

ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

1940



YEARLY REPORT OF
CITY ENGINEER
FREDERICTON, N. B.

1940

Office Copy.

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YEARLY REPORT OF CITY ENGINEER

FREDERICTON, N.B.

YEAR 1940

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December 28, 1940.

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 1939 to the first of December 1940.

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 on file an accurate record of the different activities and costs under these Departments.

The various city activities which come under the supervision of the City Engineer are:

Roads and Streets, construction and maintenance.
Public Works, construction and maintenance.
Water System, operation, construction and maintenance.
Domestic Sewerage System, operation, construction and maintenance.
Surface Sewers, operation, construction and maintenance.
Street Lights, operation, construction and maintenance.
Shade Trees, planting, pruning, removal, etc.
Other construction or maintenance activities such as repairs to City Hall or other City buildings, or any other work which the Council may from time to time put in the hands of the City Engineer.

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

Respectfully submitted,

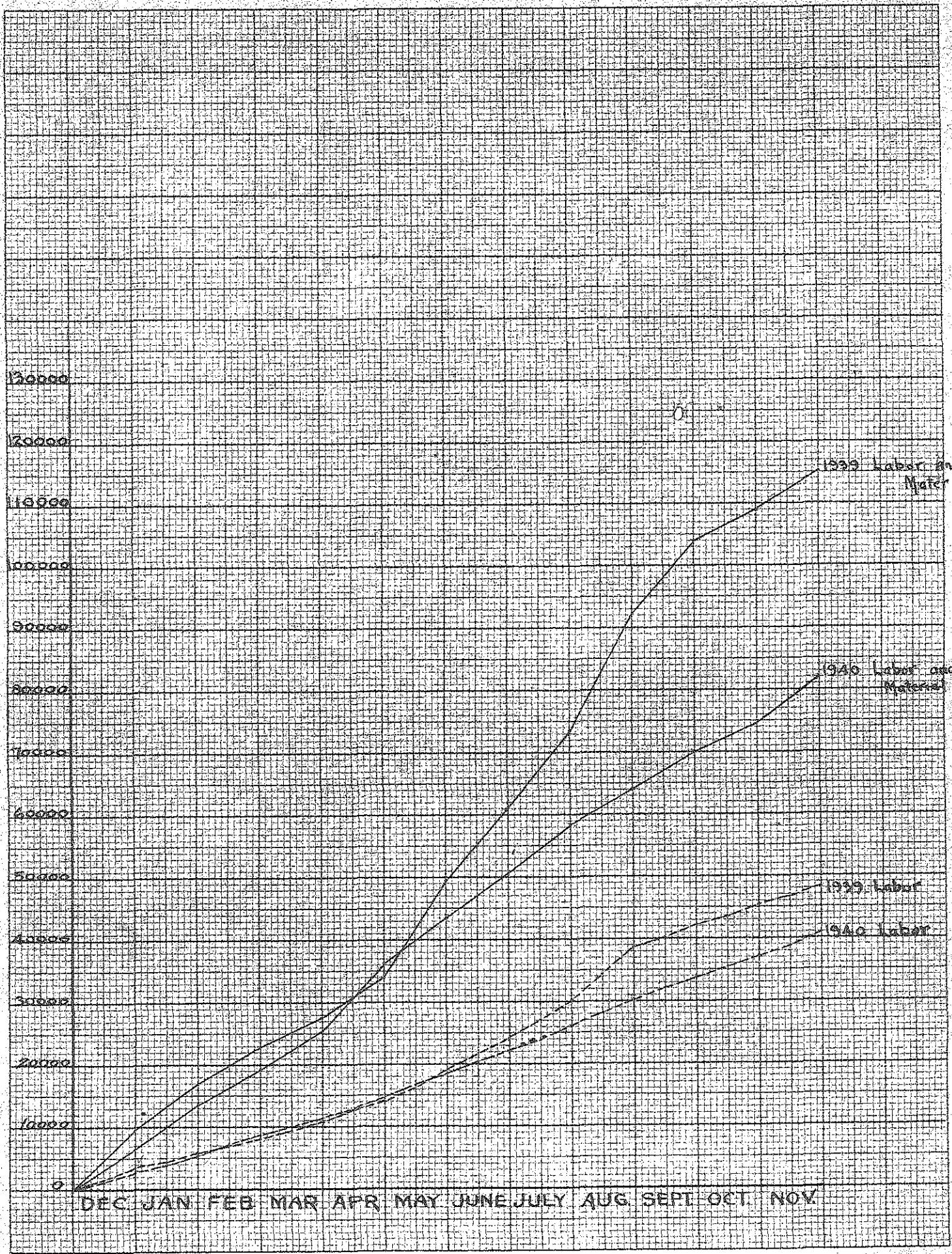
City Engineer.

TOTAL YEARLY EXPENDITURE

The total yearly net expenditure under the direct supervision of the City Engineer this year amounted to \$82,293.55. This expenditure will be taken up in detail under the different headings in this report.

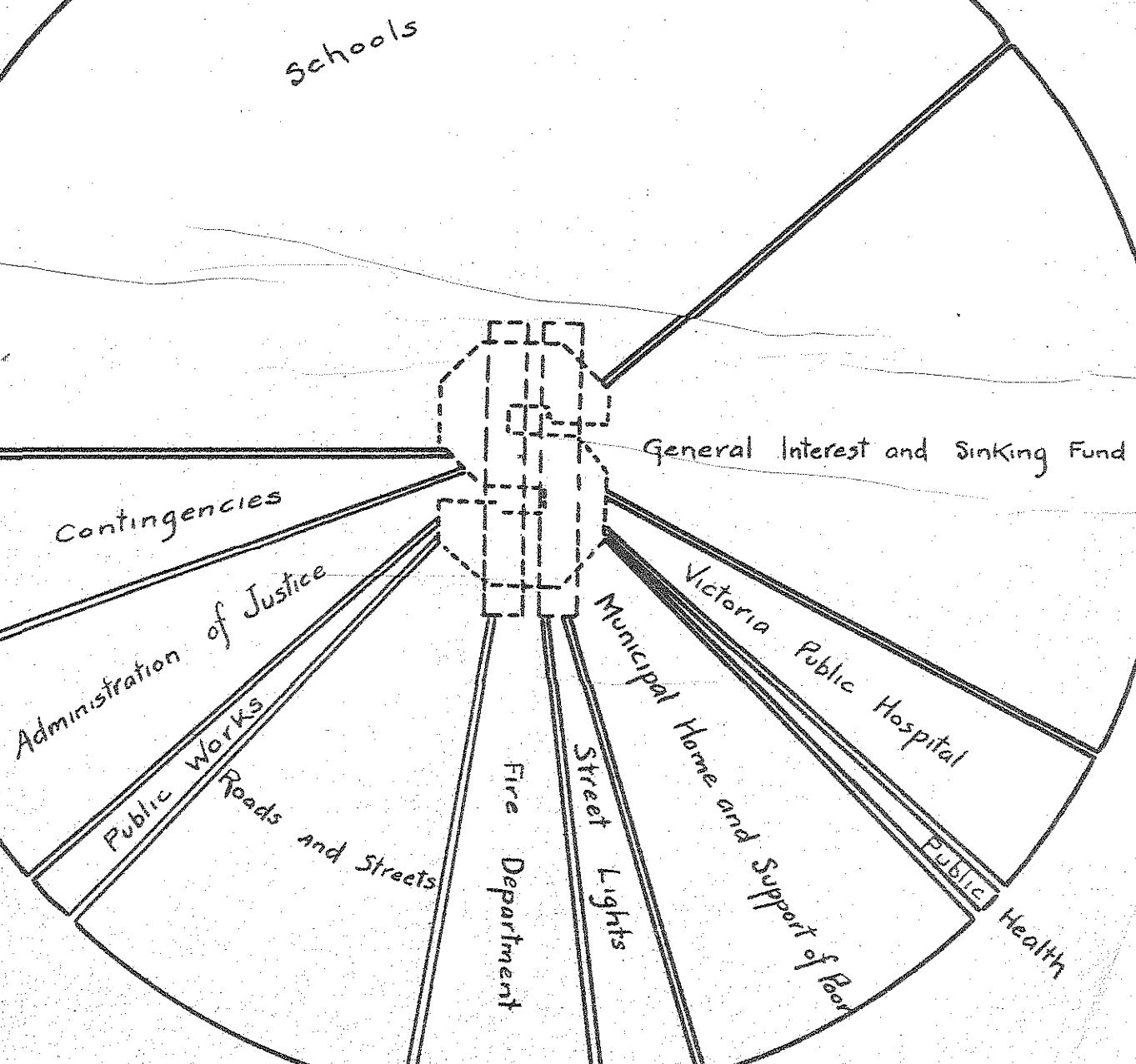
A graphic comparison of expenditure for labour and material for the year 1940, and a chart showing the distribution of the 1940 Fredericton Tax Dollar are here shown:-

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TOTAL NET EXPENDITURE 1939 AND 1940

DIVISION
OF
FREDERICTON TAX DOLLAR
1940
SHOWN GRAPHICALLY



ROADS AND STREETS

This year we had an appropriation for Roads and Streets of \$28,000. This is the same appropriation as last year. We over-expended this appropriation this year by \$2,868.09. This is due principally to work which had to be done during the year which we had not figured on doing when we made up the appropriation. One expensive item was the construction of a road ditch and repairs to the road of College Hill.

The City of Fredericton Roads and Streets system is for convenience divided into two parts, namely, the Urban District and the Outlying or Rural District. The Urban district is roughly bounded as follows: on the North and East by the St. John River, and on the South and West by the line of Albert and Dundonald Streets.

The Outlying or Rural District would be the district within the city limits outside the above mentioned boundaries.

We have in Fredericton altogether some $44\frac{1}{2}$ miles of roads and streets and about 32 miles of sidewalk. This sidewalk of course all lies within the Urban District and is pretty well covered by cement sidewalks.

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	10.82	3.46	14.28
Gravel	6.86	23.21	30.07
Total	17.68	26.67	44.35

Roads and Streets Expenditure 1940:-

Gross Expenditure.....	\$33,058.59
Credits.....	2,190.50
Net Expenditure.....	30,868.09
1940 Appropriation.....	28,000.00
Dr. Balance.....	\$ 2,868.09

The above credits are made up as follows:-

Received from other City Departments for work done and material sold by Roads and Streets Dept..	\$ 1,893.35
Work done for and material sold to private parties by Roads and Streets Dept.....	297.15

\$ 2,190.50

The Gross Expenditure of \$33,058.59 is divided as follows:-

Labour.....	\$17,956.36
Material charges and Workmen's Compensation Board.....	15,102.23
	\$33,058.59

I have divided the labour charges of \$17,956.36 into the following items. Although these items are made up entirely of labour cost, 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>	\$ 195.30
<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.....	2,760.65
<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.....	1,703.53
<u>Surface Sewers</u> :- Cleaning, flushing, and repairing surface sewers and building new surface sewers within street limits.....	526.81
<u>Sanding Walks</u> :- Storing sand in winter storage piles and spreading same on slippery walks.....	324.06
<u>Yard</u> :- Men working at blacksmith shop and repair work in City Yard, taking summer equipment out and storing winter equipment, etc.....	1,689.70
<u>Street Sprinkling</u> :- Water cart.....	554.36
<u>Stone Crushing</u> :- Repairs to crusher and crushing stone.....	152.28
<u>St. John Road</u> :- All work done on River Road from Alexandra Street to eastern city line other than work done by power maintainer and pavement maintenance.....	1.20
<u>Doak and Wilsey Roads</u> :- All work done on these roads other than work done by power maintainer.....	30.02
<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.....	127.86
<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.....	932.81
<u>Street Cleaning</u> :- All cleaning and removal of dirt, leaves, etc. from streets.....	6,293.55
<u>Tarvia Repairs</u> :- Patching and repairing asphalt and tar pavements and sidewalks and applying seal coat of light tar or asphalt to pavements.....	940.05
<u>City Road Patrol</u> :-	634.88
<u>Quarry</u> :-	90.30
<u>Wood Lot</u> :- Wood cut by Roads and Streets Department and resold to the Municipal Home Department.....	999.00
Total.....	\$17,956.36

Following is a table comparing labour expenditure in these items from 1935 to 1940.

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS
LABOUR ITEMS

<u>Item</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>
Snowploughing						
sidewalks	225.05	247.05	54.43	366.43	218.74	195.30
Snow control	3,973.77	3,195.55	1,263.06	3,146.37	3,659.33	2,760.65
Streets	2,908.55	1,526.75	3,162.53	1,332.94	818.07	1,703.53
Surface sewers	238.05	198.75	911.68	206.26	240.64	526.81
Sanding walks	108.53	154.10	621.94	277.05	484.82	324.06
Yard	1,073.73	1,202.68	1,377.97	1,399.56	2,067.65	1,689.70
Gravel	55.91	58.99	41.62	54.07		
Street sprinkling	817.63	815.10	772.93	418.70	502.15	554.36
Stone crushing	3,550.57	2,990.43	1,926.04	61.92	245.19	152.28
St. John Road	497.56	425.21	81.73	34.07	23.05	1.20
Doak & Wilsey Rd.	296.30	239.45	417.07	2,282.07	126.78	30.02
New Maryland Rd.	168.84	98.21	157.35	76.41	195.40	127.86
Outlying Roads	142.15	594.51	651.36	212.64	491.20	932.81
Street cleaning	3,095.83	2,662.17	3,522.89	4,546.64	5,024.94	6,293.55
Tarvia repairs	488.61	738.07	931.35	678.43	2,059.88	940.05
City Road Patrol	632.88	602.45	780.16	507.82	486.73	634.88
Quarry	6,990.20	1,737.85	1,277.23		37.31	90.30
Relief, O'Reilly		869.78				
Richardson Cons. Co.			109.14			
Wood Lot						999.00
Total	25,264.16	18,357.05	18,060.48	15,801.78	16,681.88	17,956.36

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

Snow Control:-

Snowploughing roads and streets.....	\$ 348.35
Shovelling and hauling snow.....	1014.13
Scarifying walks.....	22.60
Draining streets.....	134.07
Thawing catch basins.....	157.30
Snow fences.....	244.10
Picking ice and hauling from streets.....	395.29
Thawing culverts.....	100.00
General Expenses.....	176.86
Total.....	\$2760.65

Snow Fences:-

In our snow fencing this year we used 4800 feet of lath-made snow fence which we had manufactured last year. Besides this premade fence, we erected about 2000 feet of brush fence against 1000 feet of this kind of fence erected last year. This extra 1000 feet was set up on the Doak and Wilsey Roads.

Streets:-

Repairs (maintenance of gravel streets).....	\$637.27
Cleaning and repairing culverts.....	52.30
Sweeping sidewalks.....	13.50
Erecting traffic signs.....	9.40
Painting traffic signs.....	34.00
Painting traffic lines on streets.....	108.65
Gravelling streets.....	80.91
Concrete curb and gutter construction.....	443.70
Dundonald Street reconstruction.....	100.90
Military Parade Ground.....	115.20 #
General Expenses.....	<u>107.70</u>
Total.....	\$1703.53

The expenditure of \$115.20 was for work done by the City crews in making a parade ground in the yard of the Armouries on Carleton Street. The amount was not billed to the Military Authorities, the City doing this work to help out the Military Authorities in providing a drill ground for the Carleton York Regiment.

The item of \$637.27 shown for repairs and maintenance of gravel streets includes the construction of some 602 lineal feet of concrete curb and gutter, 477 feet of this was constructed on the south side of Campbell Street between Phoenix Square and Westmorland Street and 125 lineal feet was constructed on the east side of Westmorland Street between Campbell and Queen Streets. The labour cost only on this construction amounted to 33¢ per lineal foot of curbing and gutter.

Dundonald Street reconstruction with a labour cost of \$100.90 was for ditching and partially regrading Dundonald Street between York and Westmorland Streets.

Stone Crushing:-

During the year the stone crusher only ran five days. We crushed some 314 tons of rock. Although there was no heavy work this year, it was necessary to crush a small amount of rock for patching and repairing streets and sidewalks and curb and gutter work. This 314 tons of stone was crushed into fairly fine grades. To do this we used a large toggle and did not push the crusher, putting through only about 10 tons an hour which is the capacity of our screening plant. The labour cost per ton on this 314 tons was 42¢.

Quarry:-

During December of 1939 we quarried and hauled in from Grasse's Quarry to the City Yard 244 tons of trap rock. This together with 80 tons which we had in the yard at the first of the year make up the 314 tons which we crushed this year.

Outlying Roads:-

The labour expenditure of \$932.81 is made up as follows:

Hanwell Road.....	\$ 10.30
College Hill.....	667.27
Poor House Hill.....	3.92
Cross Roads.....	14.40
Forest Hill.....	6.20
Brick Hill.....	169.70
General Expenses.....	61.02
	<u>\$932.81</u>

The comparatively large expenditure on College Hill was made in the construction of a paved and rip rapped side ditch running for some 652 feet along the eastern side of College Hill Road, and also by some realinement and culvert changes made to the College Road itself. This work was made necessary because of the construction of the new College Gymnasium. This Gymnasium is located on the field to the east of the College Hill where it would have been very difficult of approach in the spring unless the above mentioned construction had been made to control the surface drainage. This construction was all made within the road's limits on City property and the City had agreed with the college authorities to bear the cost of this construction before the Gymnasium was built.

Some \$169.70 was spent in labour in reditching and graveling a portion of the Brick Hill Road. The work done this year only extended about half way up the hill and was more or less of a temporary nature. This road is beginning to be built up, and I believe next season a more complete piece of construction will have to be done in this location.

Street Cleaning:-

The labour cost of \$6293.55 shows an increase of \$1268 over last year. Although this item shows an increase every year, this \$1268 is not entirely due to the annual growth of work in this department, but can be accounted for to a great extent by a number of bad storms which we had during the year and by an extra amount of cleaning of leaves which we were able to do this fall rather than leaving them for the spring clean-up. However, I believe that there is no doubt that the street cleaning expenses will have a tendency to increase from year to year. When this service is once established in any part of the Town the citizens demand its continuance, and we are gradually taking on more districts every year on our daily cleaning circuits.

Tarvia Repairs:-

The labour expenditure of \$940.05 is divided as follows:

Patching streets.....	\$573.95
Tarring streets.....	269.40
Unloading and barrelling R.C.3 asphalt.	18.40
Patching asphalt walks.....	16.80
General Expenses.....	<u>61.50</u>
Total.....	<u>\$940.05</u>

Our streets were in fairly good condition this spring except for the St. John Road between Forest Hill and the Valley Railroad Track. This piece of road had broken up badly. The piece on the flat for about 1000 feet north of the Valley

Railroad Track was in such bad shape that it had to be re-scarified and reshaped. We gave this a light coating of about three inches of gravel and when this was consolidated applied asphalt primer at the rate of about one-half gallon per yard. This application kept this piece of road in good shape for the rest of the season. Repairs were made on the other portion of the St. John Road by premixing R.C.3 Asphalt with a mineral aggregate of sand and crushed stone and filling up the breaks and holes with this premixed material.

Patching and sealing to our other paved streets was done where and when necessary. The following streets were sealed with R.C.3 Asphalt:

Queen Street from Westmorland to Northumberland
Smythe Street from Charlotte to King
Regent Street from King to C.P.R. Tracks
Westmorland Street from Aberdeen to Saunders
York Street from King to Brunswick
York Street from Valley Tracks to C.P.R. Track

Some Colas was used in sealing the outer edges of the following streets:

George Street from Westmorland to Smythe
Charlotte Street from Smythe to O'Dell Avenue
Smythe Street from Charlotte to Saunders
Saunders Street from Smythe to York

Some of our paved streets showed slight signs of wear in the centre of the street only. On the following locations we treated about 15 feet in the centre of the street with an application of R.C.3 Asphalt:

Saunders Street between Westmorland and York
George Street between Regent and Carleton

The following table shows the bituminous material used in 1940.

	Heavy Tar or Asphalt	Light Tar or Asphalt	Road Oil Cut Back	Asphalt Emulsion	Colas
Tarvia X					
Gals. in stock Spring 1940	0		0		450
Gals. purchased in 1940	0	6368 $\frac{1}{2}$		0	675
Available for season 1940	0	6368 $\frac{1}{2}$		0	1125
Stock on hand Fall of 1940	0	0	0	0	0
Used in season 1940	0	6368 $\frac{1}{2}$		0	1125

4,000 gallons Colas used in 1939 and paid for December 1939 not included in this report although costs show in this year's (1940) costs.

Gravel:-

This year 1783 cubic yards of gravel was purchased from the Devon Lumber Company at 85¢ per cu. yd. delivered where and when required in the City of Fredericton. This gravel was practically all used in the Roads and Streets Department in regravelling roads and in concrete curb and gutter construction.

Surface Sewers:-

All surface sewers in the City were flushed and all catch basins cleaned and repaired during the summer season. A surface sewer was laid on the south side of Saunders Street from Smythe to O'Dell Avenue. This consisted of 465 feet of 10" terra cotta

sewer laid on Saunders Street from Smythe Street to the corner of O'Dell Avenue, the sewer was then extended 99 feet with 8" terra cotta sewer to drain the south end of O'Dell Avenue. This sewer included four brick man-holes each having a sewer frame and cover. The total cost of this piece of sewerage construction was \$704.98 making a cost per lineal foot of \$1.25.

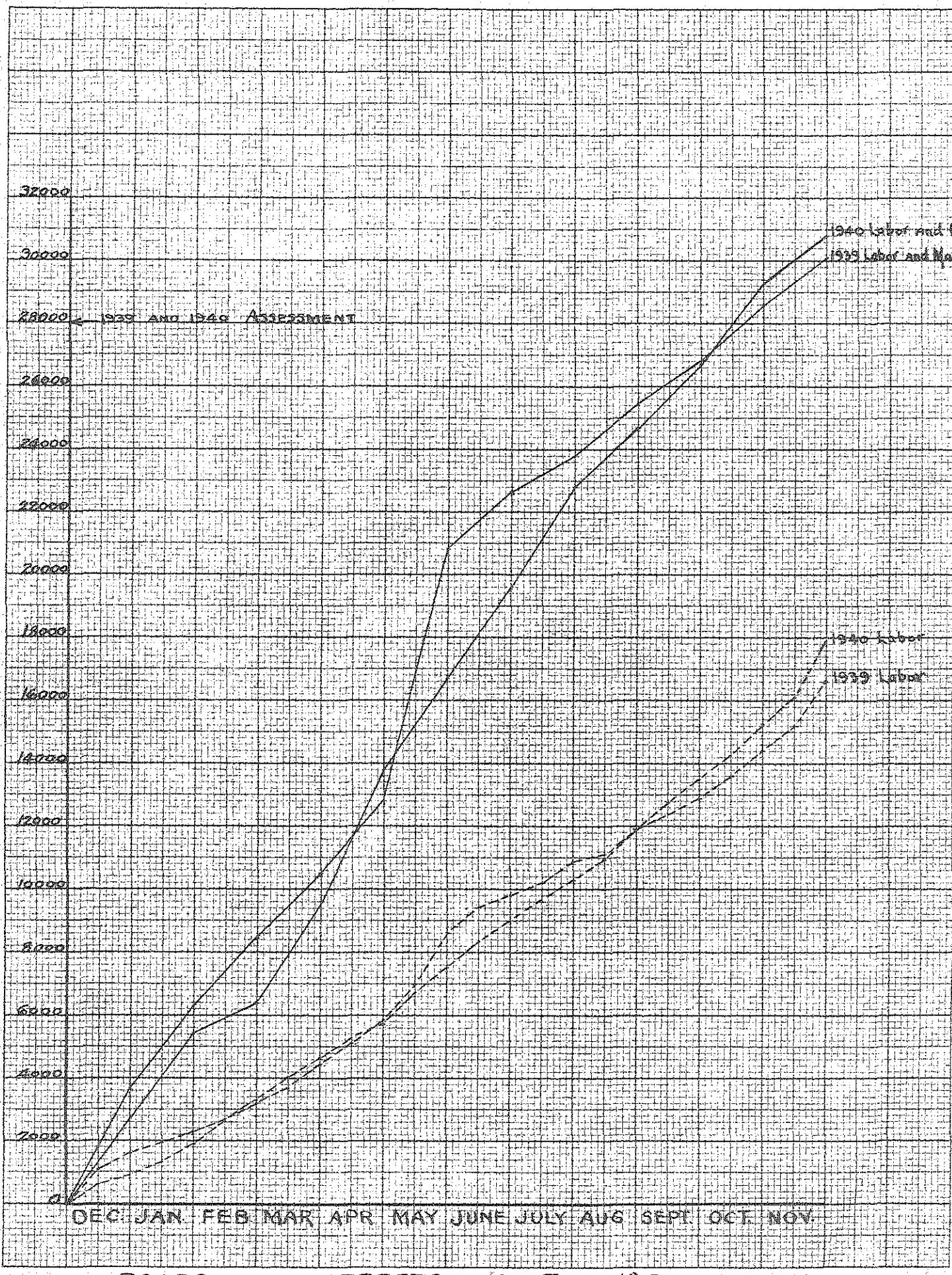
TABLE SHOWING COMPARATIVE COSTS OF ROADS AND STREETS

Years 1927 to 1940

Year	Expenditure for Labour	Gross Expenditure Labour and Materials	Credit	Net Costs and Materials	Labour	Appropri- ation
1927	15,692.00			24,245.00		26,000.00
1928	17,122.45			26,058.70		26,000.00
1929	14,490.47			26,682.98		31,000.00
1930	16,553.53			34,556.33		32,500.00
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	34,279.43		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	21,354.36		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	24,273.83	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	17,956.36	33,058.59	2,190.50	30,868.09		28,000.00

The following plate shows graphic comparison of Roads and Streets costs for years 1939 and 1940.

No. 334 - 2 TN. 10 X 10 TO THE HALF INCH.
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ROADS AND STREETS COSTS 1939 AND 1940

CITY ENGINEER'S OFFICE

REDETERIOR N.B.

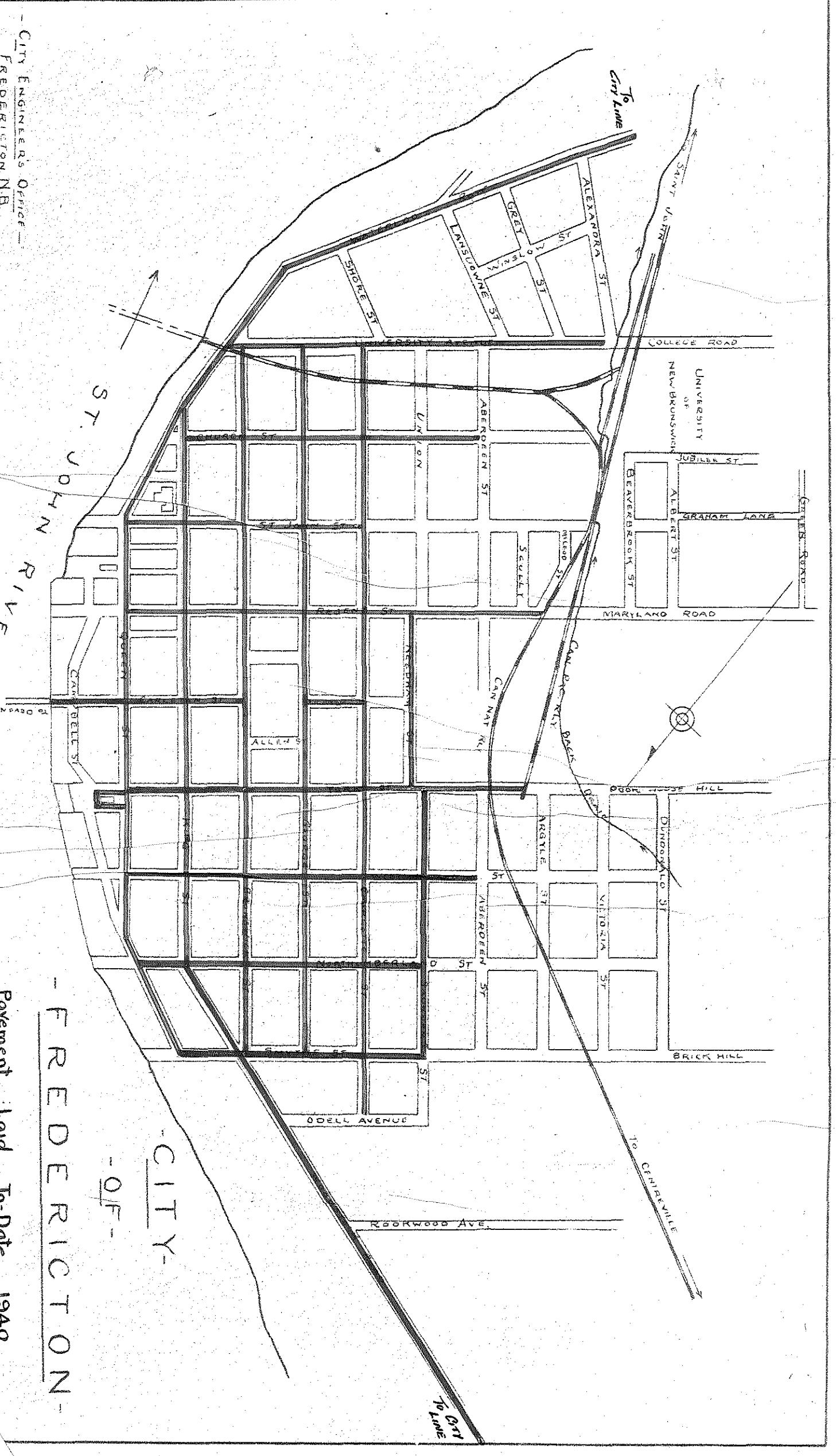
Scale - 1-inch equals 80 ft.

Pavement Laid To-Date 1940

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PUBLIC WORKS

Gross Expenditure.....	\$6,826.22
Credits.....	<u>1,204.89</u>
Net Expenditure.....	5,621.33
1940 Appropriation.....	4,000.00
Dr. Balance.....	<u>\$1,621.33</u>

The credits of \$1,204.89 are made up as follows:-

Cutting trees on private property.....	\$ 36.70
Fredericton Exhibition Ltd:-Making plan of property to be submitted to the Military Authorities and cleaning up Exhibition grounds after fire which burned Exhibition Buildings.....	432.20
N.B. Liquor Commission:-Paved yard.....	148.50
Victoria Public Hospital:-Grading around new hospital.....	451.85
Department of National Defence:-Grading parade ground at Fredericton Race Track	63.29
Rental of City tree sprayer to Federal Department 4 days.....	60.00
Cutting grass for J. Stewart Neill during season of 1939.....	<u>12.35</u>
Total.....	\$1204.89

The gross expenditure of \$6,826.22 is made up as follows:-

Labour.....	\$5,610.71
Material and Workmen's Compensation Charges..	<u>1,215.51</u>
	\$6,826.22

The above labour item is divided as follows:-

Dump.....	\$2,031.64
Back Drain.....	69.76
Trees.....	510.53
Surveying.....	14.98
Unforeseen Account.....	<u>2,983.80</u>
	\$5,610.71

The labour cost charged to Dump is for the wages of a dump tender every week day throughout the year and also that of a night tender who is on duty during the summer season.

This large labour item also includes the cost of moving the location of the City Dump. The dump was moved from its old location in apportion to the Fraser Company Lumber Yards to a new location just north of the C.P.R. Railway Tracks and south of the Wilsey Road. This new location is also on the lands of the Fraser Company Limited and is covered by the original lease between the City and Fraser Company. The dump was moved at the request of the Fraser Company as the old location was too near their lumber piling yards.

The labour cost is accounted for by the fact that the City had to put the old dump in shape before leaving it. This was done by regrading part of the adjacent mill yards and using

this fill to cover the dump and also by hauling any proper fill material which could be found in the City during the summer. Besides putting the old dump in shape to the satisfaction of the Fraser Company Limited, it was necessary to construct a 20-foot wooden bridge on the road leading to the new dump location and also to clean the new dump location from bushes and install a cedar culvert to carry the drainage under the proposed new dump.

Back Drain:-

The labour shown against back drain amounted to only \$69.76 which was spent on the back drain during the spring, cleaning out culverts and cutting ice to get ready for the spring thaw.

Trees:-

No spraying was done on the City trees this year, but the labour cost of \$510.53 was spent in cutting and pruning work.

Unforeseen Account:-

The labour cost is divided as follows:-

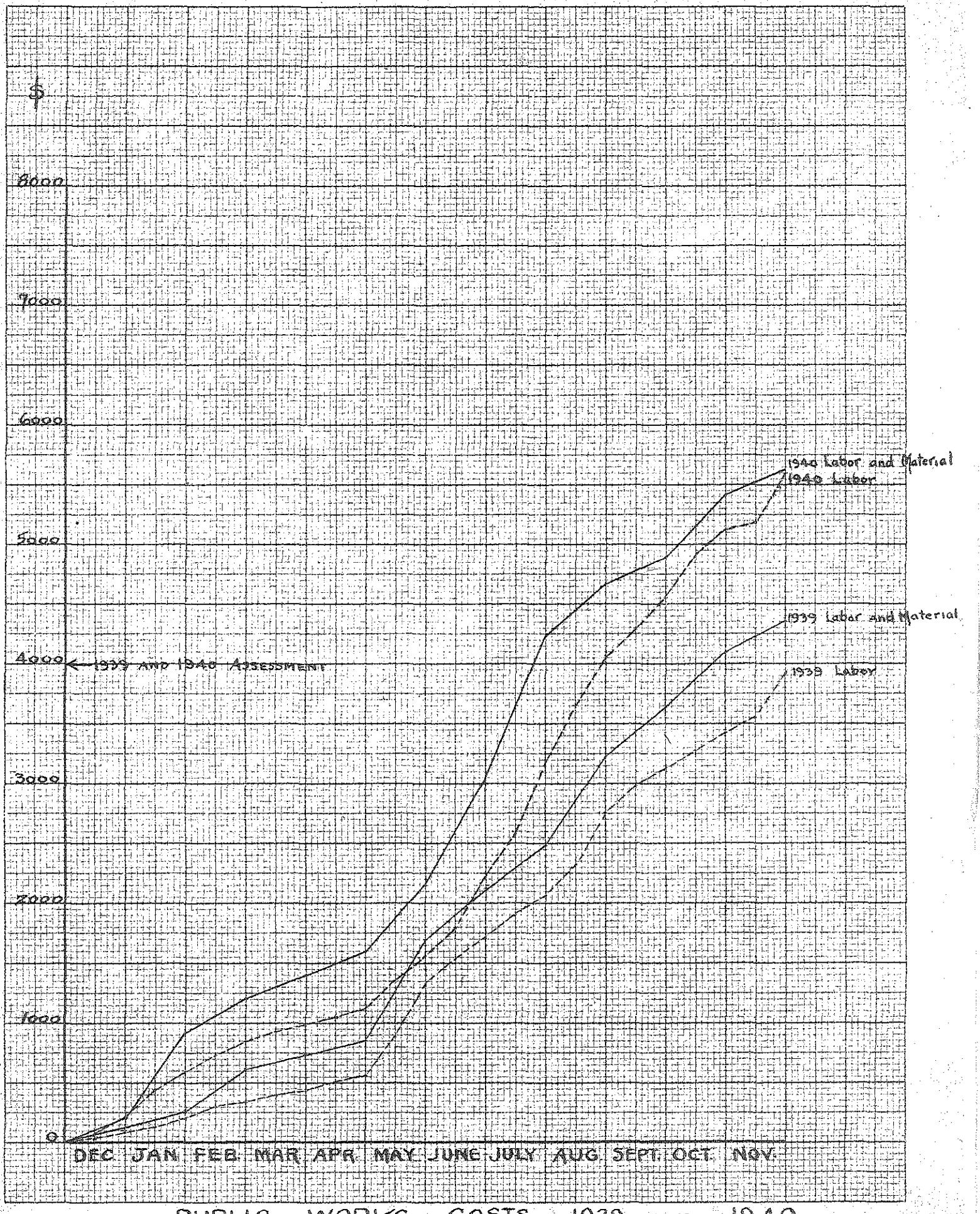
Skating Rink, Queen's Square.....	\$370.52
Skating Rink, West End.....	186.41
Skating Rink, College Field.....	28.48
Skating Rink, Soldiers' Rink.....	<u>18.67</u>
City Engineer's Report, Stenographer.....	\$604.08
Snowploughing Rural Cemetery.....	22.00
River Road, levelling and bushing.....	4.10
Lettering City car.....	18.37
Cleaning ice and mud from wharf.....	4.50
Work which used to be done by Local Improvement Society:-	12.80
Keeping City Greens and public places.....	\$964.47
Benches - repairing, painting, placing.....	80.00
Old Burial Ground.....	35.72
Playgrounds, Queen's Square.....	29.55
Children's Home, repairs to building.....	1109.74
Victoria Public Hospital (grading work).....	5.15
Grappling in river for body.....	436.15
Fredericton Exhibition Limited.....	15.20
N.B. Liquor Commission.....	380.40
Department of National Defence.....	114.50
General Expenses.....	63.29
Total.....	<u>\$193.52</u>
	\$2983.80

TABLE SHOWING COMPARATIVE YEARLY COSTS OF PUBLIC WORKS

Year	Expenditure for Labour	Gross Expenditure Labour and Materials	Credits	Net Costs Labour and Material	Appropriation
1927	1,204.90			2,520.00	4,000.00
1928	2,470.39			3,156.87	3,000.00
1929	1,685.59	2,606.00		2,626.00	5,000.00
1930	2,729.82	3,379.09	237.90	3,159.19	5,000.00
1931	1,574.17	1,982.91	61.95	1,920.96	2,500.00
1932	3,797.65	4,992.98	322.35	4,670.63	2,500.00
1933	3,948.39	5,394.06	474.89	4,919.17	4,500.00
1934	3,734.85	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	4,208.60	3,000.00
1937	3,673.48	4,283.52	123.45	4,160.07	5,000.00
1938	5,135.07	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

The following plate shows graphically a comparison of 1939 and 1940 Public Works costs.

NO. 334 - 2 TN. 10 X 10 TO THE HALF INCH.
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PUBLIC WORKS COSTS 1939 AND 1940

BATHING BEACH

This year as usual we maintained a bathing beach at the end of Smythe Street near the water works under the care and supervision of Mr. Charles Williams.

The beach was opened from June 11th, 1940 to September 9th, 1940 at the total cost to the City of \$274.06 made up of \$257.32 labour and \$16.74 material.

This labour cost includes besides the wages of Mr. Williams caretaker, the wages of some of the City crew in placing bathing houses, making float, and the other usual yearly operations around the bathing beach.

MUNICIPAL HOME

Under this heading appears on my books the labour cost of \$1571.50. This labour cost is made up of wages paid to City employees while they were working for the Municipal Home Department and consists of repairs to the City Alms House and cutting and delivering wood to the city poor.

At the City Alms House some work was done to the interior in the way of painting and cleaning and a number of the floors were sanded and refinished. The upstairs verandah on the south-east side of the building was glassed in. This verandah job cost for both labour and material \$57.70.

During 1940 the City trucks delivered to the poor of the City 482 loads of wood. This wood had been piled in the City Yard and at the Municipal Home, and had been procured in the following manner:-

4' Hardwood

Gordon Barrett	49 cords @ \$5.00	\$ 245.00
Howard McLean	10.5 cords @ 5.00	52.50
Wood cut by City	269.0 cords @ 4.00	1076.00
W.W. Boyce	16.5 cords @ 5.40	89.10
W.W. Boyce	83.0 cords @ 5.40	448.20
Andrew Robinson	30.5 cords @ 6.25	190.63
Woodbridge	21.5 cords @ 5.50	118.25
C.L. Noble	106.5 cords @ 5.50	585.75
E. O'Leary	25 cords @ 5.50	137.50

4' Softwood

W.W. Boyce	20 cords @ 3.00	60.00
T. "Blizzard	48 cords @ 3.00	144.00
679.5 cords		\$3146.93

or an average price of 4 ft. wood in wood yard of \$4.63 a cord.

We have in the wood yard at the present time about 170 cords of wood. This wood has all but a few cords been cut and split by the City crews and is now ready for delivery.

The Alms House during the year has burned some of the wood. There has also been delivered to the Alms House in 1940 sixty tons of Minto screened coal.

STREET LIGHTS

The City street lighting system at the present time consists of:-

1. A series lighting system which lights most of the City.
2. A multiple lighting system on Queen Street.
3. A multiple lighting system in C.N.R. Subway.
4. A multiple lighting system to light the drill grounds in the yard of the Armouries Building on Carleton Street.

System No. 1, the series lighting system, consists of some 17.9 miles of line and 347 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:-

17-600 C.P. lamps at .372 K.W. demand.....	6.320 K.W.
42-250 C.P. lamps at .155 K.W. demand.....	6.510 K.W.
9-100 C.P. lamps at .0716 K.W. demand.....	.644 K.W.
	<u>13.474 K.W.</u>
	13.474 K.W.

Lower Rear Circuit:-

127-250 C.P. lamps at .155 K.W. demand....	19.685 K.W.
Upper Front Circuit:-	19.685

1-600 C.P. lamp at .372 K.W. demand....	.372 K.W.
73-250 C.P. lamps at .155 K.W. demand....	<u>11.315 K.W.</u>
	11.687

Upper Rear Circuit:-

78-250 C.P. lamps at .155 K.W. demand....	11.160 K.W.
	<u>11.160</u>
Total K.W. Demand.....	56.006

During the year there have been two new lamp installations on this series lighting:-

- 1-250 C.P. lamp installation was made on Brunswick St. between Northumberland and Smythe Streets.
- 1-250 C.P. lamp installation was made on Smythe Street just north of the Valley Railroad Tracks

System No. 2, the multiple lighting system on Queen Street, consists of 14 units located on Queen Street between York and Regent Streets. 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 go on and off at the same time as the ordinary street lights, being controlled by a control switch which is energized by our series street 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 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 refers to two spotlights which are located at the rear of the Armouries and are used to flood-light the Armouries Parade Ground.

The power for all these systems, except system no. 2, is purchased from the Maritime Electric Company at a contract price as agreed upon in the contract between the Maritime Electric Company 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 installations which require an enlargement of circuits must be paid for by the City both labour and material.

This above mentioned contract does not apply to system no 2. These 14 multiple fixtures on Queen Street are, as I stated previously, owned and maintained by the Maritime Electric Company at a cost of \$75.00 each per year to the City.

The street lighting costs for the year 1940 are as follows:-

Expenditure.....	\$8,123.25
1940 Appropriation.....	<u>7,500.00</u>
Dr. Balance.....	\$ 623.25

This Expenditure is made up as follows:-

Lamps for replacement:-

1)	36-600 C.P. lamps at \$1.68.....	\$ 60.75
	401-250 C.P. lamps at 97½¢.....	391.05
	14-150 W. lamps used in Subway.....	4.20
2)	Current on Subway lighting, armoury lights, and series fixtures from Nov. 28/39 to Nov. 30/40 (226,121 K.W.H.).....	6124.43
3)	Charges on multiple fixtures installed on Queen Street at the contract price of \$75 a light per year.....	1050.00
(4)	Maintenance, labour as per contract price.....	330.96
(5)	Material purchased for new installation and maintenance of lamp fixtures (including only such articles as lamp standards, lamp brackets, heads, sockets, shades, etc.).....	110.60
(6)	Material used and extra labour supplied by Maritime Electric Company in line maintenance extension.....	25.89
(7)	Miscellaneous charges.....	15.41
(8)	Telephone in transformer room.....	9.96
	Total.....	\$8123.25

The total per capita charge for street lighting for 1940 assuming population of 11,000 persons $\frac{8123.25}{11000} = 73.8\text{¢}$

**TABLE SHOWING CURRENT CHARGES FOR 1940
ON SERIES LIGHTING**

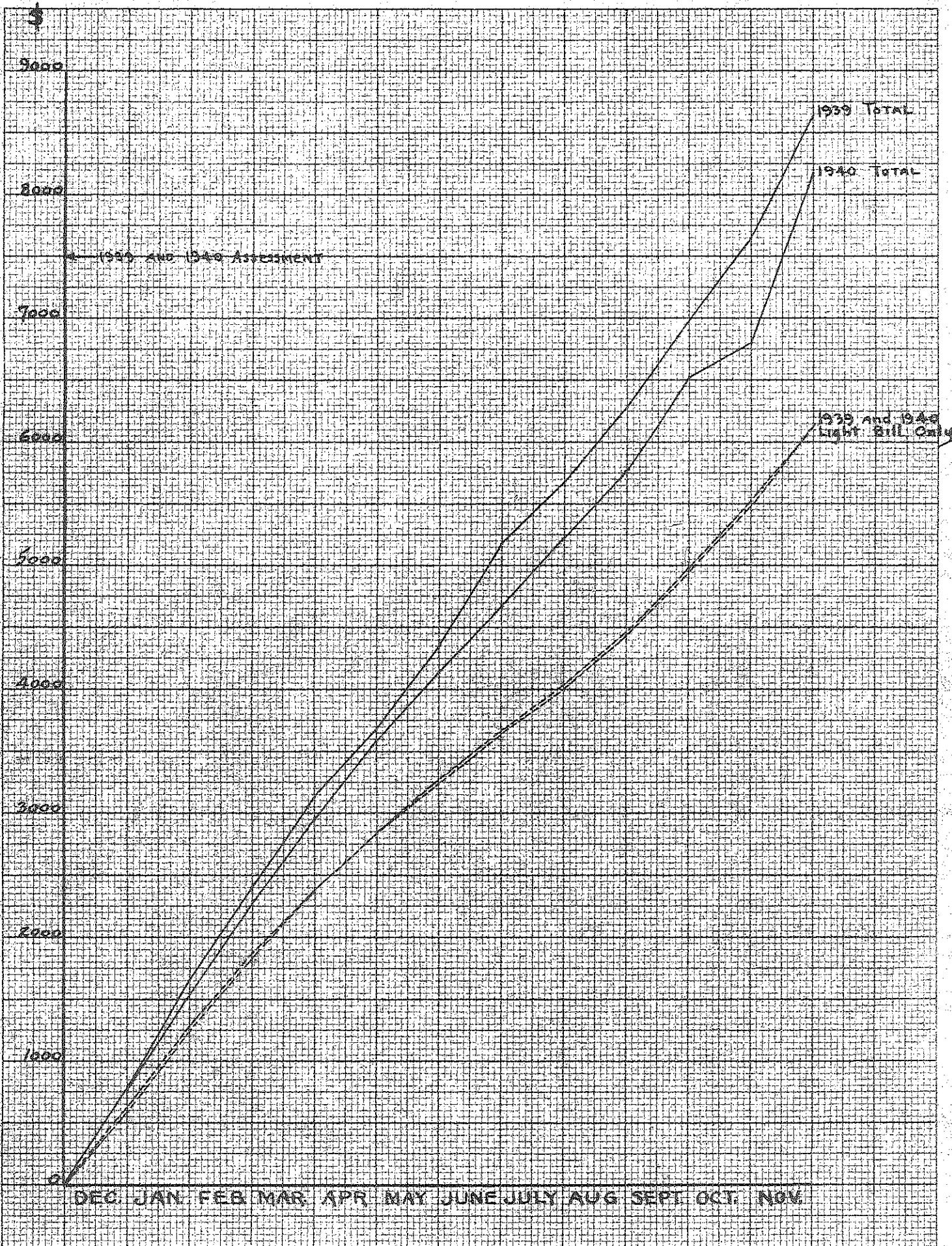
Date of Bill	K.W.H.	Demand in K.W.	Average No. of burning hours per Night	Bill per Month	Billing Period
Nov. 28/39					
to Dec. 28/39	23,230	58.9	14 $\frac{3}{4}$	597.52	443
Dec. 28/39					
to Jan. 31/40	25,809	60.2	14 $\frac{1}{2}$	653.11	493
Jan. 31/40					
to Feb. 29/40	22,912	59.6	13	593.01	377
Feb. 29/40					
to March 29/40	19,239	58.9	11 $\frac{1}{4}$	517.74	326
March 29/40					
to Apr. 30/40	17,140	58.9	9 $\frac{1}{2}$	475.82	304
Apr. 30/40					
to May 31/40	14,635	58.9	8 $\frac{1}{2}$	425.75	264
May 31/40					
to June 28/40	13,289	58.9	7 $\frac{1}{4}$	397.15	203
June 28/40					
to July 31/40	12,801	56.9	7 $\frac{1}{2}$	383.57	248
July 31/40					
to Aug. 30/40	14,716	58.9	8 $\frac{3}{4}$	425.59	263
Aug. 30/40					
to Sept. 30/40	18,380	62.9	10 $\frac{1}{2}$	511.93	315
Sept. 30/40					
to Oct. 31/40	21,121	59.6	12	554.43	372
Oct. 31/40					
to Nov. 30/40	22,849	59.6	13 $\frac{1}{2}$	588.81	405
	226,121			\$6124.43	4013

TABLE SHOWING COMPARATIVE YEARLY COSTS IN STREET LIGHTING

Year	Total Yearly Cost	Yearly Appropriation
1927	\$8,088.41	\$ 8,000.00
1928	7,323.41	7,000.00
1929	7,434.72	7,000.00
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	9,688.62	7,000.00
1938	8,314.06	9,000.00
1939	8,645.97	7,500.00
1940	8,173.25	7,500.00

A graphic comparison of 1939 and 1940 street light expenditure and power cost is shown on the following plate; the curve for power cost includes the bill for the series lighting and the lighting of the Subway and Armoury Parade Ground only, and does not include the bill for the multiple fixtures installed on Front Street and owned by the Maritime Electric Company.

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STREET LIGHT COSTS 1939 AND 1940

CEMENT WALKS

Gross Expenditure.....\$561.77

There were only two pieces of new concrete sidewalk put in this year:- one on the east side of Allen Street between George and Brunswick Streets; and the other a 4-foot walk on the east side of Regent Street between Queen and Campbell Streets.

Besides the above mentioned new construction, all our cement walks were examined and repaired where necessary.

Following is a map showing the cement sidewalks made this year in red and those made in previous years in blue.

F R E D E R I C T O N

Concrete Walks Laid Previous
Concrete Walks Laid 1940 1940

212

Scale length equals 800 ft.

CITY ENGINEER'S OFFICE
FREDERICKTON N.B.
DEC 1939

SEWERAGE DOMESTIC

Gross Expenditure.....	\$3414.31
Credits.....	1152.86
Net Expenditure.....	<u>\$2261.45</u>

The credit of \$1152.86 is made up of work done on the domestic sewerage for private parties. This work consists of all sewerage installation and sewerage maintenance other than that done on the principal sewerage main which serves the street.

Two sewerage extensions were made this year; one on Victoria Street between Northumberland and Smythe Streets, where the sewer was extended a distance of 297 feet, and the other on Smythe Street where the sewer was extended for a distance of 360 feet beginning just north of the Valley Railroad Track and extending south under the track and along Smythe Street to a point about 145 feet south of Victoria Street. Both these extensions were made with 8" terra cotta pipe.

The entire domestic sewerage system was flushed out once during the summer between July 17th and 26th at a labour cost of \$119.15.

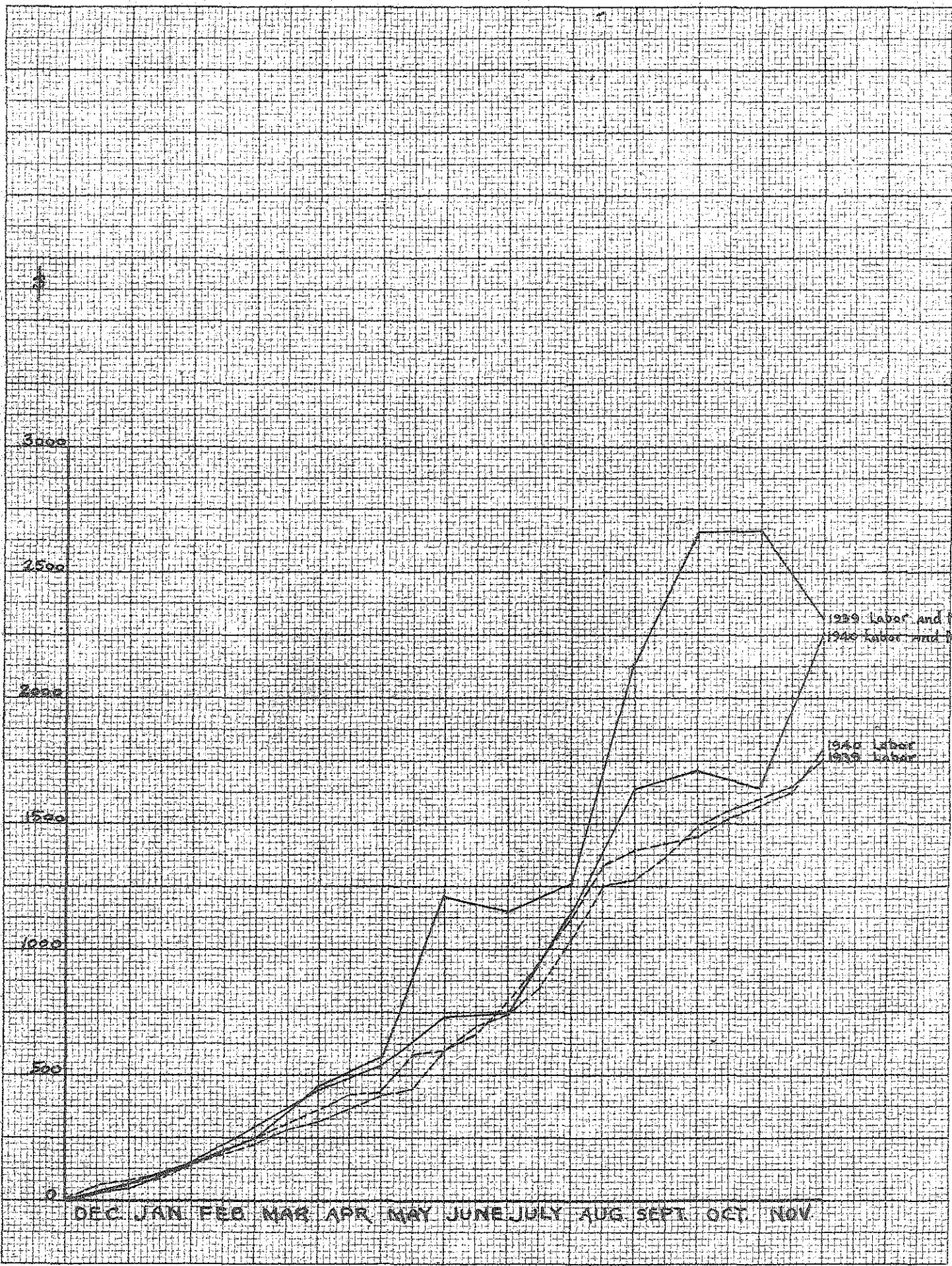
The number of new customers connected with the City sewerage system this year.....	24
Old sewerage connections dug out and relaid.....	5

This year the Military Department at Training Centre No. 70 constructed a sewerage system to handle this training camp. The Military Authorities constructed this system at their own expense. It was connected to our City sewerage system by three 8" leads, one on Saunders Street and two on Smythe Street, and by one 6" lead on Smythe Street which took the sewerage from the supply depot only. These connections to the City mains were made by the City crew but paid for by the Military Department. All the sewerage systems inside the Military grounds were constructed by the Military Department themselves.

We have on file a plan showing the locations of this Military Training Centre sewerage system.

A graphic comparison for domestic sewerage costs for 1939 and 1940 is shown on the following plate:-

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SEWERAGE DOMESTIC COSTS 1939 AND 1940

110
The number of new customers connected with
City sewerage system this year. 13
Old sewerage connections dug out and relaid 6
Total = 19

WATER

The expenditure in this department is 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. The expenditure under this heading is made up as follows:-

Gross Expenditure.....	\$6939.97
Credits.....	808.48
Net Expenditure.....	<u>\$6131.49</u>

The credits are made up of work done for and materials sold to private parties when installing a water service over grounds other than city property or when the material is to be used on parts of systems which do not belong to the City.

Among the above credits appears an item of \$450.48 which was the cost of putting in a lead to a sprinkler system at the Queen Hotel, and an item of \$157.55 which was the cost of putting in a sprinkler system at the McMurray Book and Stationery Company. The difference in the cost of these two jobs which were practically the same type of construction is accounted for partially by the fact that the Queen Hotel job was done in winter and the McMurray job was done in the spring, and also because on the McMurray job some of the material was supplied by the customer.

The gross expenditure is made up as follows:-

City Payroll for hydrants.....	\$ 292.36
City Payroll for meters.....	1365.36
City Payroll for water ordinary.....	2574.03
Total Payrolls.....	4231.75
Material and other charges.....	2708.22
Gross Expenditure.....	<u>\$6939.97</u>

Hydrants:-

We have in the City 148 hydrants plus two hydrants which were installed by the Military Department at No. 70 Training Centre, which makes in all 150 hydrants which must be maintained by the City crews.

The labour costs show us an average cost per hydrant for labour only of \$1.95.

Meters:-

Of all our water service in the City 540 are charged under flat rate and 1110 are on meter, giving us altogether 1650 services.

The labour cost this year per meter for installing, reading, repairing, etc., is \$1.23.

Seventy meters were found stopped this year and had to be repaired.

All meters were read four times a year but bills are only sent out twice a year. We have about 40 customers whose

meters are read once a month although they also are billed only twice a year. These are 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.

Meters in service 1939.....	1097
Services metered for first time 1940.....	<u>15</u>
Total.....	1112
Meters taken off service in 1940.....	2
Services on meter Nov. 1940.....	<u>1110</u>

Meters in store room January 1, 1941:-

5/8 meters repaired and fit for service.....	2
5/8 meters that can be repaired and made fit for service.....	6
New 5/8 meters.....	2
3/4 meters fit for service.....	0
1 inch meter that can be repaired.....	1
New 1 inch meters.....	5
1½ inch meters fit for service.....	0
Compound meters fit for service.....	0
Compound meters not fit but which can be repaired.....	1

The City purchased 25 new meters this year.

5 - 5/8" x 3/4" Trident cold water meters with $\frac{3}{4}$ " connections, straight reading	
Imperial gallons, each \$12.90	\$64.50
Meter Nos. 5,954,661-665	
20 - 1" x 1 $\frac{1}{4}$ " Trident cold water meters with 1 $\frac{1}{4}$ " connections, straight reading,	
Imperial gallons, each \$28.20	564.00
Meter Nos. 5,954,666-685	
Tax 8%	\$628.50
	50.28
	<u>\$678.78</u>

These previous cost figures do not include the new water system put in by the Military Authorities for Military Training Centre No. 70. This military system consisted of 2350 lineal feet of 6" water main which was laid in the Military Training Centre by the Military Authorities. This system was cut into the City water system on Saunders Street and on Smythe Street, the City crews making the connection and the Military Authorities paying the cost of the connection. The water was turned on this system during September but no charge was made to the Military Authorities until the latter part of November when the meters were installed on all huts in the Military Training Centre having a water connection.

DISTRIBUTION SYSTEM

New water services installed this year.....	22
Old water services relaid this year.....	22
Frozen services which had to be thawed.....	21
Services discontinued	2

We had in this City on the 30th day of November, 1940, 1650 water services of which 1110 are on meter and 540 flat rate.

The Fredericton distribution system consists of 16.71 miles of water main made up of the following sizes:-

10 inch main.....	1.53 miles
8 inch main.....	4.21 miles
6 inch main.....	9.09 miles
4 inch main.....	1.60 miles
3 inch main.....	.28 miles

The water mains as a whole were not flushed out this year other than the flushing they received due to the watering carts, sewer flushing, etc. The dead ends were flushed.

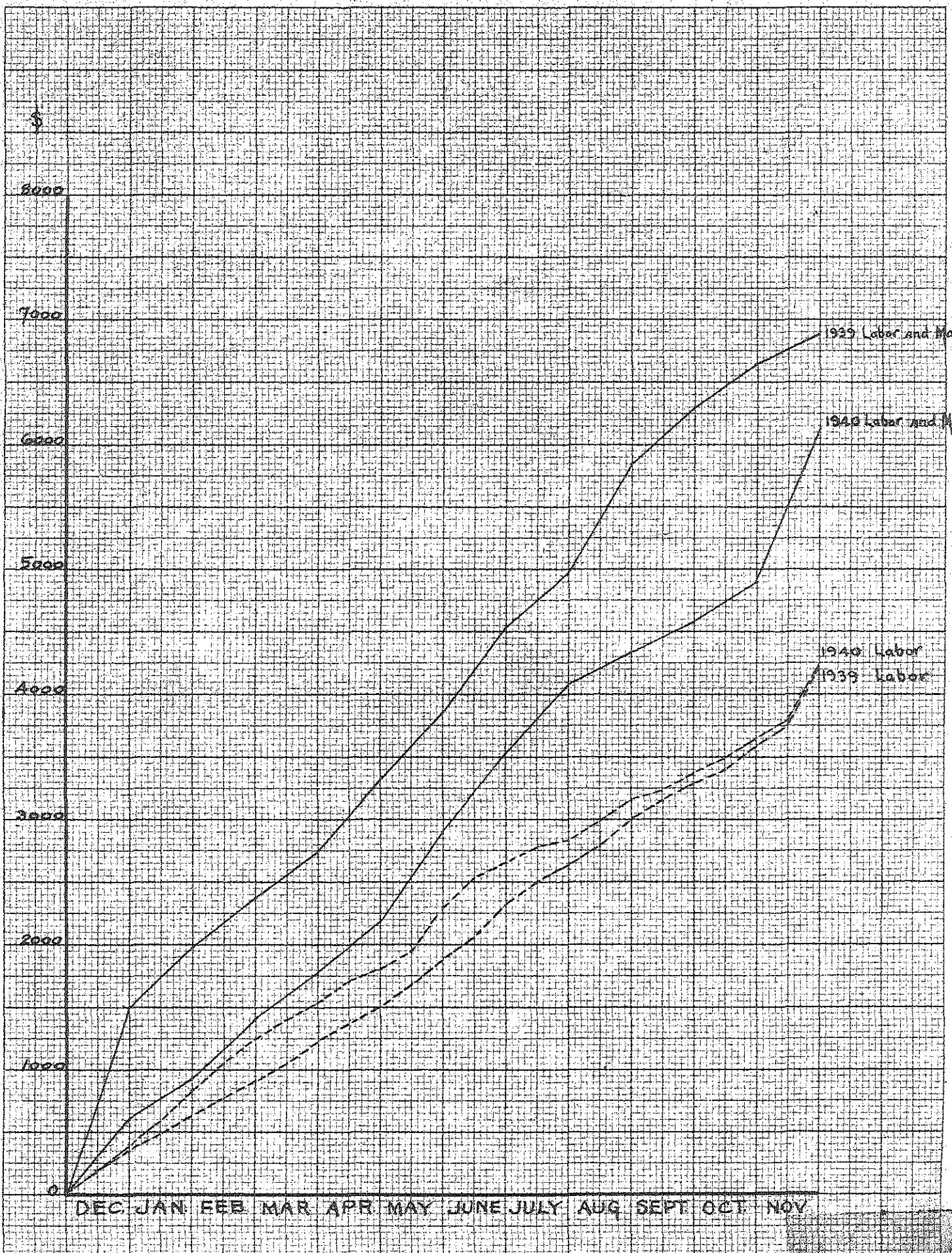
On March 6th the 6" water main on Waterloo Row below Alexandra Street was found to be frozen. It was thawed by the electric thawing machine.

TABLE SHOWING COMPARATIVE YEARLY COSTS
WATER ORDINARY

Year	Labour	Material	Gross Expenditure	Credits	Net Expenditure
1929	3,236.77	2,203.13	5,439.90		5,539.90
1930	3,647.97	2,313.18	5,961.15		5,961.15
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	4,112.34	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	7,636.70
1937	3,718.86	3,938.81	7,657.67	256.46	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

A graphic comparison of expenditure on water ordinary for years 1939 and 1940 is shown on the following plate:-

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WATER PUMPING STATION

The water pumping station was as usual carried on this year under the Plant Superintendent and Chief Engineer John Malloy.

During the year only one new installation was made. In the filter room the heating system was changed from a radiating system made up of $1\frac{1}{2}$ " pipe to a new radiating system made up of four cast iron radiators. These radiators were purchased secondhand and the change over was made by the pumping station employees. The purchase price of these secondhand radiators was \$35.00.

The plant and equipment have been kept up by the water-works employees in a satisfactory manner during the season, and a good pure water has been at all times delivered to the customers.

The death of Dr. H.H. Hagerman, our City Analyst, necessitated the appointment of a new official. The City was fortunate in obtaining the services of Mr. E.H. Hagerman, who is the son of the late Dr. H.H. Hagerman, to carry on with his father's work as City Analyst.

The ice ran out on April 14th. On April 15th it was noticed that no water was coming into our intake pipe from the pier in the river. We believed that the run of ice must have broken off and plugged this intake pipe.

We obtained a temporary water supply by digging an open ditch and allowing the river water to run directly into the deep water well. In order to do this it was necessary to cut through about 30 feet of frozen bank and also to cut down through the $2\frac{1}{2}$ -foot stone and brick wall of the deep water well. This open ditch had to be kept down as the river lowered. The men worked at this ditch during the day and we pumped the water from the river into the deep water well with a 4" centrifical pump which we hired from the Liquor Commission. During the night the pump was stopped and the water ran in through the open ditch.

On April 19th we were able to procure the services of a diver from St. John. However, on account of the heavy run of ice in the river, he was unable to go down to inspect the intake pipe until April 23rd. Upon inspection it was found that the intake pipe had been broken off and plugged by the ice run. The diver cleaned out the end of the pipe and capped it with a temporary cap and strainer which we had made up for the purpose. At five o'clock on April 25th the diver had completed his work and we were once more getting water through the broken intake pipe.

We carried on through the broken intake pipe until September 13th at which time the water in the river being low we made repairs to the intake pipe. With the aid of a diver we installed a new section to replace the one broken out and again hooked up with our intake pier in the river. The new intake pipe was covered with loose rock to prevent a recurrence of this accident. At the same time major repairs were made to the guard pier in front of the intake pier. This pier was retopped with concrete and a concrete wall was run on the north side of the pier. At the same time we put in an emergency intake pipe made up of 10" cast iron

pipe. This we ran in the bottom of our open ditch, which had been left open for this purpose, to a concrete intake built on the river bank to take water at an elevation of 7.8. This emergency intake line is shut off by a 10" gate located in the deep water well. The total cost of this work necessitated by the break in the intake pipe was \$4195.98. This cost includes both labour and material.

This cost is included in Item # 10 on page 26.

The following is the report of the City Analyst for the year 1940:-

FREDERICTON WATER SUPPLY - YEAR 1940

Total count of Bacteria per c.c., Agar, two days, room temp.

Dates of Tests		Raw Water	Effluent	Tap Water	Per Cent Removal
1940					
January	10	4000	3		99.9
"	14	130	3	1	97.7
"	24	500	6	2	98.8
February	8	2000	1		99.9
"	15	1400	1	3	99.9
"	26	230	1	0	99.6
March	11	2200	2	2	99.9
"	22	260	3	2	98.9
April	7	6000	2	1	99.9
##April	16	13000	0	2	100.0
##April	23	3000	1	2	99.9
May	14	650	0	2	100.0
"	28	600	1	1	99.9
June	11	240	0		100.0
"	17	480	5		99.0
July	16	100	1		99.0
"	30	300	4		98.7
August	26	150	0	2	100.0
September	4	1100	1	3	99.8
"	11	154	1	2	99.4
"	19	1300	3	3	99.0
"	27	1170	9	9	99.4
October	6	140	3	6	97.8
"	17	132	0	2	100.0
"	23	434	1	3	99.5
November	3	1600	10	14	99.4
"	13	1100	4	2	99.6
"	21	990	25	10	97.5
"	30	804	2	0	99.7
December	5	800	1		99.9
"	13	414	2	1	99.5
		45378	96	75	
	Averages..	1460	3	3	99.8

Results of Previous Years

1933	2525	3.7	4.7	99.8
1935	2197	2.4	3.2	99.9
1936	2218	2.7	3.3	99.9
1937	1827	1.9	3.3	99.9
1938	1738	2.1	2.4	99.9
1939	1822	1.2	2.3	99.9

Intake pipe broken. Water let to well through open ditch, extremely muddy, etc.

Data up to and including July 30th. taken from the records of the late Dr. H.H. Hagerman.

Water Pumping Station Cost 1940:-

Gross Expenditure.....	\$22,503.35
Credits.....	3,604.61
Net Expenditure.....	\$18,898.74

This credit of \$3,604.61 is made up as follows:-

23.67 tons of coal charged to pumping station and sold to other City Departments.....	\$ 118.35
Water used by Roads and Streets Dept. (to sprinkle and flush sewers).....	100.00
Water charged to Sewerage Domestic for flushing domestic sewers.....	70.00
Water used in City Hall Building.....	50.00
Water used in old street lighting building on Carleton Street.....	25.00
Water used in City Yard.....	10.00
Water used in City Alms House.....	25.00
Water used in City Parks.....	50.00
Workmen's Compensation (paid by pumping station which should have been charged to other Dept). .	91.95
Electric power used by Victoria Public Hospital and paid for by water pumping station.....	97.18
Material used by water ordinary and paid for by water pumping station.....	7.07
To yearly rental on 148 hydrants at \$20.00.....	2960.00
	\$3604.61

The Gross Expenditure is divided as follows:-

City Payroll for salaries of engineer at pumping station.....	\$5,580.00
Work done by other City employees in and around pumping station. <i>Exclusive of Item #10</i>	147.74
Total City Payrolls.....	\$5,727.74
Material and Workmen's Compensation charge.....	16,775.61
Gross Expenditure.....	\$22,503.35

The material cost of \$16,775.61 is itemized as follows:-

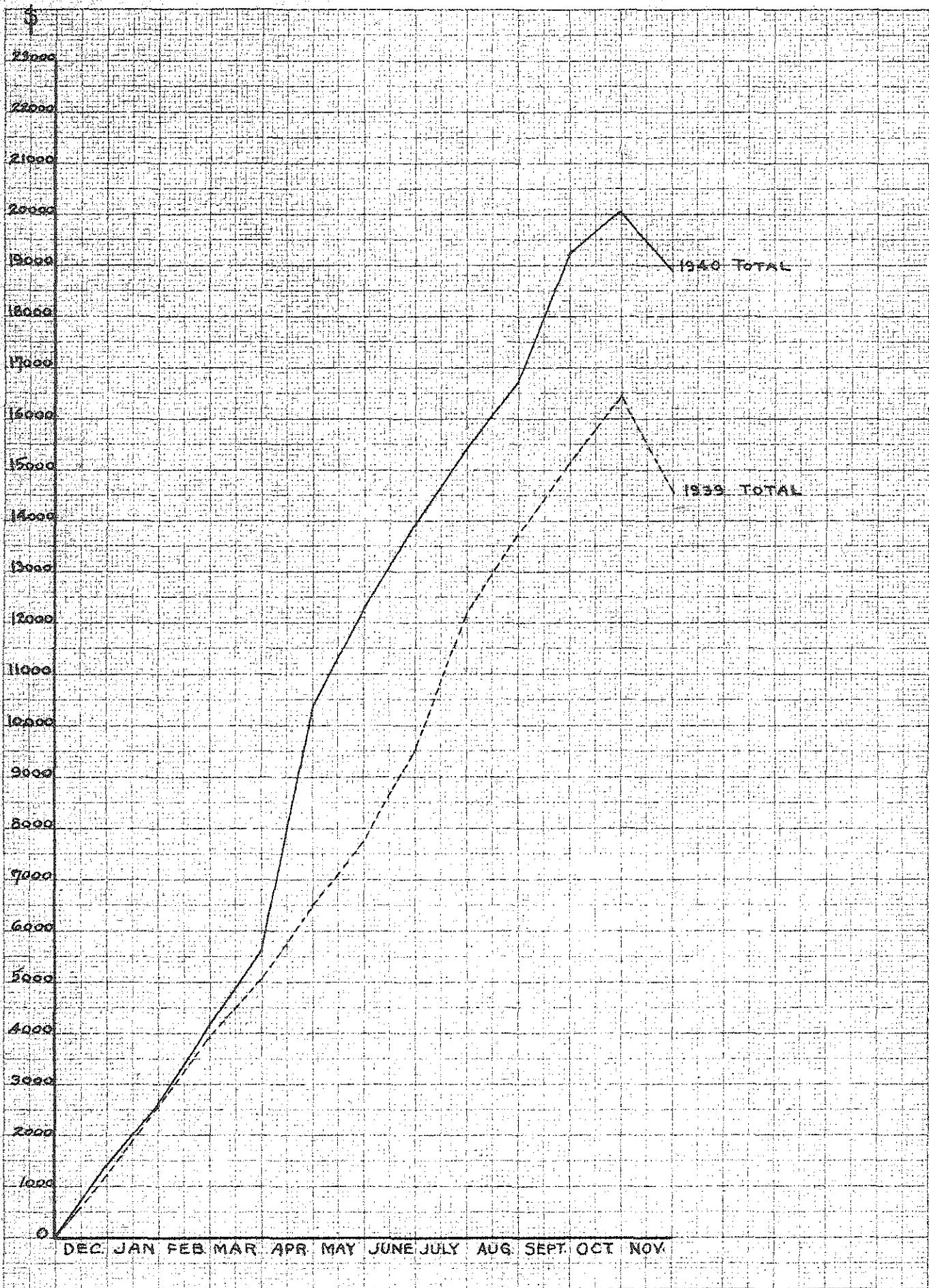
Item #1 Light supplied and power supplied by Maritime Electric Co. 343174 K.W.H.....	\$7,926.20
Item #2 Transformer charges.....	126.60
Item #3 Lime, 6000 lbs.....	237.62
Item #4 Alum, 89,600 lbs.....	1,415.68
Item #5 Coal, 219 tons (23.67 tons of preceding amount sold to other City Departments)....	1,070.98
Item #6 Fuel Oil.....	0.00
Item #7 Engine Oil, 260½ gals. Renown.....	163.95
Item #8 Motor Oil.....	0.00
Item #9 Gasoline, 125 gals.....	32.50
Item #10 Maintenance and repairs of the building and machinery.....	4,332.61
Item #11 New Installations.....	35.00
Item #12 Supplies, packing, rags, etc.....	64.48
Item #13 Stationery, forms, charts, etc.....	28.35
Item #14 Workmen's Compensation Board.....	190.52
Item #15 Dr. Hagerman's and Mr. E.W. Hagerman's salaries.....	937.50
Item #16 Hoisting Chemicals.....	76.00
Item #17 Miscellaneous, telephone, etc.....	137.62
	\$16,775.61

**COMPARISON OF WATER PUMPED AND COSTS
FOR THE LAST FOURTEEN YEARS**

Year	I. G. Water Pumped	Yearly Gross Expenditure at Pumping station	Total Yearly Water Costs (Net Expen- diture of Station Water Ordin- cost per 1000 Gals. Expenditure (using Gross of Water Pump Expenditure) Station)			Total Yearly Cost per One thous- and Gal- lons
			Pumping Station	1000 Gals.	Expenditure (using Gross Expenditure)	
1927	198,168,000	18,040.65	9.10	cents	\$24,636.62	13.0 cts.
1928	192,890,000	18,245.05	9.46	cents	26,122.73	13.5 cts.
1929	195,590,000	17,722.44	9.00	cents	32,142.34	16.4 cts.
1930	204,405,000	16,791.22	8.21	cents	22,752.37	11.1 cts.
1931	187,164,000	16,425.55	8.8	cents	24,559.10	13.0 cts.
1932	171,032,000	16,915.58	9.9	cents	21,313.47	12.5 cts.
1933	175,050,000	16,483.67	9.5	cents	20,390.82	11.6 cts.
1934	202,720,000	15,999.50	7.9	cents	22,468.12	11.1 cts.
1935	197,641,000	16,251.61	8.1	cents	27,123.25	13.6 cts.
1936	193,450,000	17,189.21	8.8	cents	24,825.91	12.6 cts.
1937	187,008,000	19,678.21	10.5	cents	27,079.42	14.5 cts.
1938	181,558,000	19,239.49	10.6	cents	26,138.53	14.4 cts.
1939	199,662,000	18,144.43	9.1	cents	25,023.84	12.5 cts.
1940	203,975,000	22,503.35	11.3	cents	28,634.84	14.0 cts.

All these preceding costs shown under water pumping station and water ordinary do not include the costs 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 following chart gives a graphic comparison of water pumping station costs for the years 1939 and 1940.



WATER PUMPING STATION COSTS 1939 AND 1940.

Table compiled from Daily Pumping Station Charts
Year 1939, showing water pumped and material
and machinery used in pumping

Total Hours Month of Month	Gallons Water Pumped	Coal Lbs.	K.W.H. Eng.	Hours Supplied by Meri- Oil	Power Hours run	Low		Lift Pump		Service Pumps	
						#1	#2	Hours run	#1	Motor	Hours run
						Motor	Steam	Eng.	Motor	Motor	Eng.
744	December/39	16,020,000	56,400	37,341	744	568 $\frac{3}{4}$			45"	744	744 $\frac{3}{4}$
744	January/40	16,70,000	67,800	21,471	744	595				50"	696
696	February/40	15,025,000	60,600	30,015	696	542				227	517
744	March/40	16,490,000	56,600	28,462	744	592 $\frac{3}{4}$				400-50"	441 $\frac{1}{2}$
720	April/40	16,150,000	57,400	27,362	720	354 $\frac{1}{2}$				302 $\frac{1}{2}$	321 $\frac{1}{2}$
744	May/40	17,800,000	55,800	28,323	744	205 $\frac{3}{4}$				24 $\frac{1}{2}$	720
720	June/40	17,310,000	38,700	28,600	720	329 $\frac{1}{2}$				1-20"	1-45"
744	July/40	17,720,000	6,300	272,00	744	584 $\frac{1}{4}$				744	721 $\frac{1}{2}$
744	August/40	18,570,000		29,000	744	705				45"	719 $\frac{1}{4}$
720	September/40	16,675,000		28,800	100	620				2-40"	744
744	October/40	18,430,000		37,200	29,600	625 $\frac{3}{4}$				6-45"	720
720	November/40	17,015,000		47,300	27,700	591 $\frac{1}{2}$					
8784		203,975,000	512,900	343,174	8783 $\frac{1}{4}$	2 $\frac{1}{2}$	2936	4230 $\frac{1}{2}$	5"	947.25	7833

At the conclusion of this report I am inserting the following table:-

TABLE SHOWING PRINCIPAL PURCHASES OF MATERIAL USED BY DEPARTMENTS HERE BEFORE MENTIONED

Material	Amt. Purchased in 1940	Average Price f.o.b. F'ton	Amount now in Stock
4" Soil Pipe	95 feet	45¢ per foot	
4" Terra Cotta Pipe	0		
5" Terra Cotta Pipe	1482½ feet	30¢ per foot	97 joints @ 2' - 194 feet
6" Terra Cotta Pipe	144 feet	39¢ per foot	
8" Terra Cotta Pipe	1082 feet	42½¢-55¢ per ft.	114 jts. @ 2½' - 285 ft.
10" Terra Cotta Pipe	307½ feet	57½¢ per foot	7 jts. @ 2' - 14 feet
12" Terra Cotta Pipe	0		
15" Terra Cotta Pipe	0		
20" Terra Cotta Pipe	0		
24" Terra Cotta Pipe	0		
10" Corrugated Iron Pipe	0		
12" Corrugated Iron Pipe	26 feet	\$1.57 per foot	
18" Corrugated Iron Pipe	30 feet	\$2.05 per foot	
24" Corrugated Iron Pipe	74 feet	\$3.25 - \$3.62 per ft.	
30" Corrugated Iron Pipe	0		
36" Corrugated Iron Pipe	0		
Portland Cement	901 bags	70¢ per bag	
Dynamite 50%	2 sticks $\frac{3}{4}$ lb.	45¢ per lb.	
Brick	9900	\$16.00 per 1000	
Stone Trap Rock	234 tons		
Gravel (Pit)	1783½ yds.	85¢ del. on job	
Calcium Chloride	26 bags	\$2.16 per bag	
7' Road Machine Blades	25	\$8.68 per blade	19 blades
Lime	6000 lbs.	\$3.96 f.o.b. F'ton	3 drums
Alum	89,600 lbs.	44.80 tons. \$1.58 f.o.b. F'ton	36,500 lbs.
Coal	533.65 tons	\$5.10-\$4.75 per ton	
Colas	675 gallons	20¢ per gallon	
Tarvia	0		
Light Tar or Asphalt R.C.3	6368½ gals.	15.7¢ per gal.	
Asphalt Primer	450 gal	13.5¢	
5/8 Copper Tubing	1200 feet	13.9¢-15.7¢ per ft.	
¾" Copper Tubing	660 feet	19.2¢ per foot	
1" Copper Tubing	132 feet	35.6¢-43.6¢ per ft.	
10" Cast Iron Pipe	8550 lbs.)		1 jt. - 12 feet
8" Cast Iron Pipe	2540 lbs.)	\$82.56 per net	4 jts. - 48 feet
6" Cast Iron Pipe	4255 lbs.)	ton	10 jts. - 120 feet
4" Cast Iron Pipe	1135 lbs.)		2 jts. - 24 feet
Fittings for above 10-8-6-4			
16" Cast Iron Water Pipe	47 feet	\$8.27 per foot	
¾" Galvanized Pipe	26' 5"	\$9.48 per foot	
1" Galvanized Pipe	4 feet	18¢ per foot	
1½" Galvanized Pipe	121 feet		
2" Galvanized Pipe	30 feet	29.66¢ per foot	
Lumber	17500 Bd ft	25 to 34.	
Lead	608 lbs.	\$8.75 per 100 lbs.	
1 Studebaker Champion Custom Coach		\$1100.00	
1 International Truck ½ Ton		\$1265.00	
1 G.M.C. Truck 2½ Ton		\$1348.00	
Catch Basin Frame & Cover	6	23.14	
H.H.L. Frame & Cover	6	22.40	

Original

Installation of Water Services	Year	1940
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Dec. 26, 1939)	Sprinkler System for Provincial Government,	
to)		
Jan. 5, 1940)	Liquor Commission, Queen Street,	
May 6 - 15, 1940	Royal Ryan, 299 University Ave.	New
May 8 - 13 "	A. J. Gunter, 251 Woodstock Road	New
May 13 - 14 "	Kitchen, 345 Saunders At.	New
May 13 - 14 "	Samuel Brown, Charlotte St.	New
May 14 - 15 "	Roberts, 167 Argyle St.	Relay
May 14 - 16 "	Allan Dunn, 671 Albert St.	New
May 16 - 17 "	Palmers, 334 Northland St.	Relay
May 16 - 18 "	Gillis, 554 Aberdeen St.	Relay
May 18 - 20 "	Mrs. Morton, 450 George Street	Relay
May 20 - 24 "	Sprinkler System for Mr. McMurray , Book and Stationery Store, Queen Street	
May 27 - 28 "	Donovan, Needham Street	New
May 24 - June 8	Water Main, on Alexandra Street	Repairs
May 28 - June 4	Beaverbrook Bld'g, University Ave.	New
June 3 - June 4	Dr. Ross Wright, Alexandra St.	New
June 7 - June 8	Morrell, 159 Saunders St.	Relay
June 10 - June 11	Glasgow, 376 King Street	Relay
June 10	Kitchen, 286-8 Queen Street	Relay
June 10 - June 11	George Thompson, 55 Regent Street	Relay
June 11 - " 12	Wm. Kinghorn, 206 Smythe Street	Relay
" 12 - " 14	Mrs. McKnight, University Ave.	New
" 18 - " 19	Ashley Colter, 480 King Street	Relay
" 20 - " 21	Mrs. Dayton, 148 George Street	Relay
June 21 - 24	Miss Ladds, Aberdeen St.	Relay
July 3 - 6	Mrs. Calder, 426 George Street	Relay
" 3 - 6	Wilfred Gorman, 276 King Street	Relay
" 6 - 9	H. Habblewhite, 578 Windsor Street	New
July 9	Thos. Jones, Scully Street	New
July 9 - 11	Allen O'Leary, Albert Street	New
July 9 - 12	Fred Ames, Graham Lane	New
" 10 - 13	Apple Exchange Co. Regent St.	New
" 18 - 19	Tomilson, Woodstock Road	New
" 20 - 22	Vandine, 138 Brunswick St.	New
" 20 - 22	Smith, 554 Brunswick St.	Relay
" 29 - 31	McNair, Union St.	New
Aug. 7 - 10	Hagerman, 299 Smythe Street,	Relay
" 16 - 17	Dr. Smithers, Grey Street	new
Sep. 6 - 7	Dep't. of Nat. Defence Saunders St.	New

Installation of Water Services Year 1940

Sep. 27 - 28	1940	Monsignor Carney.	Brunswick St	Relay
Sep. 30 - Oct 1	"	Buzzells, (Dye Works)	Queen St.	New
Oct 9 - 10	"	Convent,	Brunswick St.	Relay
Exxx Oct				
Oct. 21 - 23	1940	Mrs. Allen,	Albert Street	New
Oct. 28 - 29	"	McCrae,	217 St. John St.	Relay
" 29 - 30	"	Morrison, (Cor. Geo. & University Ave.)	Relay	
- 31 -	-	Tewett,	162 Regent St	<u>Relay</u>
Nov. 13 - 15	-	Hughes, Tom.	266 Woodstock Rd	New
Nov 20 - 21	-	Arbeam,	52 Shore St	<u>Relay</u>

Installation of Domestic Sewer Services Year 1940

May 6 - 15	1940	Royal Ryan,	299 University Ave,	New ✓
May 8 - 13	"	A. J. Gunter,	251 Woodstock Road	New ✓
May 13 - 14	"	Kitchen,	345 Saunders St.	New ✓
May 13 - 14	"	Samuel Brown,	Charlotte St.	New ✓
May 14 - 16	"	Allan Dunn,	671 Albert St.	New ✓
May 27 - 28	"	Donovan,	Needham St.	New ✓
May 28 - June 4	"	Beaverbrook Bldg,	University Ave.	New ✓
June 3 - 4	"	Dr. Ross Wright,	Alexandra St.	New ✓
June 7 - 8	"	A. Tracey,	Carleton Street	New ✓
June 11 - 12	"	Jennings,	369 Charlotte Street	Dug Out
June 12 - 14	"	Mrs. G. McKnight,	University Ave.	New ✓
June 12	"	Kilburn,	173 Brunswick St.	Dug Out
June 18 - 19	"	McNaughton,	267- 9 Bruns St.	Dug Out
June 20	"	Phair,	324 King Street	Dug Out
June 21 - 24		Miss Ladds	Aberdeen St.	Dug Out
June 25 -		Installation of Main Sewer	Victoria St.	Extension
July 6 - 9		H. Heblewhite,	678 Windsor St.	New ✓
July 9		Thos. Jones,	Scully St.	New ✓
July 9 - 11		Allen O'Leary,	Albert St.	New ✓
July 9 - 12		Fred Ames,	Graham Lane	New ✓
" 18 - 19		Tomilson,	Woodstock Road	New ✓
" 29 - 31		McNair,	Union St.	New ✓
Aug. 1 - 3		Mrs Todd,	682 Bruns. St.	New ✓
Aug. 14 - 19		For Dep't of Nat. Defence	Smythe St	New ✓
" 16 - 17		Dr. Smithers,	Grey Street	New ✓
Oct. 1 - 2		Nat. Defence	Smythe St.	New ✓
" 2 - 3		John Dunlop	Smythe St.	New ✓
Oct. 7		David Bird,	Smythe St.	New ✓
Oct. 21 - 23		Mrs. Allen,	Albert St.	New ✓
Nov. 13 - 15		Hughes, Tom.	266 Woodstock Rd	New ✓

Domestic Sewerage				Steam Thawing Machine	
Jan.	24.	1940	Imperial Oil Co.	Regent St.	3.30
"	25	"	Boyce, Robert	Beaverbrook St.	6.60
"	29	"	Imperial Oil Co.	Regent St.	3.10
Feb.	1	1940		Argyle St.	
"	1	"		Campbell St. } 12.00	
Feb.	2	1940	Boyce, Robert	Beaverbrook St. }	14.40
"	2	"	Main Sewer	Alexandra St. }	
Feb.	3	1940		Argyle St. }	14.40
"	3	"	Shatford,	Victoria At. }	
Feb.	5	1940	Rossborough,	Argyle St.	4.60
Feb.	8	1940	Imperial Oil Co.	Regent St.	3.00
Feb.	9	1940	Hanson,	Argyle St.	3.00
Feb.	16	1940	Rossborough,	Argyle St. }	7.40
"	16	"	Boyce, Robert	Beaverbrook St. }	
Feb.	17	1940	Boyce, Robert	Beaverbrook St. }	7.00
"	17	"	Tompkins,	Argyle St. }	
Feb.	19	1940	Boyce, Robert	Beaverbrook St.	8.80
Feb.	20	1940	Boyce, Robert	Beaverbrook St. }	8.60
"	20	"	Shatford.	Victoria St. }	
Feb.	26	1940	McLean,	Argyle Street	2.90
March	3	"	Main Sewer	Victoria St.	5.80
March	4	"	Main Sewer	Victoria St.	7.50
March	6	"	U. N. B. Arts Bldg,		
"	6	"	Imperial Oil Co.	Regent Street }	6.20
March	8	"	Rossborough	Argyle Street	3.20
March	21	"	Main Sewer	Winslow St.	13.60
April	8	"	Main Sewer	McLeod St.	4.50

139.90

Year 1940

	Water Services		Steam Thawing Machine	
Jan.	29,	1940	R.C. Church, Vernon Fisher,	Brunswick St.) Alexandra St.) 8.50
"	29	"		
Feb.	5	1940	Bishop of F'ton	Church St. 2.70
"	6	"	Gunters,	Brunswick St. 7.20
Feb.	8	1940	Estabrooks,	Charlotte St.)
"	8	"	Court House Service Sta.	Court House Sq) 7.40
"	8	"	Dawkins,	Albert St.)
Feb.	9	1940	Dawkins,	Albert St.) 9.00
"	9	"	Court House Service Sta.)
Feb.	10	1940	Sweed , A.(Store)	King St.)
"	10	"	Hughes, P. J.	George St.) 8.85
Feb.	12	1940	Vernon Fisher,	Alexandra St.)
"	12	"	Eardley,	Brunswick St.)
"	12	"	Delongs,	Victoria St.) 13.00
Feb.	13	1940	Delongs,	Victoria St.)
"	13	"	Vernon Fisher,	Alexandra St.)
"	13	"	McSorley,	George St.) 11.40
Feb.	14	1940	Eardley,	Brunswick St.)
"	14	"	McAdam,	George St.)
"	14	"	McSorley,	George St.) 9.80
Feb.	15	1940	Scott, Stanley	George St. 5.50
Feb.	16	1940	Vernon Fisher,	Alexandra St. 7.40
Feb.	17	1940	Court House Service Sta.) 7.00
"	17	"	Davidson,	Northumberland St.)
Feb.	19	1940	Court House Service Sta.) 7.60
"	19	"	Harris,	Albert St.)
Feb.	20	1940	Bunkers, (Garage)	Westmorland St. 7.20
Feb.	21	"	Bunkers, (Garage)	Westmorland St.)
"	21	"	Doherty,	Brunswick St.) 12.10
Feb.	22	1940	Bunkers, (Garage)	Westmorland St.)
"	22	"	Rev. Mr. Bate,	Regent St.)
"	22	"	Porter,	Poorhouse Hill.)
March	6	"	Water Main	Waterloo Row) 9.10
"	6	"	Mr. Bate,	Maryland Hill)
March	8	1940	McCready,	King Street 3.20
March	13	"	McCready,	King Street)
"	13	"	Wilby,	Barker House Alley) 7.40
April	25	"	Pacific Dairies	Campbell St. 1.70

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