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Water Street.

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## The New Water System.

REPORT TO COUNCIL BY ENGINEER LONGLEY.

St. John's, Nov. 30th, 1915.

Messrs. St. John's Municipal Board,  
W. G. Gosling, Esq., Chairman.

Dear Sirs,—In compliance with your invitation I came to St. John's the early part of last week to go over the work done during the past year in connection with the improvements to the water supply, and to confer with you and your City Engineer regarding the work still remaining to be done.

### Examination of Mains Thus Far Laid.

The new 20-inch mains have now been laid along Rennie's Mill Road from about Winter Avenue, in to Sunnyside, thence down King's Road to Duckworth; thence east to about the foot of Signal Hill Road; also west along Duckworth and New Gower from King's Road to Barter's Hill. The new 16 inch main has been laid along New Gower and Hutchings' Streets, from Barter's Hill to Water Street. All but two of the 8 inch connections have been laid between the new main on Duckworth St. and the old small main on Water Street. The 10 inch has been laid on Water Street West from Hutchings' to about C. R. Tompkins'. The 12 inch connecting main up Lime Street is partly finished, and a number of other small mains, 8 inch and 6 inch have been laid.

This work has been covered in as it progressed and therefore there is no way for me to make any actual examination of the work done. It is possible, however, to examine a large part of these mains for leakage, which gives an indication of the quality of the work. Such an examination was made several days ago.

About eight thousand feet of the 20 inch and 16 inch mains, with several hundred feet of 8 inch branches

was put under a pressure of about 75 lbs. per square inch. The leakage was measured by means of the new Venturi meter apparatus for the detection of waste, and this measurement was checked later under more perfect conditions. The leakage was found to be about two gallons per minute, or something less than 3,000 gallons per day, or less than 2,000 gallons per day per mile of pipe. A water distribution system can never be made absolutely tight. Some leakage must always be anticipated under the best conditions. The leakage above mentioned is very low and indicates that the work of laying the new mains has been done with care and thoroughness. The results of the test indicated there were no breaks or other such defects in the part of the system tested.

I consider that the quality of this work is entirely satisfactory. It has not been feasible to make leakage tests on all of the other pipe thus far laid, but the results above reported should be a fair indication of the quality of all the work. The actual leakage of all the other parts of the new system will be determined from time to time in connection with the waste investigation which you will undoubtedly institute when conditions permit.

### Connections Between Old and New Mains.

Owing to the fact that detailed plans for the mains in the city, with all the connections, were not made before the work of construction commenced, this construction has gone forward without making some of the connections between the old system and the new which we would have laid out. I have been over this matter in some detail with the City Engineer, and have left with him certain sketches showing the locations and general arrangement of the connections we have made, and have made a schedule of valves and specialties to cover same.

Estimated Cost of Work Still to be Done.

The work still remaining to be done,

includes principally the laying of several thousand feet of pipe already purchased and on hand, and the construction of the new intake, Venturi meter, and connection with George's Pond. The cost of the laying of the remainder of the pipe has been predicated upon the costs of the work done this year with certain modifications which in my judgment seem prudent. On this basis, the cost of the pipe work still remaining to be done will probably be about \$28,450.

The estimated cost of the intake, Venturi meter, and connection to George's Pond, as stated in my report of last year was \$15,000. At the present time I do not see any reason for altering these estimates.

The total of the above items is \$43,450 to which an addition of 10 per cent. should be made to cover the cost of engineering and contingencies. The total amount that will probably be required to complete the work will therefore be about \$47,800.

### Suppression of Waste.

The most important activity that the Water Department can engage in, aside from the completion of the work above outlined, is the suppression of waste. Unfortunately systematic records of the water pressures in different parts of the city have not been kept the past year, and there is, therefore, no evidence of that sort to set forth to show whatever benefit may have resulted from the efforts that have thus far been made to eliminate waste. Nevertheless there seem to be some decided indications that the waste has been reduced somewhat, and that the total quantity of water flowing into the city is less than it was a year ago. A recent 24-hour record on the weir at the basin, showed a daily rate of 4.3 mill. gallons, against an average rate during the week's test last year of 5.3 mill. gallons per day. The city has now the equipment to go ahead in an efficient manner with the campaign of waste reduction and the City Engineer and his staff are now quite familiar with the methods of doing this, and the work should be begun systematically as soon as conditions permit.

### Measurements at Windsor Lake.

At some time in the future the question of the available yield of Windsor Lake and its drainage area will become an important one. At the present time the records of flow from this water shed are very imperfect. The water leaves Windsor Lake in two directions. Part of it flows to the city through the conduit, and part of it, at times of high water, flows away over the dam at the far end of the lake and runs into another water shed. There are no satisfactory records of the flow at either of these points. The construction of the Venturi meter included in the estimates already made will give a satisfactory record of the flow to the city. In order to get a record of the flow over the dam the relation between the crest of the dam at the far end of the lake and the gauge height at the easterly end should be definitely and accurately established by careful observations with an instrument at some favourable time when the lake is perfectly smooth. This should be repeated for the purpose of checking. Readings should then be taken on this gauge once a day. The gauge should be so arranged that the readings can be taken as far as possible without interference from wave action or loss of head through the conduit, so that they will represent accurately the height of water going over the crest of the dam. Careful records of this sort will be found of great value in the future.

### Fire Steam Tests on New Mains.

A test was made several days ago with fire streams, to show the improvement in conditions along Water Street, after connecting the new mains into the system.

At and before 3.30 p.m. that day the old system was in use and the old conditions existed, excepting that the 10-inch main on Prescott Street was opened into the 6 inch main on Water Street as is usual in the case of a fire on Water Street to give the best possible there.

The pressure at the hydrant in front of the new cable office at 3.30 p.m. was 112 lbs. Eleven lines of fire hose were laid out from various hydrants extending from Shea's on the East to Job's Cove on the West, taking in several hydrants along Water Street, one on Duckworth Street at the foot of King's Road, and two on Harvey's wharf. The total length of hose in use in connection with these eleven streams was two thousand four hundred and fifty feet.

Shortly after 3.30 p.m. the water was turned on through these eleven lines of fire hose. From 3.35 to 3.43 p.m. the pressure on Water Street with these eleven streams flowing averaged about 45 lbs. having dropped from 112 lbs. Under these conditions the fire streams were noticeably weak, one man on the nozzle could easily control the stream.

All but four of the streams were then shut off. This resulted in the pressure on Water Street rising again to an average of 90 lbs., which gave streams of very good volume and strength.

At 4.05 p.m., the valves connecting the new main with the old were opened. This gave a pressure on Water Street of 123 lbs.

A few minutes later the eleven fire streams were turned on as before. With those streams flowing the pressure on Water Street between 4.17 p.m. and 4.25 p.m. averaged slightly over 80 lbs. The fire streams were good, strong streams. It took two men to handle each nozzle. One of the streams at King's Wharf carried some distance over the top of the flag staff on the wharf.

The pressure on Water Street with eleven fire streams running is therefore nearly twice as great with the new mains connected into the system as it was without the new mains.

The pressure lost in the old system is much greater than in the new. In the new system eleven fire streams cause a loss of 35 per cent. of the pressure on Water Street, while in the old system eleven streams cause a loss of 60 per cent. of the pressure on Water Street. The margin of safety with the new system is therefore much greater than with the old.

This morning another test almost identical with the one above described was made and a careful inspection of the nozzles made to be sure that they were not obstructed. The results were as follows:—

With the old system in service the pressure was 112 lbs. per square inch at the hydrant in front of the new cable office. The eleven fire streams drew this pressure down to an average of 37 lbs. which gave very poor streams. After the valves connecting the new system with the old were opened the pressure on Water St. went to 122 lbs., and after the eleven fire streams were again turned on, the pressure dropped to about 70 lbs.

The detailed results of to-day's test vary somewhat from the results of the earlier test. The percentage of pressure used up by the eleven fire streams being slightly greater for both the old and the new systems. The relative results, however, are very much the same. The pressure lost in the new system is 43 per cent. of the total, whereas the pressure lost in the old system is 67 per cent. of the total.

These results indicate a very satisfactory improvement in the service for the work thus far completed, and this winter than for many years past in the matter of fire protection.

Very truly yours,  
FRANCIS F. LONGLEY.

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## Rev. J. J. White Laid to Rest.

On Saturday evening the remains of the late Rev. J. J. White were brought from Champneys and placed in the Mortuary Chapel here, where it lay until funeral services were held on Monday p.m. On Monday morning there was a Requiem Celebration in the Mortuary Chapel, at which Rural Dean Pittman and Rev. H. V. Whitehouse officiated. Rev. Canon White, brother of the deceased was also present. At 2.45 p.m. a great concourse of citizens assembled, and met Rev. Canon White, Mr. W. M. Clapp and Mr. W. Earle at the Hotel, and walked in procession to the Cemetery where the Rev. J. J. White was quietly laid to rest. The church was crowded with sympathizing friends of all classes and creeds, which testified to the high esteem in which the deceased was held in this his native town. The bearers were men from the Parish of the deceased gentleman and the Burial Service was taken by Rev. A. Pittman, R.D. and Rev. H. V. Whitehouse. Rev. J. J. White was well and popularly known throughout the island, having been Incumbent of St. Grace South, Brigis, New Harbor, Herring Neck and Champneys. He was an able and eloquent preacher and his many friends will hear of his death with sincere regret. To the sorrowing widow and children and relatives the Enterprise extends profound sympathy.—Trinity Enterprise.

## Anniversaries of Notable Events.

DECEMBER 13.

The Greene (Liberal) Ministry formed 1894; D. J. Greene Premier and Attorney General.

Sir W. V. Harcourt resigned leadership of British Liberal Party in 1898. Herbert Mundy, Governor of New South Wales, died by shooting, this day 1876.

John Casey appointed Commissioner of the Poor, 1874. In 1889 Alexander Robinson (buyer at Bishop & Monroe's) presented with a Bible and tea-urn by Sunday school pupils.

Rev. J. St. John (at present Monsignor and Parish Priest at Torbay), preached in the Cathedral for the first time, 1891.

In 1898 two children were burnt in P. Hiscoc's house, at Chamberlain's.

An overskirt of silver lace gives wonderful charm to a dinner frock of black velvet. High stocks and jabots combined are found among the newest neck fixings.

## Evening Telegram Fashion Plates.

The Home Dressmaker should keep a Catalogue Scrap Book of our Pattern Cuts. These will be found very useful to refer to from time to time.

### 1523—A TRIM AND BECOMING MODEL.



Ladies' Apron, with or without Trim-ming and Belt.

Figured Percale in blue and white, with facings of white linene, was used for this style. The facings may be omitted. The apron is cut in kimono style, and may be made with or without the belt. The style is also good for chambray, gingham, lawn, drill, linene, sateen or alpaca. The Pattern is cut in 3 sizes—Small, Medium and Large. It requires 6 1/2 yards of 36 inch material for a Medium size. A pattern of this illustration mailed to any address on receipt of 10c. in silver or stamps.

### 1510—A SIMPLE PRACTICAL MODEL.



Ladies' Apron.

This design is easy to develop and easy to adjust. It may be slipped over the head or buttoned over the shoulder. It is made with a panel front, and shaped side and back portions, and is fitted over the hips with darts. Deep comfortable pockets are added on the side-fronts. The style is good for percale, gingham, chambray, lawn, sateen, drill, linen or alpaca. The Pattern is cut in 3 sizes—Small, Medium and Large. It requires 4 1/2 yds. of 36 inch material for a Medium size. A pattern of this illustration mailed to any address on receipt of 10c. in silver or stamps.

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Italian Tomatoes, Peeled. Tomatoes in Glass.	ASPARAGUS, Red Top.	BEANS, PEAS, (in Glass) CORN.
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NUTS IN SHELL. Wall, Hazel, Almonds. Table Raisins, 1 lb. packets. Cooking Table Figs. Dromedary Dates. Creme de Menthe. Jordan & Valencia Almonds. Shelled Walnuts (halves). Crystallized Cherries. Glace Cherries.	NOVELTIES, CRACKERS, STOCKINGS. NON-ALCOHOLIC WINES—Kop's & Nogarh's. Assorted Syrups. Lemon Crystals. Evaporated Pears, Prunes, Apricots, Plums. Cranberries.
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