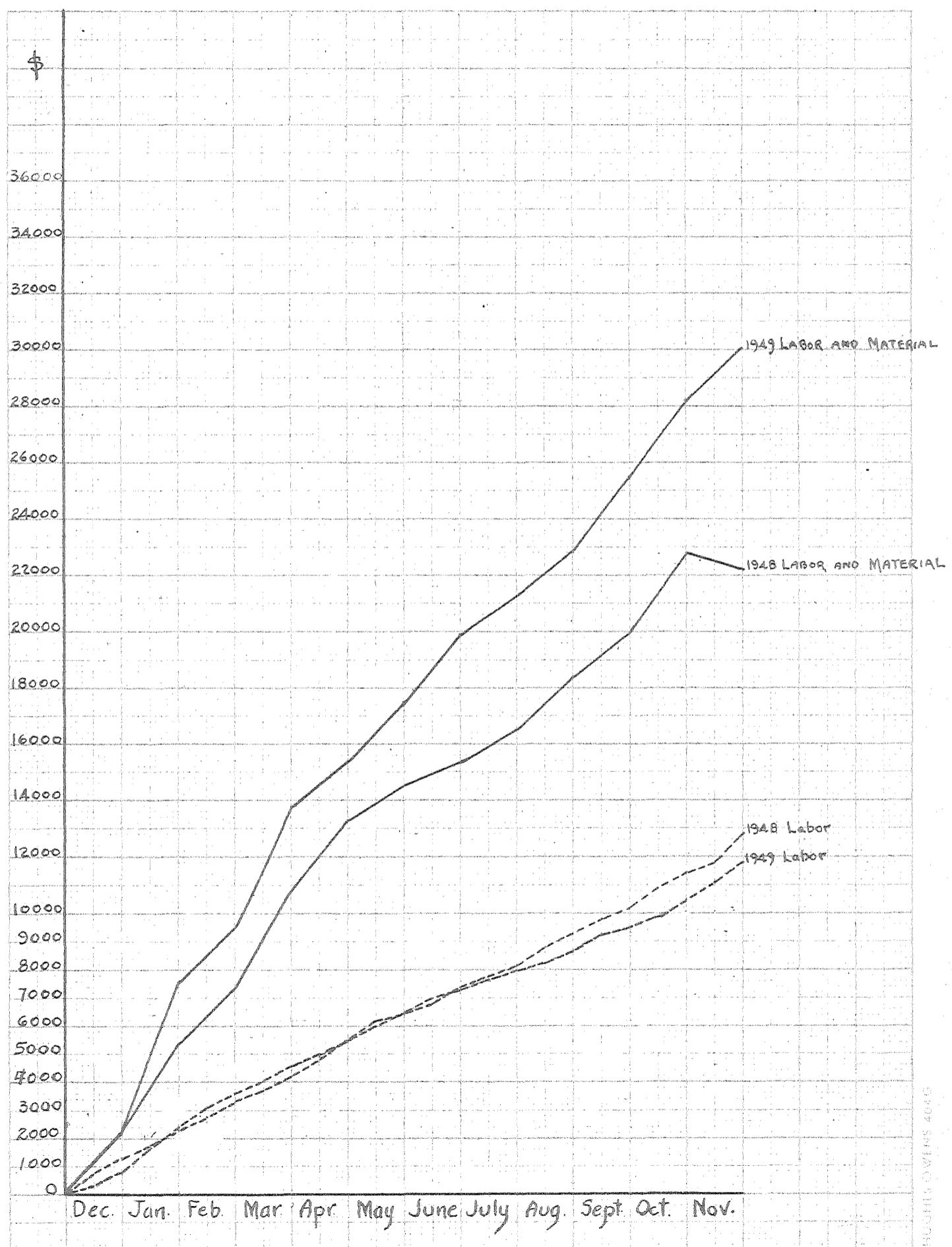
Accompanying this report is the report of Mr. E. W. Hagerman on the Fredericton water supply from January 1st, 1949 to December 31st, 1949.

Respectfully submitted,

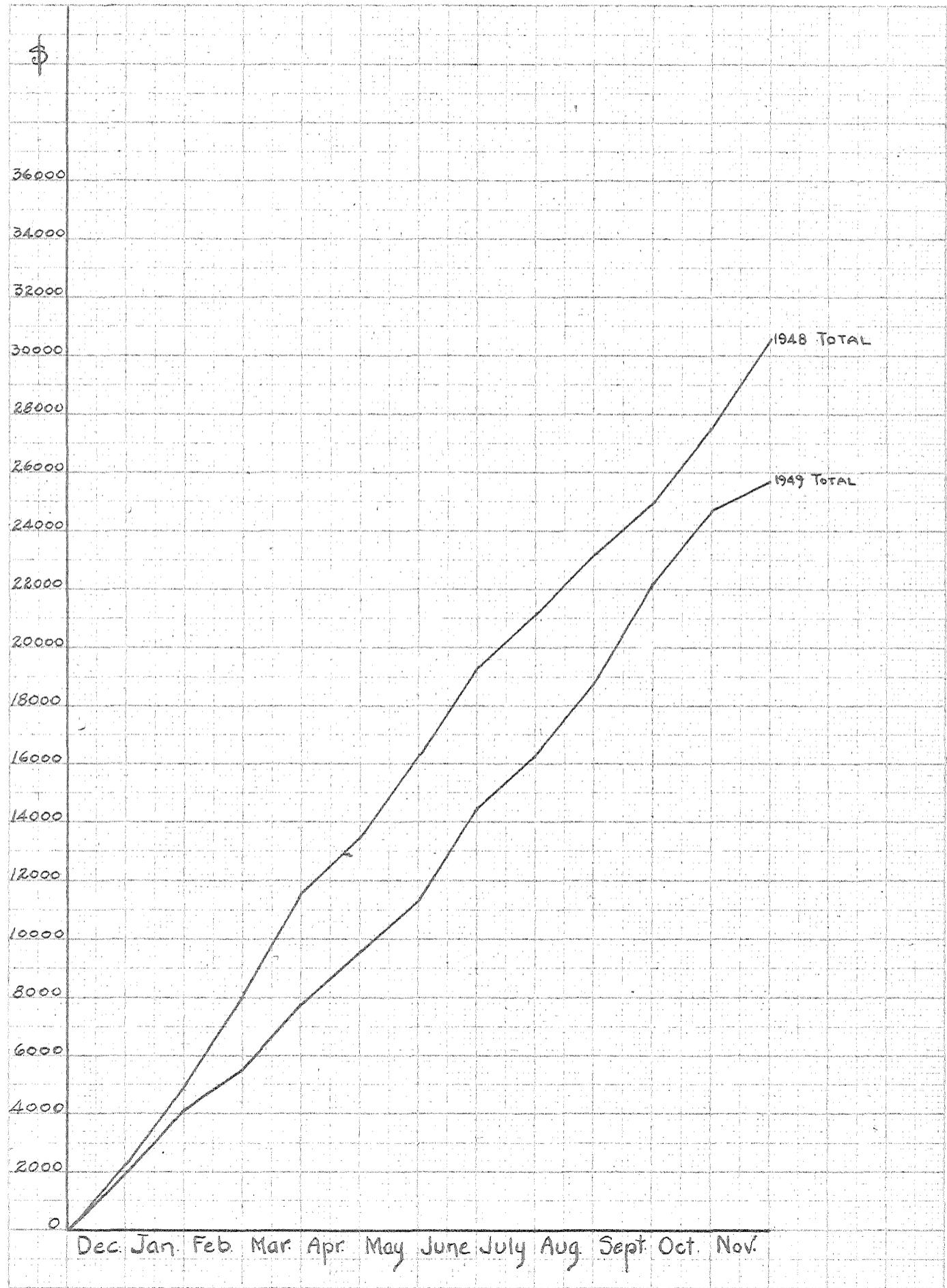


J.W. MacLay

City Engineer



WATER ORDINARY COSTS 1948 AND 1949.



WATER PUMPING STATION COSTS 1948 AND 1949 .

TABLE SHOWING PRINCIPAL PURCHASES 1949

Material	Amount Purchased	Average Price f.o.b. Fredericton
4" C.I. Soil Pipe	1,050 ft.	95¢ per ft.
5" V.T. Sewer Pipe	18,610 ft.	35¢ per ft.
8" V.T. Sewer Pipe	21,500 ft.	59¢ per ft.
10" V.T. Sewer Pipe	3,237 ft.	82¢ per ft.
12" V.T. Sewer Pipe	11,250 ft.	\$1.06 per ft.
15" V.T. Sewer Pipe	1,775 ft.	\$1.52 per ft.
24" V.T. Sewer Pipe	2,000 ft.	\$3.57 per ft.
Portland Cement	6000 bags	82¢ per bag
Brick (Sewer Hard)	69,000	\$26.00 per 1000
Brick (Sewer Soft)	227,000	\$22.00 per 1000
Fill	22,000	59¢ cu. yd.
Calcium Chloride	115 tons	\$40.88 ton
Road Machine Blades	12	\$8.87½ each
Lime (75 drums)	22,500 #	\$6.36 cwt.
Aluminum Sulphate (alum)	77.63 tons	\$1.75 cwt.
Coal (Minto)	400 tons	\$9.70 ton
Coal (Springhill)	10 tons	\$17.00 ton
R.C.2 Asphalt	1101 gal.	27¢ per gal.
R.C.3 Asphalt	675.7 gal	27¢ per gal.
Asphalt Emulsion "HX"	270 gal	27¢ per gal.
Asphalt Base (ready mix)	3,479 tons	\$7.00 per ton
Asphalt Seal (ready mix)	246 tons	\$9.00 per ton
Rock Dust	722 tons	50¢ per ton
5/8 Copper pipe type K	12,540 ft.	19.9¢ ft.
3/4 Copper pipe type K	3,168 ft.	30.95¢ ft.
6" C.I. Pipe Class "C"	312 tons	\$116.80 per ton
8" C.I. Pipe Class "C"	10.26 tons	\$116.80 per ton
4" C.I. Pipe Class "C"	.68 tons	\$121.80 per ton
C.I. Fittings	8.7 tons	\$12.00 per cwt.
Lumber (creosote culvert)	103.2 M	\$115.50 per M
Lead (caulking)	18,000 #	27¢ per lb.
5/8 x 3/4 trident meters	350	\$19.27 ea.
Catch basin frames & covers	68	\$35.64 ea.
Manhole frames and covers	204	\$35.64 ea.
Service boxes	167	\$4.00 to \$4.85
4" McAvity iron body bronze mounted hub end water gate valves	6	\$23.70
6" " " "	75	\$38.67
8" " " "	5	\$68.43
4" hydrants	2	\$145.00
6" hydrants	33	\$145.00
25 K.V.A. single phase 2200-110V.		
60 cycle pipe thawing transformer	1	\$387.50
Impeller for single stage Northern Electric Centrifugal pump	2	\$257.66
Fairbanks Morse Westco pump and motor		
7½ H.P. 3/60/2200 Induction @ 1800 RPM	1	\$441.75
TD6 Complete with angle dozer	1	\$5,300.00
Gasoline	650 gal.	24¢ per gal.
Diesel Oil	4535 gal.	17¢ per gal.
D.B. Oil (Turbine)	90 gal	66 1/3¢ per gal.

SEWER INSTALLATIONS-----1949.

Dec. 21/49	Superline Oils Ltd.	Union St.	New
" 23	Eastern Equipment Ltd	Church St.	"
Jan. 12/49	S.M.T. Eastern Ltd	Carleton Ward	"
Apr. 16	Robert Scott	University Ave	"
" 29	Borden Trites	Brunswick St.	"
May 5	Eva M. Whitlock	149 Gill St.	"
" 6	Melbourne Parker	153 Gill St.	"
" 10	G. E. Kitchen	Woodstock Road	"
" 14	Mrs. Melvin McKiel	843 Union St.	"
" 16	A. R. Voye	819 Union St.	"
" 18	Timotyh Bourque	Windsor St.	"
" 23	N.L. McEwen	787 Union St.	"
" 26	Hazel Flowers	751 Union St.	"
" 26	F'ton Medical Clinic	Regent St.	"
" 27	Walter Wheeler	160 Henry St.	"
" 28	LeRoy F. Grant	167 Henry St.	"
" 30	Mrs. Olive Robinson	146 Henry St.	"
" 30	Clarence Porter Est.	141 Henry St.	"
" 31	Robert B. Harvey	168 Henry St.	"
" 31	Mrs. Jas. A. McCoombs	791 Devon Ave.	"
" 31	William Till	800 Devon Ave.	"
June 1	Clarence Porter Est,	768 Prince St.	"
" 1	Mrs. Edwin Coy	164 Henry St.	"
" 1	F. G. Soucie	177 Gibson St.	"
" 2	Fred B. Smith	142 Henry St.	"
" 2	W.S. Seymour	764 Prince St.	"
" 2	H.H. Pickard	759 Prince St.	"
" 2	Leander A. White	765 Prince St.	"
" 3	W. G. Burge	772 Prince St.	"
" 3	Mrs. Grace Simms	773 Prince St.	"
" 4	Jas. F. McManus	803 Devon Ave	"
" 4	Gilbert J. Coy	129 Henry St.	"
" 6	M. Doherty	136 Henry St.	"
" 6	L. A. Slipp	755 Byng St.	"
" 6	Gilbert J. Coy	765 Byng St.	"
" 7	Melvin G. Parsons	Victoria St	"
" 8	J. L. Simms Ltd.	Grey St.	"
" 8	G. H. Johnson	833 Union St.	"
" 8	Mrs. Mary C. King	839 Union St.	"
" 8	Est. F. E. McElman	152 Miles St.	"
" 8	H.C. Hornbrook	848 Barker St.,	"
" 10	Mrs Mae Titus	131 Miles St.	"
" 10	Fred Titus	138 Miles St.	2
" 10	Mrs Herb Estabrook	146 Miles St.	"
" 10	J.D. Locke	834 Barker St.	"
" 10	Mrs. W.J. Markey	156 Miles St.	"
" 9	Walter Fulton	Needham St.	"
" 12	Herbert Lakes	578 Windsor St	"
" 15	Mrs. Mary E. Robinson	875 Union St.	"
" 15	A. H. Waterhouse	871 Union St.	"
" 15	Nelson Cameron	863 Union St.	"
" 15	M. J. St.Pierre	859 Union St.	"
" 15	R. McLaggan	851 Union St.	"
" XX 17	Mrs. Della B. Logan	885 Barker St.	"
" 17	H. A. Peterson	849 Barker St.	"

SEWER INSTALLATIONS-----1949

Page # 2.

June 18	Fred L. Mawer	857 Barker St.	New
" 18	T. L. Coughlin	885 Barker St.	"
" 18	Herbert Maston	906 Barker St.	"
" 20	Mrs. Catherine E. Tait	861 Barker St.	"
" 20	N. S. Banks	876 Barker St.	"
" 21	Frank Worrall	890 Barker St.	"
" 16	Diamond Con. Co. Ltd.(Arena)	Barker St.	"
" 18	Miss Effie Dennison	142 Myles St.	"
" 22	Mrs. Elsie Kieley	894 Barker St.	"
" 24	Leo O. Carten	916 Barker St.	"
" 22	Mrs. Hazel Flower	832 Barker St.	"
" 22	Mrs. Hazel Flower	828 Barker St.	"
" 23	J. G. Gallant	852 Barker St.	"
" 24	Henry Newman	165 Titus St.	"
" 24	Henry A. Peters	907 Barker St.	"
" 29	M. L. Saunders	835 Barker St.	"
" 27	Wallace Titus	895 Barker St.	"
" 27	W. C. Hornbrook	900 Barker St.	"
" 28	R. K. Williams	152 Gibson St.	"
" 28	Ashley Colter Ltd.	144 Gibson St.	"
" 28	Robert B. Harvey	142 Gibson St.	"
" 29	Mary B. Henry	849 Union St.	"
" 30	MildredxSloat	120 Gibson St.	"
" 30	Charles Murray	150 Titus St.	"
July 2	B.W.Hovey	127 Gibson St.	"
" 2	A. L. Reynolds	135 Gibson St.	"
" 2	Sarah E. McEvoy	184 Gibson St.	"
" 4	Mrs. Mary Crawford	181 Gibson St.	"
" 4	Irving Oil Co. Ltd.	Gibson & Barker	"
" 4	Mrs Hazel J. Miles	143 Gibson St.	"
" 2	Diamond Con. Co. Ltd.	Green Road	"
" 4	Mrs. J. H. McCoombs	856 Barker St.	"
" 5	Byron Sewell	227 Gibson St.	"
" 6	Mrs. Bruce Cameron	228 Gibson St.	"
" 6	Gibson Memorial Church	Gibson St.	"
" 7	Everett Grant	144 Henry St.	"
" 7	Hugh Galen	237 Gibson St.	"
" 7	E. R. Glenn	248 Gibson St.	"
" 7	Mrs. Alma B. Hovey	189 Gibson St.	"
" 8	Hollie Albright	253 Gibson St.	"
" 8	Mrs Jean C. Moore	264 Gibson St.	"
" 8	Alfred Stone	853 Titus St.	"
" 9	Fraser E. Currie	860 Barker St.	"
" 11	F. E. MacDonald	142 Titus St.	"
" 11	Frank Martin	145 Titus St.	"
" 11	Sylvia B. Cameron	242 Gibson St.	"
" 12	Gibson Mem. Church Parsonage	174 Gibson St.	"
" 12	Richard MacTavish	282 Gibson St.	"
" 13	D. D. Pringle	277 Gibson St.	"
" 13	T. Wister	285 Gibson St.	"
" 14	S. Lean Sr.	329 Gibson St.	"
" 15	Merlin Hovey	280 Gibson St.	"
" 15	D. F. Clark	276 Gibson St.	"
" 15	C. Fred Sloat	266 Gibson St.	"
" 15	Ernest A. Belyea	199 Gibson St.	"

SEWER INSTALLATIONS---1949.

Page # 3.

		Graham Ave.	New.
July	8	Robert Partington	
"	12	Diamond Con..Co. Ltd.	"
"	18	C. A. Taylor	"
"	18	E. Crouse	"
"	18	E. M. Cobourn	349
"	19	Fred W. Cowperthwaite	328
"	18	Mrs. Frank Titus	303
"	23	Earl R. Niles	128
"	23	Mrs. J. H. Shields	707
"	23	Mrs. T. D. Titus	709
"	23	Warren C. Walker	295
"	23	O. W. Ritchie	333
"	23	J. S. Neill	831
"	23	Arthur E. Pond	207
"	23	A. H. Waterhouse	243
"	23	Leslie Close	699
"	30	Mrs. C. Sweeney	162
"	30	Edward Stone	693
"	30	James McGill	663
"	30	George Niles	659
"	30	Mrs. Charles E. Barton	652
"	30	Fred M. Garrity	129
"	30	W. S. Long	Neill St.
"	31	Dr. G. F. McElman	671
Aug.	1	Mrs Ray Burpee	141
"	1	Mrs. Forest Long	Neill St.
"	1	Thomas J. Doherty	259
"	3	H. J. Taylor	643
"	3	Mrs. R. D. Forbes	Union St.
"	3	Mrs. J. G. Kaine	133
"	4	Harrison Parlee	Neill St.
"	4	Sterling Burlock	161
"	4	Mrs. Ruby Chase	660
"	5	J. Miles MacPherson	Neill St.
"	5	Mrs. Stewart Mowry	651
"	5	William Burlock	358
"	5	D. H. Smith	Gibson St.
"	6	A. P. Walters	161
"	6	Mrs. Eleanor Sullivan	Neill St.
July	28	Carl Gillies	172
Aug.	8	Bennett Lawson	Neill St.
"	8	G. H. Johnson	167
"	8	Fred A. Harvey	Neill St.
"	11	John Lawson	161
"	22	Mrs. Daisy Budovitch	Neill St.
"	29	Chas. Llewellyn	173
"	31	Malcolm Tait	Neill St.
"	30	Mrs. Eileen Capon	128
"	30	George Capon (Adanac Lunch)	Neill St.
"	31	Mrs. D. H. Stephens	697
"	18	Miss Leila Elgee	82
"	23	Union St. Baptist Church	Mill St.
"	11	A. G. Tucker	373
"	20	Bemrose & Kilburn	Gibson St.
"	12	W. W. O. Fenety	Graham Ave.
			University Ave.
			Regent St.
			865
			Barker St.
			80
			Bridge St.
			80
			Bridge St.
			73
			Bridge St.
			Avondale Court
			Union St.
			823
			Barker St.
			Graham Ave
			3 Lansdown Ave. Relay

SEWER INSTALLATIONS----1949.

Page # 4.

June /49	Mrs. Ada Kierstead	126 St. Marys St.	Relay
Sept. 3	Miss Edith Colwell	433 Elm St.	New
" 8	Orington McKeen	332 Gibson St.	"
" 9	B. B. Allen	614 Union St.	"
" 14	John H. Porter	553 York St.	"
" 14	Louis F. Sharkey	534 Union St.	"
" 15	George Scott	York St.	"
" 16	Mrs. Nellie Donovan	561 York St.	"
" 17	William J. Hughes	549 Union St.	"
" 17	Union St. Bap. Church Parsonage	Union St.	"
" 17	Herbert Stevenson Est.	York St.	"
" 15	Prentice Boys Hall	Union St.	Relay
Oct. 4	J. D. Pickard	Green Road	New
" 4	R. D. Wilby	Green Road	"
" 4	Tyler W. Webb	636 York St.	"
" 4	Mrs. Jean Murdock	614 York St.	"
" 4	Mrs. Fannie Currie	592 York St.	"
" 12	Mrs. Alma Farrer	353 Gibson St.	"
" 13	Allan R. Farris	Regent St.	N/C
" 18	Cyrus Barton	176 Pine St.	"
" 25	Arthur J. Stephens	544 Union St.	"
"	J.S. Tripp (OGILVIE Warehouse)	Church St.	"
"	Gordon Neill	Elmcroft Place	"
"	C. W. Argue	Elmcroft Place	"
"	Hospital Plant	Brunswick St.	"
Nov. 5	Robert Hood	120 Bridge St.	"
" 5	Malcolm Rogers	118 Bridge St.	"
" 5	Devon Lumber Co.	550 Union St.	"
" 5	C. A. Ramey	561 Union St.	"
" 5	Mary A. Ramey	565 Union St.	"
" 5	Ray F. Sheppard	870 Barker St.	"
" 5	S. & A. Service Station	752 Union St.	"
" 5	Eva Ladds	678 Union St.	"
"	O.E. Rushton	Byng St.	"
"	St. Anthony Church Rectory	Union St.	"
"	H. S. Gill	Gill St.	"
"	Joseph Mac Donald	681 Union St.	"
" 5	John Gibson & Sons	York St.	"
" 8	Harry Bailey	Needham St.	"
" 14	Fred Carten	York St.	"
" 18	Arthur E. Burtt	177 Neill St.	"
" 16	Mrs. Joseph Murphy	676 Union St.	"
" 16	Mrs. George Fletcher	539 Union St.	"
"	Arthur Barbour	Elm St.	N/C
"	Dick Malloy	66 McKeen St.	" N/C
"	Marion Jaffrey	63 McKeen St.	" N/C
"	Walter Howell	Smith St.	" N/C
"	Ronald Embleton	Smith St.	" N/C
"	Elizabeth Hayes	Union St.	" N/C
"	L.R. Horncastle	York St.	" N/C
"	James Campbell	581 Waterloo Row	"
"	Harold Ryan	609 Waterloo Row	"
"	Cyril Rideout	621 Waterloo Row	"

STOPPED METERS-----1949.X

Lee Scott	173 Brunswick St.
George D. Pugh	243 Brunswick St.
Guy Tufts	306 Brunswick St.
William Clark Est.	511 Brunswick St.
James Hughes	614 Brunswick St.
Miss A. Gerow	251 George St.
J. H. Calder Est.	433 George St.
William Burns Est.	346 Charlotte St.
Walter Kitchen	363 Charlotte St.
Miss Jennie Hawthorne	458 Needham St.
A. F. Belding	180 Saunders St.
E. B. Savage	302 Saunders St.
G. B. Lacey	362 Saunders St.
Reubin Budovitch	112 Aberdeen St.
Mrs. M. Gerrard	151 Aberdeen St.
H. G. Kitchen (Store--West)	57 Westmoreland St.
W. J. Burtt	265 Westmoreland St.
Minnie Budovitch	320 York St.
R. H. Wichett	469 York St.
Dr. F. F. Ramey	69 Regent St.
E. B. Savage	291 York St.
Parliament Buildings	Queen St.
H. J. Boyle	376 Northumberland St.
H. McMurray	180 Church St.
R. B. Hanson Est.	270 Church St.
Miss E. J. McDonald	121 St. John St.
Mrs. Vernon Fisher	90 Alexandra St.
Maxitime Electric Co.	48 Lansdown St.
Frank Shmte	95 Lansdown St.
Central Mortgage	539 Green Road
Central Mortgage	703 Reid St.
Alexander College	Hut # 27
Mrs. Richard Lee	435 University Ave.
G. R. Rossborough E. t.	164-166 Woodstock Road
George Pitt	265 Parkhurst Drive
Levines Ltd.	296 King St.
Crntral Mortgage	662 Chestnut St.
Central Mortgage	667 Reid St.
Central Mortgage	737 Reid St.
G. A. Good	206 Queen St.
A. F. Betts	313 Queen St.
G. W. Kitchen	347 Queen St.
Dr. Crckett	795 Queen St.
Parliament Buildings	Queen St.
Central Mortgage	460 Green Road,
Central Mortgage	630 Green Road.
Central Mortgage	647 Hanson St.
John Palmer Co.(Meter # 2)	Argyle St.
C. W. Clark	531 Brunswick St.
Saul Brown	135 Charlotte St.
Mrs. Amelia Goldman	331 Charlotte St.
Walter Kitchen	363 Charlotte St.
Mrs. M. Burden	485 Charlotte St.
G.G. & M.E.Robinson	620 Scully St.
F. L. Williams	132 Argyle St.

STOPPED METERS----1949.

Page # 2.

Mrs. M. Gerrard	151 Aberdeen St.
Cecil D..Henderson	152 Aberdeen St.
Joseph Sears	618 Aberdeen St.
M. Dobblesteyn	624 Aberdeen St.
Mrs. A. E. Hurley	240 Victoria St.
H. G. Kitchen (Store--West)	57 Westmoreland St.
Bradstreet Tomkins	8 Waterloo Row
Mrs. James Jamieson	26 Waterloo Row
Mrs. M. H. Fenety	319 University Ave.
Maritime Electric	48 Lansdown St.
Ivan McKnight	72 Lansdown St.
Dora Chippin	91 York St.
Central Mortgage	679 Chestnut St.
Central Mortgage	638 Green Road.
Phillips & Pringle Ltd.	399 Campbell St.
Fred Segee	120 King St.
W. Gorman	256 King St.
Abe Levine	373 King St.
David Gorman	626 King St,
Areata Gerow	(East) 602 Queen St.
Areata Gerow	(West) 602 Queen St.
F(ton Exhibition Ltd.	Hut # 33

WATER INSTALLATIONS----1949.

Dec.	2/48	Mrs Peter Keenan	135 George St.	Relay	5/80.
"	18/48	Perley Davidson	886 Charlotte	"	"
Jan.	12/49	S. M. T. Eastern Ltd(Garage)	Carleton Ward	New	1"Gal
Apr.	16/49	Robert Scott	University Ave	"	5/80.
"	19	Gerald Phillips	212 Aberdeen St.	Relay	"
"	20	Archie Barker	346 Charlotte St	"	"
"	22	Mrs W.P.Keenan	229 Regent	"	"
"	23	Mrs. Vera Hanson	668 George St	"	"
"	26	Herbert Mastom	Barker St.	New	"
"	29	Borden Trites	Brunswick St	"	"
May	3	Oswald Reynolds	448 Water St	Relay	"
"	6	Melbourne Parker	153 Gill St	"	"
"	7	Devon Lumber Co.	550 Union St	"	"
"	12	Jack Barrett	Gibson St,	New	"
"	10	G. E. Kitchen	Woodstock Road	"	"
"	18	Timothy Bourque	Windsor St.	"	"
"	17	U.N.B. Memorial Bldg	University Ave.	"	¾ G.
"	25	Walter S. Long	Neill St.	Relay	5/8 C.
"	20	F(ton Medical Clinic	Regent St.	New	"
"	27	Jean Greer	648 Churchill Row	Relay	"
"	31	Mrs. Augustine Mazzucca	762 Churchill Row	"	"
June	1	Bliss Wood	222 Waterloo Row	"	¾ C.
"	3	Melvin G. Parsons	Victoria St.	New	5/8 C.
"	4	Royden Ryan	Woodstock Road	"	"
"	4	S. A. Young	48 Lansdowne St.	Relay	"
"	6	Edward Perkins	834 Charlotte St.	"	¾ C.
"	8	J. L. Simms Ltd	Grey St.	New	5/8 C.
"	9	Walter Fulton	Needham St.	"	"
"	10	Mrs. C. F. Marsh	720 Churchill Row	Relay	"
"	11	Mrs. Fraser Dunbar	186 Regent St.	"	"
"	29	M. L. Saunders	835 Barker St.	"	"
"	12	Blighty Fish & Chips	Regent St.	New	"
"	12	Herbert Lakes	578 Windsor St.	"	"
"	15	Diamond Con. Co.	Green Road	"	"
"	15	John Boyd	203 St. Marys St.	Relay	"
"	8	Robert Partington	Graham Ave.	New	"
"	12	Diamond Con. Co.	Dundonald St.	"	"
"	18	C. A. Taylor	Charlotte St.	"	"
"	19	Miss MacIntosh	659 King St.	Relay	"
"	30	Dr. G. W. McElman	259 Gibson St.	"	"
"	28	Carl Gillies	Graham Ave	New	"
"	28	C. D. Henderson	150-152 Aberdeen St.	Relay	"
Aug.	9	Ronald Young	St. Marys & Union	"	"
"	22	Mrs Daisy Budovitch	University Ave.	New	"
"	24	Mr. P. Davidson	876 Charlotte St.	Relay	"
"	25	Miss Ethel Gorman	177 King St.	"	"
"	25	Mrs. George Clynick	125 Regent St.	"	"
"	27	Robert Murdock	169 George St.	"	"
"	30	Charles LLewelyn	Regent St	New	"
Sep't	10	Mrs. E.E.Cameron	328 Smythe St.	Relay	"
Aug	18	Miss Leila Elgee	Avondale Court	New	"
"	15	Leo J. Green	161-163 Regent St	Relay	"
"	20	Bemrose & Kilburn	Graham Ave.	New	¾ C.
Sep't	9	B. B. Allen	614 Union St.	Relay	5/8 C.
"	9	John LaPointe	Union St.	"	"

WATER INSTALLATIONS----1949

PAGE # 2.

Sep't.	14/49.	John H. Porter	553 York St.	New	5/8 C.
"	15	George Scott	York St.	"	"
"	16	Mrs. Nellie Donovan	561 York St.	"	"
"	17	Herbert Stevenson Est.	York St.	"	"
"	14	Miss Elizabeth Hayes	580 Union St.	Relay	"
"	5	Leo Hayes	96 St Marys St.	"	"
"	29	Wesley M. Myles	568 George St.	"	"
Oct.	4	Mrs. F. M. Miller	537 York St.	"	"
"	4	J. D. Pickard	Green Road	New	"
"	4	R. D. Wilby	Green Road	"	"
"	4	Tyler W. Webb	636 York St.	"	"
"	4	Mrs. Jean Murdock	614 York St.	"	"
"	4	Mrs. Fannie Currie	592 York St.	"	"
"	4	S. S. Miller	140 York St.	Repair	$\frac{3}{4}$ Gal.
"	7	Dr. Ramey	75 Regent St.	Relay	5/8 C.
"	13	Allan R. Farris	Regent St.	New	"
Sep't	26	Tractors & Equipment Ltd.	Smythe St.	New	6"
Oct.	19	Ellis Cunningham	Golf Club Road	"	5/8 C.
"	20	G. M. Baker	71 Golf Club Road	"	"
"	21	Hilton Love	Golf Club Road	"	"
"	21	Reid Blair	116 St. Marys St.	Relay	"
"	27	Richardx Sullivan	534 King St.	Relay	"
"	25	Wm. J. Gough	532 George St.	"	"
"		George Wandless	Church St.	New	"
"		J. S. Tripp (Olgivie WareHouse)	Church St.	"	"
"		Eastern Equipment Ltd.	Church St.	"	"
"		Gordon Neill	Elmcroft Place	"	"
"		Hospital Bldg.	Brunswick St.	"	2" Gal.
Nov.	1	Robert Stuart	272 Victoria St.	Relay	5/8 C.
"		O. E. Rushton	Byng St.	New	"
"		St. Anthony Church Rectory	Union St	"	"
"		H. S. Gill	Gill St.	"	"
"		Joseph MacDonald	681 Union St.	Relay	"
"	5	John Gibson & Son	York St.	New	"
"	9	Annie Bishop Est.	King St.	"	"
"	8	Harry Bailey	Needham St.	"	"
Nov.	14	Fred Carten	York St.	"	"
"	7	L. H. Machum	85 Jaffrey St.	Relay	"
"		L.R. Horncastle	York St.	New	"
"		Harold Ryan	609 Waterloo Row	"	"
"		Cyril Rideout	621 Waterloo Row	"	"
"		Frederica Boole	689 Waterloo Row	"	"
"		Allan Rowan	705 Waterloo Row	"	"
"		J. H ³ Nichols	669 Waterloo Row	"	"
"	10	E. O. Stevenson	57 Saunders St.	Relay	"
"	13	York Flooring Mills	Gibson St.	New	"

Fredreicton Water Supply

Year 1949... Jan. 1st. to Dec. 31st.

The quality of the Fredericton Water supply, obtained from the St. John River, is essentially the same as it has been for the past ten years.

to

Due changing river conditions it has been necessary to continue the use of alum through out the winter months.

It has been found necessary, due to the inflexible conditions of our overloaded plant, to increase the chlorine dose. This insures a safe chlorine residual at maximum pumpage but results in some over dosing at minimum pumpage.

The free chlorine dose has been held between 0.2 and 0.8 parts per million in the Clear Well.

This Residual Chlorine dose has been sufficient to keep the bacteria content within safe limits.

Records of tests follow. They are made for the detection of the Coli - Aerogenes group. Primary media being Lactose Broth with 2% Brilliant Green Bile used as a Confirmatory Media.

United States Treasury Standards state (as applied to our case) that not over 10% of the portions of water tested shall show Positive and when less than 20 samples per month are examined one sample per month may have 3 positive portions out of the 5 portions making up that sample. The following results easily measure up to these standards.



E. W. Hagerman

Fredericton, N.B.
December, 28th. 1949.

(2)

Fredericton Water Supply (cont.) 1949.

Test for Coliform Group. Primary media Lactose Broth. Confirmatory media 2% Brilliant Green Bile.

POSITIVE result means Coliform Group present.

Negative results means Coliform Group absent.

Date of Sample	Origin of Sample	Test divides 5-10cc portions as:-	
		POSITIVE	NEGATIVE
Jan. 2	Pumping Sta.	0	5
" 10	UNB Engineering Bld.	1	4
" 12	UNB Engineering	0	5
" 18	127 Charlotte St.	0	5
" 26	Pumping Sta.	0	5
There was one Positive in the 25 Portions tested for January or 4% . The allowable is 10%.			
Feb. 1	UNB Engineering	0	5
" 7	Pumping Sta.	0	5
" 13	127 Charlotte St.	0	5
" 20	Pumping Sta.	1	4
" 21	Pumping Sta.	0	5
" 26	UNB Engineering	0	5
There was one Positive in the 30 Portions tested for Feb. or 3.3%.			
Mar. 4	Pumping Sta.	0	5
" 9	127 Charlotte St.	0	5
" 14	Pumping Sta.	0	5
" 21	UNB Engineering	0	5
" 30th	127 Charlotte	0	5
There were no Positives in March.			

April

There were 5 samples taken in April and all were Negative. Having mislaid my loose leaf notes for April I am unable to give location and exact dates of tests.

May	1	Pumping Sta.	0	5
"	7	127 Charlotte St.	1	4
"	8	127 Charlotte St.	0	5
"	13	Pumping Sta.	0	5
"	20	UNB Engineering	0	5
"	30	Pumping Sta.	0	5

There WAS one Positive in 30 portions tested for May. This is 3.3%.

June	??	604 Kitchen St.	0	5
"	??	616 Palmer St.	0	5

Because of complaint of tarry taste, (Oakum new pipes) tests were made at above addresses. Test 616 Palmer gave two late gas formers which did not confirm on B.G.Bile, so test was recorded Negative

(3).
Fredericton Water Supply 1949 (cont.).

Date of Sample	Origin of Sample	Test divides 5-10cc portions as:-	
		POSITIVE	NEGATIVE.
June 7	123 Charlotte St.	0	5
" 14	Pumping Sta.	0	5
" 18	UNB Engineering	0	5
" 25	City Hall	0	5
" 30	Pumping Sta.	0	5
There were no Positives out of the 35 portions tested in June.			
July 7	127 Charlotte St.	0	5
" 13	Highland Avenue (Well,bored)	5-10 All 5 Positive 1-1 Positive 1-1/10 Pos.	
" 13	U.N.B. Engineering	0	5
" 17	City Hall	0	5
" 25	Union Station	0	5
There were no Positives found inthe 20 Portions tested in the City supply. The Highland Ave. well was reported as unfit for use to the owner Mr. Earnest Howe.			
Aug. 1	Pumping Sta.	0	5
" 22	127 Charlotte St.	0	5
" 15	U.N.B. Engineering	0	5
" 20	Pumping Sta.	0	5
" 30	154 Aberdeen	0	5
There were no Positives in the 25 Portions tested for August.			
Sept. 5	UNB Engineering	0	5
" 9	Pumping Sta.	0	5
" 20	127 Charlotte St.	0	5
" 26	Pumping Sta.	0	5
There were no Positives in the 20 portions tested for September.			
Oct. 5	127 Charlotte St.	0	5
" 12	UNB Engineering	0	5
" 19	Pumping Sta.	0	5
" 25	123 Charlotte St.	0	5
There were no Positives in the 20 portions tested for October.			
Nov. 2	Pumping Sta.	0	5
" 8	127 Charlotte St.	0	5
" 12	U.N.B. Engineering	0	5
" 17	Capital Garage	0	5
" 27	Pumping Sta.	1	4
" 29	Pumping Sta.	0	5
There was one Positive out of the 30 Portions tested for Nov. or 3.3%.			

(4).
Fredericton Water Supply (cont.) 1949.

Date of Sample	Origin of Sample	Test divides 5-10cc Portions as:-	
		POSITIVE	NEGATIVE
December 5	Pumping Sta.	0	5
" 11	U.N.B. Engineering	0	5
" 18	Pumping Sta.	0	5
" 26	127 Charlotte	0	5

There were no Positive portions in December.

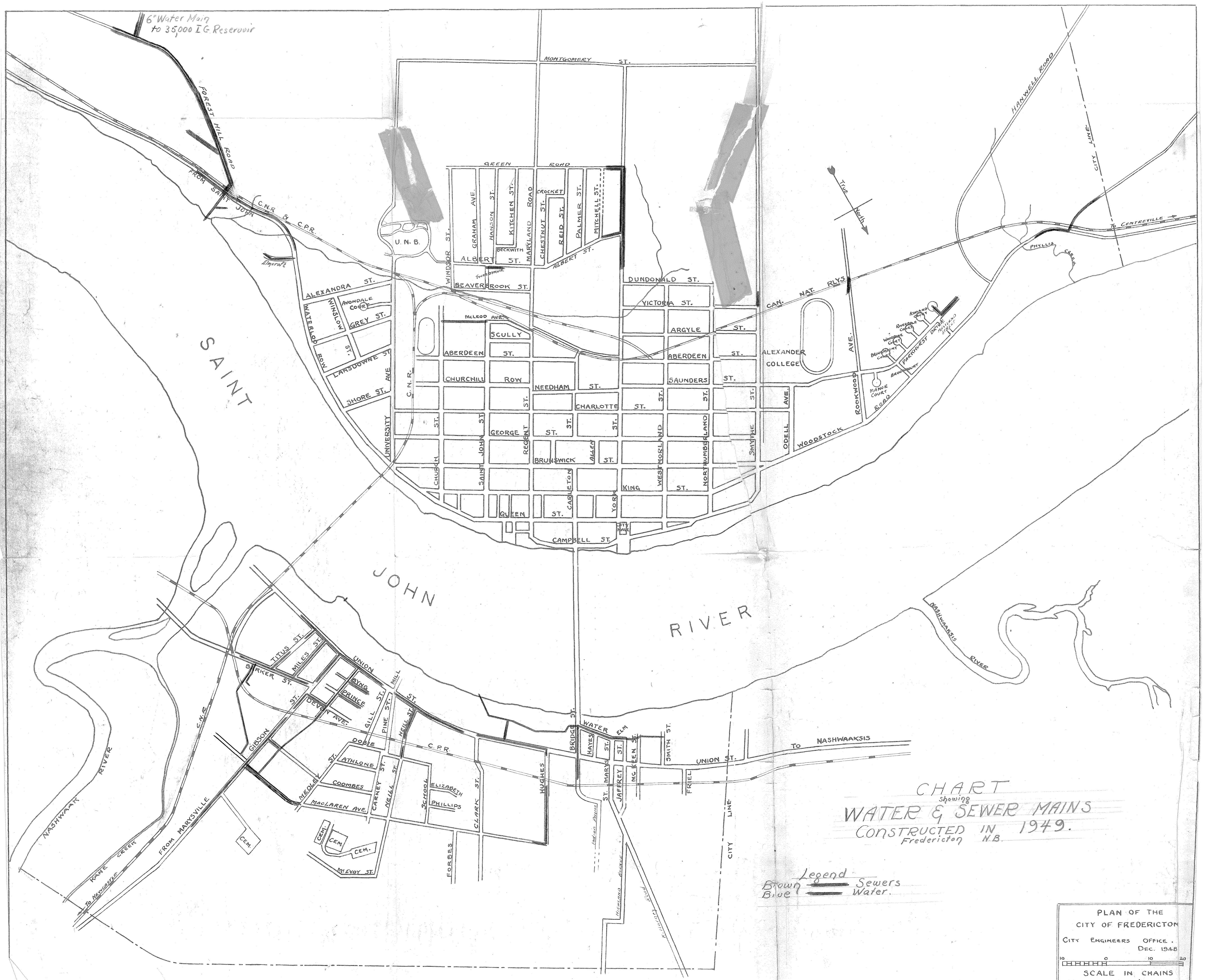
November 11	Fredericton, North, (DEVON) Killarney Reservoir	1	4
" 11	Range Reservoir	0	5

This is about the results one would expect from uncovered reservoirs. The Killarney being alongside a dirt road is, no doubt, contaminated by dust blowing off the road. The Range being protected by the woods is more likely to be clear.



E. W. Hagerman.

Fredericton N.B.
December 28th. 1949.



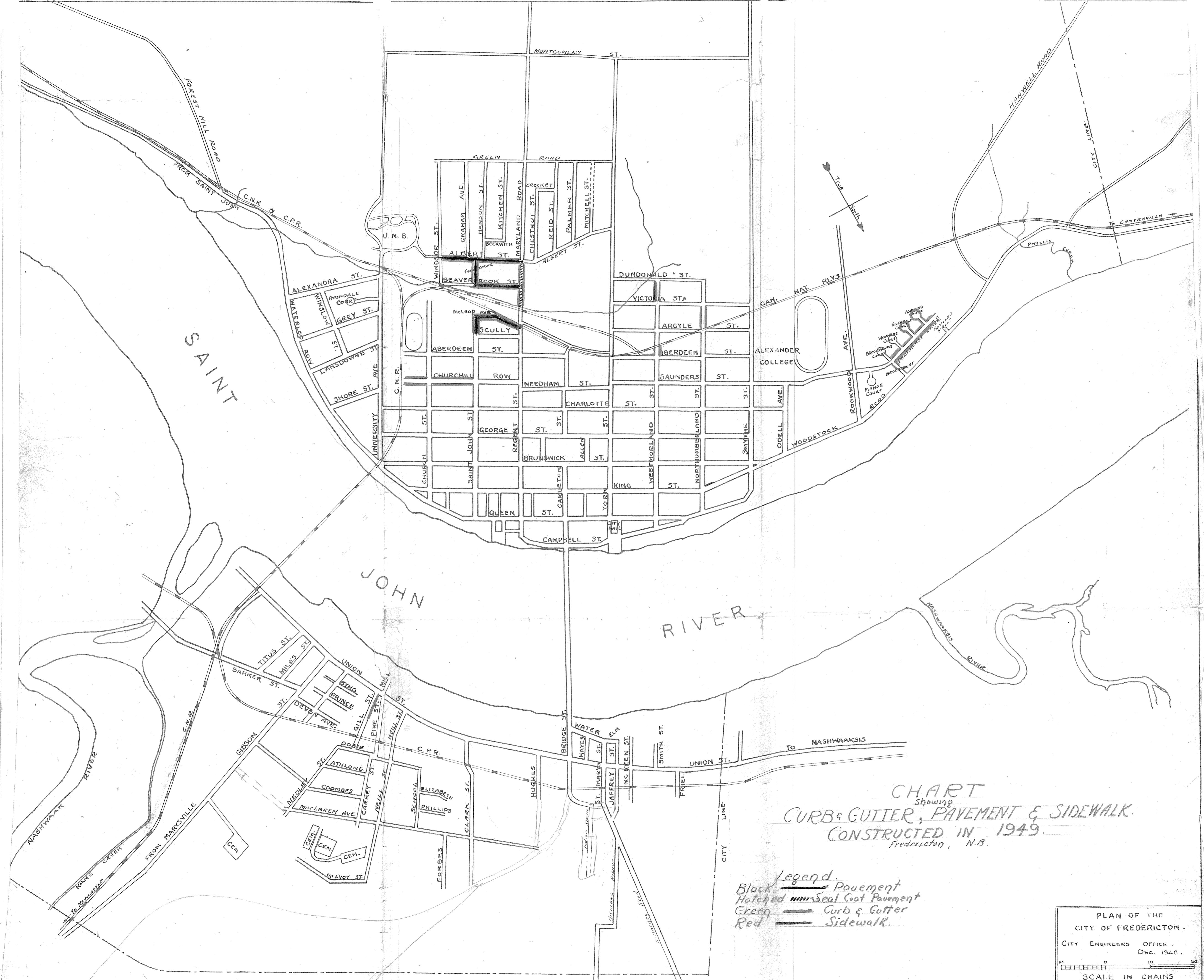


CHART
Showing
CURB & GUTTER, PAVEMENT & SIDEWALK.
CONSTRUCTED IN 1949.
Fredericton, N.B.

Legend.

Black		Pavement
Hatched		Seal Coat Pavement
Green		Curb & Gutter
Red		Sidewalk.

PLAN OF THE
CITY OF FREDERICTON.

CITY ENGINEERS OFFICE.
DEC. 1948.



10 0 10 20

SCALE IN CHAINS
(APP.)