

Report of the Water Commissioners.

To the Hon. Board of Trustees of the Village of Saratoga Springs: The undersigned Commissioners of Construction named in section 3, of the Act of 1870, respectfully submit the following report:

Table with columns for receipts and disbursements. Receipts include Village Water Bonds (\$300,000.00) and interest on bonds. Disbursements include canal construction, machinery, and salaries.

Table titled 'CASH ON HAND' showing In Bank to credit of Trustees (\$715.80) and Commissioners (\$60.41), totaling \$776.21.

The amount paid for surveying, legal expenses, &c. before the adoption of the Holly Plan, was \$1,343.38. Vouchers No. 1 to O inclusive. See detailed statement annexed marked "No. 1,"—original vouchers on file.

The amount disbursed by Hiram Owen, who had general superintendence of the works, at and below the lake, was \$19,125.23. This includes all pay rolls for day labor, a large share of the team work, carpenter work, &c., and is covered by vouchers No. 1 to 195. See detailed statement annexed marked "No. 2."

The original pay rolls, in detail, vouchers and a minute detailed statement of Mr. Owens' account verified by him are on file.

The amount disbursed by W. J. Hendrick, member of the Construction Committee, is \$23,782.58. This includes disbursements for nearly all of the general accounts, and is covered by vouchers No. 201 to 308 inclusive which are on file. See detailed statement annexed marked "No. 3."

The amount of \$39,592.17 was paid directly by drafts on banks and includes payments for Excelsior Lake and adjoining land, sundry bills for materials, freight &c., expenses of negotiating bonds &c. &c., and is covered by vouchers No. 196 to 200 inclusive and No. 308 to 316 inclusive, which are on file.

See detailed statement annexed marked "No. 4."

The amount of \$117,109.68 has been paid to various parties on account, the final adjustment of these accounts not having yet been made.

This includes payments for pipe, and laying the same, machinery and fixtures, materials &c., mason work on canal, foundations, tail race &c. &c., and is covered by vouchers No. 1 to A 15 which are on file. See detailed statement annexed marked "No. 5."

Table titled 'RECAPITULATION' showing statement "No. 1" vouchers A to O inclusive (\$1,343.38), "No. 2" vouchers 1 to 195 (\$19,125.23), "No. 3" vouchers 201 to 308 (\$23,782.58), "No. 4" vouchers 196 to 200 and 309 to 316 (\$39,592.17), and "No. 5" vouchers "A" 1 to "A 15" inclusive (\$117,109.68).

Table showing Total (\$200,953.04) and Cash on hand, (as before) (\$776.21), resulting in a total of \$201,729.25.

Table titled 'PIPE LAID' showing quantity of pipe in street mains already laid (2,678 feet) and by order of Commissioners (4,750 feet), totaling 7,428 feet.

The quantity of pipe in street mains already laid is as follows: 2,678 feet 6 inch, 2,131 do 8 do, 4,750 do 4 do, 12,623 do 3 do, 43,597 do 1 do, 2,354 do 1 do.

Total 68,139. See detailed statement annexed certified to L. H. Cramer, Civil Engineer, showing length and size on each street, marked "No. 6."

In addition to this there has been laid between street mains and fire hydrants 1755 3/4 feet of four inch pipe. See detailed statements annexed certified to by Hiram Owen, marked "No. 7" and "8."

This gives an aggregate of 69,894 1/4 feet of pipe laid, equal to 13,237-1000 miles. The above measurements of pipe, do not include some 700 to 800 ft. of 4 in. pipe laid by various private parties and paid for by them.

HYDRANTS. The whole number of double fire hydrants already set is 98, of which 35 are Holly's patent, 61 Matthews', one Bailey's, and one Brown's.

Statement annexed marked "No. 9" shows the location of each hydrant and the pipe with which it is connected.

VALVES. The No of valves used is 157, of which there are 3 twelve inch, two 10 inch, 5 eight inch, 7 six inch, and 141 four inch, total 157. One 12 inch and one 8 inch are Brown's valves, all the others are Ludlow's.

Statement annexed marked "No. 10" shows the location of each. Arrangements have been made by which the village is to have 6 copies of a lithographed map showing the location of the pipe, valves, &c.

PURCHASE OF PROPERTY. After much negotiation the following proposition was submitted by the Messrs. Lawrence:

"To the Water Commissioners of Saratoga Springs: We hereby offer to the village of Saratoga Springs the Excelsior Lake with all our rights of overflow to high water mark and our interest in the dam and all our right to have the same kept water tight by the R. R. Co., with the exclusive control of said lake, and the privilege of going along the shore thereof for the purpose of making necessary repairs and improvements, together with sufficient land south of the embankment for the water works and operations connected therewith not exceeding 3 acres, for the sum of twenty thousand dollars. In case said commissioners desire not exceeding four acres more than above mentioned, adjoining said three acres we will also convey the same at \$500 per acre, within six months.

The building stone now on the ground are to belong to said village. Signed HENRY LAWRENCE, A. R. LAWRENCE, & Co. Dated July 28, 1870."

The Commissioners voted unanimously to accept this proposition provided a perfect title could be had and afterwards voted to purchase the remainder of land between the Rail Road and Geneva street and between the Tompkins Road and the Brook. The quantity of land finally conveyed to the village exclusive of the Lake was 7 55-100 acres. Total consideration \$22,775, to which was added for interest \$222.41 making the total \$22,997.41 as per voucher "No. 196."

(Owing to the death of Engineer P. H. Green, and the discontinuance of his field notes of the surveys of the Lake, we are unable at this time to present exact statistics of the area of the reservoir and the volume of water subject to draft. This omission will be supplied hereafter.)

CONTRACTS.

The contract with the Holly Manufacturing Co., embraced a set of Holly Water Works machinery, to consist of the following: One double cylinder, quarter crank steam engine, with cylinder, 14 by 24 inches; two of Holly's patent drop flue boilers of size, and with flues sufficient to generate steam for driving said engine; two of Holly's patent rotary pumps No. 10, with capacity of 12 gallons each per revolution; one of Holly's gang piston pump with six cylinders, each 12 inches in diameter; one turbine water wheel of 35 horse power, and one of 100 horse power; one of Holly's Hydrostatic Regulator for controlling the pressure of water in the street mains, and other pipes connected with the machinery and varying the same for daily domestic water supply or fire protection; one boiler feed pump; also all necessary gearing, shafting, couplings and all connection pipes (except suction and discharge pipes leading to and from said pumps) all safety and check valves inside the building in which the machinery is to be placed; all steam and water gages and all other machinery inside the building as said in order to render the whole work complete and adapted to the service hereinafter specified, viz: The said gang pump is guaranteed to be of capacity to supply one and one half millions of gallons in 24 hours for domestic and other uses other than fire streams, and the said rotary pumps shall have capacity to throw six streams of one inch size at the same time, from as many hydrants, to a height of one hundred feet provided that said hydrants are set at points not exceeding 50 feet elevation above the pumps, or five such streams from elevations not exceeding 75 feet above the pumps, or 4 such streams from elevations not exceeding 100 feet above the pumps.

For the above machinery and fixtures the price to be paid was \$35,000.

There was also purchased from the Holly Manufacturing Co., 35 of Holly's double Fire hydrants at \$50 each, also the necessary suction and discharge pipes leading from the filter to the pumps and from the pumps to the beginning of the 12 inch street main, also the 4 foot iron trunk, leading from the bulkhead to the water wheels, the bulkhead, filter and other gates, and the fixtures connected therewith; also 1-6 inch and 2-4 inch street safety valves (not yet set) the cost of which, including setting up and fitting said pipes, gates, trunk &c., was about \$3500.

In the contract with Messrs. R. D. Wood & Co., of Philadelphia, made Aug. 20, 1870, they agree to furnish 2,650 ft. of 12 inch pipe, 2,225 feet of 10 inch, 3,955 feet of 8 inch, 10,663 feet of 6 inch, and a variety of "special" castings, such as Trees, Branches, Crosses, Sleeves, &c., all pipe to be cast vertically in 12 foot lengths from the best brands of iron, to make a good strong pipe, all to be tested in hydraulic press to 250 pounds per square inch, and to be coated inside and out with coal tar varnish. Price, delivered at Green Island, \$57.50 per ton of 2,240 lbs. for pipe, and 3 1/2 cents per pound for special castings. All to be delivered by Oct. 20, 1870, under forfeiture for delay beyond that date.

Their failure to comply with the terms of their contract in regard to time caused large increased expense in the filling and redigging of ditches, cutting in of branches, &c., after the main pipe had been laid, of all of which an accurate and detailed account has been kept which has been presented to Messrs. Wood & Co., and a sum retained from the amount claimed under their contract amply sufficient to cover these expenditures. The accounts growing out of this contract are necessarily very extended and complicated and are now in process of adjustment with a reasonable prospect of an equitable settlement.

In the first contract with S. L. Wiley, of Greenfield, Mass., made Sept. 15, 1870, he agrees to dig a trench four feet deep through the streets of the village and such other places as may be necessary and directed by the Commissioners for the purpose of laying down the main pipes for supplying said village with water, when the same can be done without rock cutting; to draw from the freight depot and deliver alongside such trench the pipe and all other materials necessary for laying down said pipe; furnish all the materials except the pipe and lead; lay down and put together the pipe in a good and workmanlike manner, according to the regulations of the Croton Water Works Board in laying down pipe; fill in the trench, tamp the earth covering the pipe, restore the paving, cross-walks and streets to as good a state and condition as before excavation and set all hydrants without extra charge, (except for making the extra lead joints) at the following rates: 12 inch pipe, \$2,250 per mile. 10 " " 950 " 8 " " 1,900 " 6 " " 1,800 "

The trench for 10 inch pipe to be dug by the Commissioners, for the reason that for its entire length there was rock cutting, in whole or in part. This will account for the great apparent discrepancy between the price for laying 10 inch and other sizes.

In the second contract with Mr. Wiley, made Feb. 16, 1871, he agrees to dig a trench 4 feet deep through such of the streets of the village as the Commissioners shall direct and require for supplying said village with water, when the same can be done without rock cutting, and furnish and lay down suitable iron pipe 4 inches in diameter, weighing on an average 20 pounds to the foot, and furnish all the materials and special castings necessary therefor; the work to be done in a good and workmanlike manner, according to the regulations of the Croton Water Works Board in laying down pipe; to fill in the trench, tamp the earth covering the pipe, and restore the streets to as good a state and condition as before excavation, except paving and cross-walks where hydrants are set, for the price of 80 cents per foot.

As evidence of the faithful performance of these contracts on the part of Mr. Wiley, it may be stated that out of nearly nine miles of pipe furnished by him only one piece has proved defective or weak under the extraordinary pressure to which it has been subjected, and only a single defective joint has been discovered in the whole amount of pipe laid which proved on examination to have been accidentally covered before "making up."

These contracts, together with several others of less importance, are on file.

INDEBTEDNESS.

The unadjusted demands against the Village amount to the sum of about \$22,000. These claims are on file and in some instances are probably in excess of the actual sums due.

Of the above amount about \$17,000 is yet due for pipe and laying, valves, and damages awarded by Commissioners appointed by the Supreme Court. The remainder is for materials and labor and is made up chiefly of a large number of small amounts.

The expenses incurred in the construction of the works, exceeded our original estimates.

The rock excavation in streets was much greater in quantity and more difficult than we anticipated, and very serious difficulties were encountered in sinking the foundations of the building, wheel-pit and tail-race— which we had no reason to expect.

An examination of the detailed statement will show that the amount already paid for rock excavation, removal of same and replacing it with earth is nearly \$16,000, and for the canal, foundation, wheel-pit and tail-race, nearly \$25,000.

We have in every instance endeavored to procure an economical management of the work, and although it is probable that we may have, in some instances, erred, yet we

submit, that when the magnitude of the work is considered, it will be seen that it has been conducted with reasonable promptness and economy.

An estimate made with considerable care, shows that the additional expense incurred in securing the water-power to run the machinery, amounts to about \$27,000 in excess of what the cost would have been had steam machinery alone been adopted, and the building placed near the lake. This will, however, result in largely decreasing the running expenses of the works.

It is estimated by the Engineer in charge, that the water power will be sufficient to run the machinery for about 9 months in 12.

It is estimated that, in order to fully supply the demands of the village and complete the system of circulation in the pipes, there should be laid down from 2 1/2 to 3 additional miles of pipe, and from 35 to 40 additional hydrants set, including some ten or twelve on Broadway.

A portion of the proposed addition to the pipes will require rock excavation.

The extension proposed will add largely to the revenue to be derived from the works; more in proportion than the original cost; and will complete the system of circulation, which is deemed a very important object.

Some additional work is necessary at and about the building, and the grading and fencing of the grounds.

We recommend that your Honorable Board make application to the Legislature for the sum of \$50,000, which will, in our opinion, be amply sufficient to complete the works and adjust the outstanding claims.

We have the utmost confidence in the success and utility of the works. It is believed that no other system is so effective in extinguishing fires.

On one occasion there was discharged from the pipes, for several hours continuously, not less than 100 hogsheads of water per minute, which is equal to the full capacity of ten first class steam fire engines.

The pressure to which the pipes are subjected in time of fires is about 110 pounds per square inch. The pipes already laid have been tested to, and have successfully resisted, the enormous pressure of 195 pounds per square inch, probably 50 pounds greater than will again be applied.

Five of the gentlemen named in section 3 of the act of 1870, in July of that year, withdrew from any further participation in the proceedings of the Commission. This action on their part, rendered it inconvenient, and often impossible to obtain at subsequent meetings of the Board, a quorum for the transaction of business, and made it necessary in the judgement of the undersigned to divide the labors of the Commission, by appointing committees for the several departments of the work. These committees, including one or two previously appointed were as follows:

FINANCE.—Marvin, Hathorn, Sheehan.

AUDITING ACCOUNTS.—Crane, Bennett, Holden.

LOCATION AND PURCHASE OF PROPERTY.—Crane, Marvin, Hendrick, Sheehan, Ballard.

IN THE MATTER OF DAMAGE BELOW THE LAKE AND TO MAKE APPLICATION TO THE COURT FOR A COMMISSION TO ASSESS THE SAME.—Barbour, Crane, Hendrick.

PURCHASE OF MACHINERY.—Holden, Hathorn, Bennett.

PURCHASE OF PIPE.—Bennett, Marvin.

PURCHASE OF VALVES AND HYDRANTS.—Sheehan, Hathorn, Ballard.

CONSTRUCTION COMMITTEE.—Holden, Hendrick, Ballard.

This division of the labor rendered necessary to some extent a corresponding division of the accounts, and greatly increased the labor of collecting and arranging the materials for this report.

The past winter has been one of unexampled severity. In some parts of our streets the frost has penetrated to the unparalleled depth of 6 feet and has closed a portion of the pipes where the water was not used in sufficient quantities to keep up a proper circulation.

Not only is the probability of the recurrence of frost to such extreme depth a very remote one, but with the proposed connections of the pipes leading towards the outer bounds of the village, and with proper care that a moderate quantity of water shall be constantly drawn from the pipes near the extremities during cold weather the danger of pipes again closing can be entirely avoided.

The contracts hereinbefore referred to, were let in each case to the lowest responsible bidder, after proposals had been invited and received from various parties.

All of which is respectfully submitted.

JAS. M. MARVIN, WILLIAM BENNETT, C. SHEEHAN, O. L. BARBOUR, H. H. HATHORN, J. W. CRANE, C. H. HOLDEN, C. H. BALLARD, W. J. HENDRICK.

Tea and Coffee Free.

On Friday last the United States Senate, in accordance with the fixed policy of the Republican Party to reduce the burden of Taxation, passed the Amendment to the Tariff Bill entirely removing the duty on tea and coffee. The vote was very decisive, as the previous vote on the same subject in the House had been. It may now be regarded as the settled purpose of Congress to put these articles of universal consumption on the free list.

The Albany Journal observes on this action of the Congress that "the emphatic vote in both Houses on this question is a striking illustration of the sentiment of the country. It is the farthest removed from the policy of free trade, and directly in the interest of protection. But it is sustained upon the ground that it is a direct, sensible relief to every family in the country, and so it passes Congress by an overwhelming vote, commanding the support of Democrats and of Revenue Reformers as well as of the stiffest Protectionists. The present Congress, and especially the House, was claimed for 'revenue reform,' as understood by those who make the term approach free trade. The result shows how impotent is the effort to break down the policy of protection. The removal of the duty on tea and coffee strikes off twenty millions of taxation—Senator Sherman put it as high as thirty millions. With such an abrogation of internal taxes as is universally conceded, this precludes any considerable reduction on other leading articles. It is at once a triumph of the poor man and of protection."

The M. E. Conference.

TUESDAY.

There is a very good attendance in town of the members of the classes for the four years course of study, who are to-day undergoing examination at the hands of the various Committees assembled in the Church.

Bishop Janes is holding a meeting with his Cabinet, consisting of the following Presiding Elders of the various Districts in the Conference: Troy District—O. F. Burdick; Albany District—L. Meredith; Saratoga District—E. Watson; Cambridge District—S. Washburn; Plattsburgh District—A. Weatherspoon; Burlington District—Orren Gregg.

This evening the opening discourse will be preached by Rev. J. W. Alderman, of Grace Church, Albany.

The business session of the Conference will commence to-morrow morning at nine o'clock.

The Report of the Water Commissioners.

We publish to-day an extended report of the Water Commissioners. It is a clear, full, and admirably arranged document. We shall, as rapidly as possible, present the "detailed statements" referred to in the body of the report.

Turned Up.

The missing Vouchers of 1869 were found to-day in the office of the Democratic Town Clerk, in the drawer set apart for the use of Superintendent Eldridge.