

HARMON H. HART.

VILLAGE OF SOUTH ORANGE.

Annual Communication

OF THE

PRESIDENT

AND

Reports of Committees,

FOR

1892=1893.

Published by order of the Board of Trustees.

EDWARD F. CHURCH, President.

J. W. WILDEY, Clerk.

Press of the South Orange Bulletin.

1892.

Committees, 1892-'93.

Licenses—Messrs. Wright, Clarkson, Allen.

Ordinances—Messrs. Barrett, Allen, Billqvist.

Police and Enforcement of Ordinances.—Messrs. Billqvist, Wright, Allen.

Printing—Messrs. Allen, Barrett, Taylor.

Rooms—Messrs. Clarkson, Taylor, Barrett.

Streets and Highways—Messrs. Taylor, Clarkson, Billqvist.

Water—Messrs. Wright, Clarkson, Taylor.

Sewerage—Messrs. Allen, Wright, Taylor, Billqvist.

Fire—Messrs. Barrett, Billqvist, Wright.

Finance and Accounts—Messrs. Billqvist, Barrett, Allen.

Lamps—Messrs. Clarkson, Wright, Barrett.

GOVERNMENT.

<i>President</i> ,	EDWARD F. CHURCH
<i>Trustees</i> , {	FRANK A. WRIGHT
.	C. EDWARD BILLQVIST
.	WILLIAM F. ALLEN
.	TIMOTHY BARRETT
.	WILLIAM H. CLARKSON
.	EDGAR M. TAYLOR
<i>Clerk</i>	JOSEPH W. WILDEY
<i>Treasurer and Collector</i>	ROBERT A. HALLIDAY
<i>Counsel</i>	JAMES MCC. MORROW
<i>Auditor</i>	ALEXANDER ROBERTSON
<i>Water Superintendent and Collector</i> ,	CHARLES J. BARRETT
<i>Police—Marshal</i>	HENRY T. TRENCHARD
<i>Sergeant</i>	CHARLES H. BURKE
<i>Fire—Chief</i>	WILLIAM D. DECKER

ad

Committees, 1892-'93.

<i>Finance and Accounts</i> ,	BILLQVIST, BARRETT, ALLEN.
<i>Streets and Highways</i> ,	TAYLOR, CLARKSON, BILLQVIST.
<i>Lamps</i> ,	CLARKSON, WRIGHT, BARRETT.
<i>Water</i> ,	WRIGHT, CLARKSON, TAYLOR.
<i>Fire</i> ,	BARRETT, BILLQVIST, WRIGHT.
<i>Sewerage</i> ,	ALLEN, WRIGHT, TAYLOR, BILLQVIST.
<i>Licenses</i> ,	WRIGHT, CLARKSON, ALLEN.
<i>Ordinances</i> ,	BARRETT, ALLEN, BILLQVIST.
<i>Police and Enforcement of Ordinances</i> ,	BILLQVIST, WRIGHT, ALLEN,
<i>Printing</i> ,	ALLEN, BARRETT, TAYLOR.
<i>Rooms</i> ,	CLARKSON, TAYLOR, BARRETT.

President's Message.

SOUTH ORANGE, N. J., May 2, 1892.

In making my report for the year, I have left to the different committees the task of giving the detail of work accomplished by each committee during the past year. The report of the Finance Committee and Treasurer shows that our expenses have increased in just about the proportion that our revenue was added to by the annexation of the syndicate property on Centre street. The only additional cost to the village has been in defending a law suit commenced against the village and the expense of appointing engineers to go over the sewerage work a second time in order to save still more expensive litigation. The reports of the engineers show that this expense of about two thousand dollars might have been saved to the village if the suit had never been commenced. The reports circulated that this has been an extravagant Board in best answered by the report of the Treasurer and requires no denial from me. The work of the different committees have gone forward as fast as it was possible with the amount of money to be expended. The reports of the different committees are herewith attached. The report of Streets, Lamps and Water show an increase in work done, and the report of Water Superintendent shows a very satisfactory condition of that department for the first year. This is a very interesting report and shows that the Water Department will, undoubtedly, be self-sustaining. The Sewerage Committee has perfected a plan for the village which has received the endorsement of several of the most prominent sanitary engineers in the country. A farm has been purchased to be used for taking care of the sewage and considerable work has been done in preparing the place to receive it. The Chairman of the Sewerage Committee has been a faithful and earnest worker, and he has the satisfaction of knowing that his work has been endorsed by competent engineers, as well as by a majority of the residents of the village. The President regrets that he leaves us with the work uncompleted, but believes that he is entitled to the thanks of the whole village for the work already accomplished. As it is the duty of the President, at least once a year, to make such recommendations as he may think proper for the improvement of the

VILLAGE OF SOUTH ORANGE, NEW JERSEY.

Financial statement for fiscal year, ending with February 29, 1892 :

RECEIPTS

Cash on hand March 1, 1891.		
General fund	\$1,581	74
Water fund	4,364	37
	<hr/>	
Water bonds sold		\$5,946 11
Sewer bonds sold		12,000 00
Bills payable, village notes discounted at bank		25,000 00
Taxes of 1891 collected		36,253 79
Arrears of taxes of 1890, collected		19,417 10
Arrears taxes prior to 1890 collected		1,001 02
Premium on sewer bonds sold		347 96
Interest collected on taxes and assessments	\$678 00	
	248 70	
	<hr/>	
Fines collected by Police Justice		926 70
Amount received for water connections		138 00
Amount received for water rents	\$2,151 92	
	3,883 06	
	<hr/>	
Amount received from liquor licenses		6,034 98
Broken stone sold		1,800 00
Cash received for grading streets		23 94
Cash received for opening streets		129 18
Cash received for laying stone sidewalks		236 58
		2,376 26
	<hr/>	
Total		\$111,631 62

PAYMENTS.

Bills payable, paid notes at bank		\$31,191	66
Paid interest on water bonds		1,253	12
Discount on notes at bank and rebate on taxes		1,059	01
Police Department Expenses :			
Clocks, etc., etc.	285	06	
Water fixtures and plumbing for jail	125	00	
Mooney & Boland, detectives	185	00	
Sundries	70	19	
Salaries	4,068	28	
			<hr/>
		4,733	53
Water plant, pipes and laying		10,243	01
Water department, expenses 1890	\$2,633	51	
" " " 1891	5,434	98	
			<hr/>
		8,068	49
Sewerage Expenses :			
Counsel fee defending suit	\$500	00	
Stenographer employed in suit	146	40	
Engineer (Basset)	100	00	
Sundries	87	40	
			<hr/>
		\$33	80

Contingent Expenses :

Printing	789 77	
Legal	629 20	
Expert accountant	150 00	
Assessor	117 24	
Village Clerk	543 67	
Village Treasurer	400 00	
Village Auditor	50 00	
Rent	100 00	
Sundries	546 88	
Fire Department expenses		3,326 76
Fire plant bought		153 60
Paid balance freight water pipes		1,036 25
Street repairs	2,559 04	63 61
Broken stone	2,524 59	
Gas Light Co.'s bill for 1891		5.083 63
Crosswalks		4,718 36
Board of Health		248 48
Street repairs, broken stone, etc., for 1890		150 00
Contingent expenses for 1890	\$2,122 75	
Gas Light Co.'s bills for 1890	101 85	
	4,290 16	
Gas lamps bought in 1891		6,514 76
Paid on account of sewerage farm		360 00
Paid for grading streets		5,500 00
Paid for opening streets		2,013 59
Paid for laying stone sidewalks		60 00
Paid for gutters of Third street		1,773 22
Cash on hand 1st March, 1892:		255 72
General fund	579 19	
Water bond fund	1,239 95	
Water income fund	993 88	
Sewer bond fund	20,178 00	
		22,991 02
		\$111,631 62

ASSETS.

Cash on hand		\$22,991 02
Water plant cost		35,753 80
Lock-up cost		1,000 00
Gas lamps (289) cost		5,260 00
Furniture, maps, safe, etc		300 00
Arrears of taxes prior to 1890	\$7,835 27	
Arrears of taxes of 1890	994 36	
Arrears of taxes of 1891	1,332 90	
Nominal value		
Property bought for assessments, nominal value		10,162 53
Sewerage farm paid for to the extent of		3,410 14
Fire plant cost		5,500 00
Assessments due for stone walks	\$1,384 85	1,036 25
“ “ Grading streets	7,868 44	
“ “ Opening streets	3,819 95	
“ “ Laying gutters	571 89	
Nominal value		13,645 13
		\$99,058 87

LIABILITIES.

Water bonds outstanding		\$37,000 00
Sewer bonds outstanding		25,000 00
Village notes outstanding		9,770 43
Street damages unpaid		867 05
Unpaid bills of 1891:		
Gas light bills for three mos.	1,600 00	
Broken stone for streets	273 00	
Surveyors' bills	405 00	
Nine months' rent	112 50	
Hugh Conlan's claim	71 48	
Small bills estimated	200 00	
		2,661 94
		\$75,299 42

ALEX. ROBERTSON,
Auditor;
TIMOTHY BARRETT,
Chairman Finance Committee;
W. F. ALLEN,
ARTHUR C. BABSON.

REPORT OF Streets and Highways Committee

To the President of the Village of South Orange :

DEAR SIR: The Streets and Highways Committee report that the work done on the streets of the village for the past year has been as follows:

STREETS GRADED.

Meeker street, whole length.
Bowers place, whole length.
Irving avenue, whole length.
Raymond avenue, from Charlton to Grove road.
Second street, south side, between Valley road.
Montrose avenue, sidewalk, between Hartford road and Mosswood avenue.
Vose avenue, sidewalk, from Randolph place to Montrose avenue.
Contracts for the grading of Ward street and Bowers place have been awarded but the work has not been finished.

BROKEN STONE.

Bowers place.
Irving avenue.

These two streets with several loads placed where crossings and culverts were repaired account for where the bulk of stone was placed up to this Spring, when stones were used on the streets as follows:

Loads—Vose avenue, 12; Scotland street, 14; Montrose avenue, 8; Ralston avenue, 4; Raymond avenue, 10; Prospect street, 19; Academy street, 5; College street, 5; Centre street, 28; Valley street, 4; Irvington avenue, 16; Bowers place, 16; Ridgewood road, 10.

BLUE STONE SIDEWALKS.

Vose avenue, from Randolph place to Montrose avenue.
Montrose avenue, from Hartford road to Mosswood avenue.
Raymond avenue.
Taylor place, north side.

This report does not show the whole amount laid in the village as a number of citizens have availed themselves of the privilege given

them by the ordinance and laid their own sidewalks, either in stone or lithogen.

STONE CROSSWALKS, NEW.

South Orange avenue, between Church street and railroad.
Walton avenue and Ridgewood road.
Scotland street and Ralston avenue.
Ridgewood road and Third street.
Vose avenue and Meal street.
Montrose avenue and Hartford road.
Prospect street and Irvington avenue.
Scotland street and Vose avenue.

STONE CROSS WALKS RELAID.

To junction Irvington avenue and Prospect street.
Raymond avenue and Scotland street.
Irving avenue and Scotland street.
Ridgewood and South Orange avenue.

GUTTERS PAVED, COBBLE STONE.

Third street, from Prospect to Valley.

GUTTERS RELAID.

South side Irving avenue, Four hundred feet.

CULVERTS CONSTRUCTED DURING YEAR.

North side Third street, corner Church.
South side Third street, corner Church.

CULVERTS REPAIRED.

Irvington avenue and Academy street.
To Irvington avenue and Prospect street.
Academy and First street.
Academy and Third street.
Academy and Milligan place.
Irving avenue and Scotland street.
Scotland street and Raymond avenue.
Ridgewood road.

STREETS ACCEPTED BY ORDINANCE, ALREADY GRADED BY OWNER.

Academy street from Roland avenue, south seven hundred feet.

E. M. TAYLOR,
H. B. HALSEY,
F. A. WRIGHT.

Report of Committee on Lamps.

SOUTH ORANGE, N. J., April 1, 1892.

To the President and Board of Trustees of the Village of South Orange:

GENTLEMEN: Your Committee on Lamps beg to report that at the beginning of the fiscal year, April 1, 1891, there were 267 lamps in the streets of this village. During the year gas mains have been laid in Comstock place, Ralston avenue and Tichenor avenue. Five new lamps, ordered by the previous Board, have been placed in the above streets. One new lamp has been placed on South Orange avenue and 16 new lamps came into the possession of the village by the addition of a tract of land known as the Syndicate on Centre street, making a total increase for the year of 22 lamps, the number now in the streets being 289. The present Board has ordered new lamps in Bowers place, but your Committee has not placed them on account of the insufficiency of the appropriation to meet the running expenses of the department. Furthermore, Bowers place is already partially lighted on one side of the street. For the coming year, the Committee estimate that about 25 new lamps will be needed on several streets, among which may be mentioned Meeker street and Irving avenue. This will bring the number of lamps up to 314, which, at \$22 per lamp, according to our contract, will make the cost \$6,908.00 to which must be added the cost of 25 lamps at \$20 each (\$500), making a total expense of \$7,408.00. Your Committee, therefore, suggest an appropriation of \$7,000.00 for lamps, with the understanding that \$500.00 will be added from the license fund.

Your Committee is aware that the expense of lighting this village is very high, but it must be remembered that the lamps are very widely distributed in over 17 miles of streets and that our contract with the gas company which does not expire until next September leaves us no option in the matter. We are of the opinion that a new contract can be made which will be much better for the interest of the village when the present one expires.

F. A. WRIGHT,
Chairman Committee on Lamps,
E. M. TAYLOR,
W. F. ALLEN.

REPORT OF SUPERINTENDENT OF Water Department.

SOUTH ORANGE, N. J., April 21, 1892.

To the Board of Trustees of the Village of South Orange.

GENTLEMEN: The Superintendent of the Water Department respectfully submits the first annual report of the condition and operation of the water system for the year ending February 29, 1892.

RECEIPTS.	
From taps and connections	\$2,136 92
" Schedule rates	\$3,620 28
" Meter rates	249 33
" Special rates	165 95
	4,035 56
Total receipts	\$6,172 48
DISBURSEMENTS.	
Service account	\$1,940 74
Repairs, etc	59 71
Tools and implements	126 67
Salaries and sundry office expenses	675 31
Water	1,774 30
	\$4,576 73
Balance to credit of Water Department	\$1,458 25

As the system has been in operation but one year this seems to be a very favorable showing, and as the number of consumers is constantly increasing, it indicates that in a few years the Department will be self-sustaining and leave a fair balance for the establishment of a sinking fund to liquidate the bonds.

The advantage of maintaining a water system by the Village, in contrast with a private corporation is exemplified. Under the most favorable proposition submitted by such a corporation at the time the introduction of water was considered, the Village would be obliged to pay \$50 per hydrant annually, and allow the company to derive all the revenue from private consumers.

This is the rate charged by the Commonwealth Company in Summit, and East Orange has been paying \$60 per annum, but has recently made a more favorable contract with its company.

This would necessitate, in our case, the payment of \$3,950 annually, as there are 79 hydrants in our streets, being interest at five per cent on \$79,000.

Basing my calculations on the receipts from January 1st to date, I estimate the return from rents for the ensuing fiscal year at \$6,000, from which the following sums approximately will have to be paid:

Interest on \$37,000 water bonds	\$1,850 00
Water	3,000 00
Salaries and expenses	800 00
Repairs, etc	50 00
	\$5,700 00

This leaves a small balance exclusive of the profit from taps and connections, while under the arrangement with a private company the Village at large would be taxed for the sum of \$3,950, for which it would receive as a municipality nothing but water for fire services.

The excellent quality of the water furnished and the high pressure maintained is also a cause for congratulation for the citizens of the Village.

The extremely high pressure caused some trouble at the introduction of the supply in buildings where the plumbing was old and weak, but a Worthington regulator reducing the pressure 55 pounds has been set in Summit at the beginning of the South Orange supply main, which equalizes and renders it less dangerous.

This does not detract materially from the efficiency of the fire service, as the engineer in charge may be instantly notified by telephone or telegraph, and the water supplied directly to our system without the intervention of the regulator.

As the greatest altitude within the Village limits now reached by the distribution system is 280 feet above tide, and the bottom of the stand pipe is 200 feet above this, it would indicate a theoretical pressure of 86 pounds per square inch, no allowance being made for loss of head due to friction and other causes.

At the official test of the supply, February 7, 1891, as published in the South Orange *Bulletin* of February 19th, the loss of head in feet at the meters was found to be 50, the gauge showing while a hydrant was open a pressure of 100 pounds at an elevation of 200 feet above tide.

As the railroad station is but 139 feet above tide, allowing a proportionate loss of head for friction, the pressure would be 123 pounds per square inch, which would be very effective, and experience with

the few fires we have had demonstrates that the pressure is ample for protection in all parts of the Village covered by our system.

A few facts in relation to the history and source of our supply may be of interest at this time and are herewith given.

The works of the Commonwealth Water Company were first operated on March 15, 1890, and have supplied the township of Summit from that date to the present time.

The wells, two in number, from which the supply is drawn are in a valley about two miles south of Summit, and as there are no habitations in the immediate vicinity, the danger of contamination is very slight.

The Company own ninety acres of the surrounding property, and this large area will afford them the means of sinking many more wells when the demand arises.

The principal well is 30 feet in diameter and 26 feet deep, securely walled with brick and cemented on the outside so that it is impervious to surface water, but all around the bottom of the wall it is pierced with tile pipes that radiate in every direction, and conduct the pure spring water to the well.

A few hundred yards east of this well is an artesian well 250 feet deep, in which the water rises to the surface of the ground and is conducted by means of a syphon to the pump well.

The estimated capacity of this well is 150,000 gallons daily and of the larger well 450,000 gallons, so that the maximum capacity of the plant at present is 600,000 gallons per day.

As the ordinary daily consumption of Summit is 150,000 gallons, and of South Orange 65,000, it would seem that the supply is entirely adequate for some time to come, the only possible danger being in a large conflagration which would tax the capacity of the wells for a brief period, as three good hose streams would empty the stand pipe in four hours, and the wells could not supply more than three streams while the pumps are working.

However, there is little possibility of such a contingency arising, and it is likely that the Company will soon provide increased storage capacity to meet such an emergency.

A large new well is now being constructed 2,000 feet south which is expected to furnish an abundant supply and double the capacity of the present plant.

Two Worthington pumps, capable of lifting 1,000,000 gallons per day, pump the water into the stand pipe which is situated on an ele-

vation known as Stony Hill, 245 feet above the pumping station and 480 feet above tide.

This tank is fifty feet high, of riveted boiler iron 3-8 to 5-8 inches thick and has a capacity of 180,000 gallons.

The 10-inch South Orange supply main intercepts the force main at the foot of the hill, and the water is pumped directly into our main while the pumps are working, but the pressure being regulated as before stated, it remains uniform at all times.

MAINS.

According to the last report of the Water Committee on March 16, 1891, the number of miles of pipe laid or owned by the Village was 5.83.

Extensions have been made this year as follows:

Four-inch Pipe—Taylor place, 360 feet; Comstock place, 172 feet; Montrose avenue, 900 feet; Ridgewood road, 450 feet; Church street, 776.5 feet; Third street, 1,305.5 feet; Fourth street, 483 feet; Roland avenue, 1,226.5 feet; Academy street, 137.5 feet; Valley street, 601 feet; First street, 646 feet; Tichenor avenue, 782.5 feet; South Third street, 646 feet; Second street, 1,364 feet; Railroad place, 336 feet; Riggs place, 1,319 feet; Meeker street, 1,046 feet; Charlton avenue, 267 feet; Vose avenue, 200 feet.

Six-inch Pipe—South Orange avenue, 2,382 feet.

The entire cost of this work as shown in Table 1 attached to this report is \$9,522.90.

Mr. George B. Turrell has also laid, at his own expense, 1,250 feet of four-inch pipe and set one hydrant on Turrell avenue, under an agreement by which the Village will purchase it in two years.

The total length of all sizes in full to date owned by the Village is as follows:

	10-inch.	8-inch.	6-inch.	4-inch.	Miles.
Before 1891	7,366.5	5,382	5,934	11,697	5.83
Laid 1891 . . . . .	...	...	2,382	13,312	2.89
Total	7,366.5	5,382	8,316	25,009	8.72

Including the pipe owned by Mr. P. Scherrer, 1,914 feet of 4-inch and the Centre Street Syndicate pipe, which I estimate at 7,200 feet, the entire distribution system in the Village is 10.68 miles.

It will be seen that water pipes are now laid in the majority of the streets and as there is little demand for water from residents of other streets, it is not probable that more mains will be required this year.

The consumers on Prospect street, south of Fourth street, on which every house but one is connected, would be benefited if the circuit with Valley street was completed by extending the main to Roland avenue, a distance of 700 feet.

The Prospect street pipe terminating just beyond Fifth street is 6-inch, and when extended it is advisable to continue that size as it will eventually be required to supply the new streets recently opened from Prospect to Valley streets.

There are a number of "dead ends" throughout the Village to which a few buildings are attached, but it is impossible to obviate this difficulty, and constant flushing during the Summer months must be resorted to in order to prevent the stagnation of the water.

I would recommend that the Village acquire, by direct purchase or otherwise, the 4-inch pipe on Ridgewood road, extending from South Orange avenue north about 1,800 feet, as the residents on that part of the street are now consumers of Orange water, and while the revenue from them is desirable they should have in justice some fire protection from this Village which can only be obtained by local control of the pipe.

The Board of Trustees have granted permission to Mr. Victor Schaller to lay a 4-inch pipe on Lenox avenue, and this will be done at an early date, the Village controlling the pipe and securing absolute possession by purchase when the number of consumers shall prove remunerative.*

* Mr. Schaller has since laid this pipe, 940 feet of 4-inch, and set one gate.

FIRE HYDRANTS AND VALVES.

Seventeen fire hydrants have been set by the Village this year, making the total number 79, of which 61 are the property of the Village and 18 are owned by private parties.

Sixty are of the Matthews pattern (R. D. Wood), 5 Beaumont and 14 Ludlow.

Forty-four gate valves have been set this year making the total number in the Village 95, of which 8 are on private pipes.

REPAIRS.

No repairs of any magnitude were found necessary this year. Six small leaks in mains due to insufficient caulking were stopped and one hydrant repaired, the total cost of which was \$21.20.

The two-inch valve in the Field Club ground which shut off the Orange water from what was formerly the South Orange Water Association pipe, was found to be leaking in April, 1891, and owing to the

greater pressure in our pipes the water was forced into the Orange main and wasted, so far as we were concerned, until discovered and remedied.

The two-inch valve in the L'Homedieu-Hitch pipe on Meeker street, serving a similar purpose, was found to be leaking in July, and it was necessary to excavate and entirely disconnect the pipe from the Orange main which was done at a cost of \$16.14.

SERVICES.

Under the system adopted by the Board of Trustees the laying of service pipe in the street is reserved by the Village and the work done by contract with a plumber under the direction of the Superintendent.

Some objection has been made to this method but it has proved satisfactory, on the whole, and is the practice pursued in most municipalities.

It has the advantage of giving the Village direct control over all the pipes and appendages in the streets, also assuming the responsibility, but it secures a desirable uniformity of work which could not be attained by any other means.

These contracts have been executed during the past year by Messrs. E. Hughes & Son and Mr. George E. Versoy, and no repairs have been required on any of this work.

As lead pipe is invariably used it is not probable that many repairs will be needed, for though the first cost is greater than that of galvanized iron, it is practically indistructible in the earth, while iron is liable to corrode and rust out after a few years.

Objection has also been made to lead on sanitary grounds, but the continued use of this material in plumbing by advanced sanitary experts is sufficient warrant for its retention.

The number of services put in to date is 140, and the total number of feet of service pipe in use is 2,972.5 of the following sizes:

	Feet.
½-inch	2,662
¾-inch	124
1-inch	186.5

The actual cost of this work not including inspection was \$1,857.44 and the amount received for tapping \$2,136.92 leaving a small margin for superintendence and repairs.

CONSUMERS.

203 buildings are now connected with our mains, including 4 outside the Village limits for which the owners pay 20 per cent. in addition to the regular schedule rates.

The purity and good quality of the water has been the means of obtaining for us the majority of the consumers of Orange water within the Village limits, but there are yet a few remaining who are not attached to our mains, and I would recommend that favorable propositions be made to these parties to secure their patronage.

The number of families supplied is 179 and 18 other consumers include the College, 2 churches, 2 schools, 3 officers, 3 saloons, 2 barber shops, 2 butcher stores, 1 drug store and 2 livery stables.

The total amount of rents from buildings now connected payable by schedule rates is \$3,582.25, not including 30 metered buildings for which the aggregate rent per annum based upon the last quarter's consumption was \$906.45.

There is also considerable revenue for the use of water for special purposes and with the new connections which we have reason to expect during the Summer the total receipts should amount to \$6,000 as before estimated.

CONSUMPTION.

The total amount of water delivered to the Village from February 7, 1891, to March 7, 1892, as indicated by the Company's meters was 22,505,325 gallons.

The contract with the Commonwealth Water Company binds the Village to pay for at least 50,000 gallons per day, after the expiration of a year, but this amount has been exceeded since June, 1891, as Table VII will show.

The extraordinary consumption in April and June and the earlier part of July was due to the leakage through the two-inch valves to the Orange main, as heretofore referred to, and also to the large number of lawn sprinklers which were allowed to run at all hours during the month of June until checked by the Superintendent.

There is, of course, a natural increase during the Summer months due in part to the great extent of lawns along the pipe line, and to the freer use of water through the warm weather.

The South Orange Field Club used 1,525,732 gallons to flood their grounds for skating purposes in December, January and February, which accounts for the increased consumption at this period.

The average daily consumption throughout the month of February was 60,832 gallons, or 301 gallons for each tap.

In view of the fact that the Village purchases water by meter measurement, but sells it mainly by schedule rates, it may be well to call the attention of the Board of Trustees to the advisability of selling water in the same manner as it is bought.

In all probability this would diminish the *total* revenue, but the great saving of water which would follow the establishment of a metered system and the certainty of receiving value for each gallon of water delivered through the taps would tend to increase the *net* revenue.

My views on this question are more fully presented in the supplementary report hereto attached.

I would recommend the adoption of a complete code of rules to regulate the introduction and use of water, and that they be printed for distribution to consumers or other interested parties, so that none might plead ignorance as an excuse for their infringement.

I also recommend that a gauge be placed in the office of the Superintendent to note the pressure maintained in our pipes and see that it is kept up to the limit required by the contract.

In conclusion, I desire to compliment the consumers on the promptness with which the bills were met, as it materially lightened the clerical work of the office.

I feel that I should take occasion at this time to acknowledge the courtesy and consideration on the part of the Water Committee and the Board of Trustees which has characterized our intercourse during the preceding year, and thereby facilitated the progress of this Department.

A detailed report of the receipts and several tabular statements showing in detail the work of the year are herewith appended, all of which is respectfully submitted.

CHAS. J. BARRETT,
Superintendent.

RECEIPTS TO FEBRUARY 29, 1892.

MONTHS.	Schedule Rates.	Meter Rates.	Special Rates.	Total Water Rents.	Taps.	Total Receipts
Decemb'r, 1890	...	...	...	...	\$150 00	\$150 00
January, 1891	...	...	...	...	90 00	90 00
February	...	...	...	...	210 00	210 00
March	...	...	...	...	75 00	75 00
April	...	...	...	...	240 00	240 00
May	...	...	...	...	215 00	225 75
June	...	...	18 35	18 35	170 00	188 35
July	\$494 72	\$2 25	36 20	533 17	100 00	633 17
August	145 85	...	16 30	162 15	185 00	314 15
September	636 13	...	31 30	667 43	200 00	867 43
October	589 73	3 75	36 70	630 18	220 00	850 18
November	161 95	61 28	11 40	234 63	171 92	406 55
December	110 36	...	4 15	114 51	65 00	179 51
January, 1892	1,069 76	128 34	...	1,198 10	15 00	1,213 10
February	411 78	53 71	80	466 29	30 00	496 29
	\$3,620 28	\$249 33	\$165 95	\$4,035 56	\$2,136 92	\$6,172 48

Village of South Orange.

PAYMENTS TO TREASURER.

	Rents.	Taps.	Total.
1891.			
July 11th		\$1,150 00	\$1,150 00
September 4th	\$749 98	370 00	1,119 98
October 13th	1,083 00	190 00	1,273 00
November 18th	330 00	270 00	600 00
December 15th	175 00	75 00	250 00
1892.			
January 20th	620 00	20 00	640 00
February 17th	938 08	61 92	1,000 00
Total	\$3,898 06	\$2,136 92	\$6,034 98

SUMMARY.

Received for taps and connections	\$2,136 92
" " Rents	4,035 56
Total receipts February 29, 1892	\$6,172 48
Paid to R. A. Hallidy, Treasurer	6,034 98
Balance in hands of Collector February 29, 1892	\$137 50

CHAS. J. BARRETT,
Collector.

TABLE I.

WATER PIPE LAID DURING 1891.

Street.	Location.		Size Inch.	No. Feet.	Hydrants.	Gates.	Cost.
	From.	To.					
Taylor Pl.	Scotland St.	Vose Ave.	4	360	1	2	\$250 00
Comstock Pl.	"	N. W.	4	172	0	1	108 32
Montrose Ave.	Clark Pl.	Ridgewood Rd	4	900	0	2	514 75
Ridgewood Rd	Montrose Ave.	W. Montrose Ave	4	450	1	1	302 51
First St.	Academy St.	Rail Road Pl.	4	900	1	4	538 17
Second St.	Prospect St.	"	4	1,364	1	6	792 19
Third St.	"	D L & W R R	4	1,305.5	1	5	748 61
Fourth St.	"	Academy St.	4	483	0	2	271 64
South Third St	"	Tichenor Ave.	4	646	0	2	346 92
Tichenor Ave.	Irvington Ave	South Third St	4	782.5	1	2	450 93
Riggs Pl.	"	So. Orange Ave	4	1,319	2	3	810 06
Church St.	Third St.	"	4	776.5	1	2	452 85
Valley St.	Roland Ave.	Village Line	4	601	1	0	342 18
Academy St.	"	Roland Ave.	4	137.5	1	1	122 66
Roland Ave.	Prospect St.	Valley St.	4	1,226.5	1	4	692 88
Rail Road Pl.	First St.	Second St.	4	336	0	0	168 63
Meeker St.	Montrose Ave.	S. W.	4	1,046	2	2	611 57
Charlton Ave.	Ralston Ave.	N. E.	4	267	0	1	147 16
Vose Ave.	Randolph Pl.	S. W.	4	200	0	1	133 16
So. Orange Ave	Bowers Pl.	Centre St.	6	2,382	3	3	1,698 21
" " " "	Hydrant Br'ch	"	4	40	0	0	19 50
Total				15,694	17	44	\$9,522 90

Water Department.

TABLE II.

GATES SET IN 1891.

Street.	Location.	6 In. 4 In.
Taylor Pl.	E. line of Vose Ave.; W. line of Scotland St.	— 2
Comstock Pl.	In Scotland St., opposite Comstock Pl.	— 1
Montrose Ave.	N. line of Clark Pl., E. of Ridgewood Rd.	— 2
Ridgewood Road	20 ft. S. of Montrose Ave.	— 1
First St.	30 ft. E. of R. R. Pl., E. and W. lines of Valley St. W. line Academy	— 4
Second St.	R. R. Pl., E. and W. lines Valley St.; E. and W. lines Academy St.; W. line Prospect St.	— 6
Third St.	E. and W. lines Valley St.; E. and W. lines Academy St.; W. line Prospect St.	— 5
Fourth St.	E. line of Academy St.; W. line of Prospect St.	— 2
South Third St.	E. line of Prospect St.; W. line of Tichenor Ave.	— 2
Tichenor Ave.	25 ft. N. of line of South Third St.; W. line Irvington Ave.	— 2
Riggs Pl.	50 ft. S. of So. Orange Ave.; S. line Gardner Ave.; E. line Irvington Ave.	— 3
Church St.	S. line So. Orange Ave.; N. E. line Third St.	— 2
Academy St.	N. of Roland Ave.	— 1
Roland Ave.	E. line Valley St.; E. and W. lines Academy St.; W. line Prospect St.	— 4
Meeker St.	S. W. line Montrose Ave.; S. W. line Mountain House Road	— 2
Charlton Ave.	N. line Ralston Ave.	— 1
Vose Ave.	S. line Randolph Pl.	— 1
So. Orange Ave	50 ft. E. of College Entrance; opposite Centre St.; E. line Centre St.	3 0
Total		3 41

GATES SET BY PRIVATE PARTIES.

Turrell Ave.	E. line of Scotland St.	— 1
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SUMMARY.

	Public.	Private.	Total.
Gates set previous to 1891	43	7	5
Gates set in 1891	44	1	45
Total	87	8	95

RECAPITULATION BY SIZES.

	Size in Inches.				Total.
	10.	8.	6.	4.	
Gates owned by Village	4	6	9	68	87
" " " Private parties	—	—	3	5	8
Total number in Village	4	6	12	73	95

Village of South Orange

TABLE III.

FIRE HYDRANTS SET IN 1891.

Matthew's Pattern, (R. D. Wood).

Taylor Place—S. corner Vose Ave.	Church St.—150 ft. N. of Third St.
Ridgewood Rd—50 ft. S. of Montrose Ave.	Valley St.—E. cor. Hixson Pl.
First St—50 ft. E. of Rail Road Pl.	Academy St.—E. cor. of Roland Ave.
Second St.—50 ft. E. of Rail Road Pl.	Meeker St.—500 ft. S. W. of Montrose Ave.; 350 ft. S. W. of Mountain House Road.
Third St.—50 ft. E. of D. L. & W. R. R.	Roland Ave.—W. cor. of Prospect St.
Tichenor Ave.—E. cor. of South Third St.	South Orange Ave.—S. cor. Bowers Pl.; 100 ft. E. of College Entrance; 500 ft. W. of Centre St.
Riggs Pl.—S. cor. of Gardner Ave.; E. cor. of Irvington Ave.	

HYDRANTS SET BY PRIVATE PARTIES.

Turrell Ave.—N. cor. of Charlton Ave, (Ludlow Pattern).

NOTES.

Total No. owned by Village.	61	Matthew's pattern, (R. D. Wood)	60
" " " private parties	18	R. Beaumont pattern	5
" " in Village	79	Ludlow pattern	14

TABLE IV.

WATER PIPE, GATES AND HYDRANTS OWNED BY VILLAGE MARCH, 1892.

Location.	Length in Feet.				Gates.				Hydrants
	10 Inch.	8 Inch.	6 Inch.	4 Inch.	10 In.	8 In.	6 In.	4 In.	
Academy St.				1,969.5				3	5
Bowers Place				1,653				2	2
Charlton Ave.				267				1	
Church St.				776.5				2	1
Comstock Place				172				1	
Cottage St.				861				2	
First St.				900				4	1
Fourth St.				483				2	
Irvington Ave.		610.5	1,185	25	1	1		2	
Meeker St.				1,046				2	2
Milligan Place				449					
Montrose Ave.			1,815	3,677		2		4	5
Prospect St.		2,065		28	3			4	
Rail Road Place				336					
Ralston Ave.				986				1	1
Raymond Ave.				990				1	1
Ridgewood Road	3,443.7			567	2			7	7
Riggs Place				1,319				3	2
Roland Ave.				1,226.5				4	1
Scotland St.		3,156.5		1,100		2		2	4
Second St.				1,364				6	1
South Orange Ave	3,922.8		2,382	158	2	3	8	11	
Taylor Place				646				2	
Third St.				360				2	1
Tichenor Ave.				1,305.5				5	1
Valley St.				782.5				2	1
Vose Ave.			2,934	624		3		5	
				938				2	2
Total.	7,336.5	5,382	8,316	25,009.5	4	6	9	68	60

Water Department.

SUMMARY.

	10 Inch.	8 Inch.	6 Inch.	4 Inch.	Total Feet.	Total Miles.
Village Pipe	7,366.5	5,382	8,316	25,009.5	46,074	8.72
Private "			2,400	7,964	10,364	1.96
Total	7,366.5	5,382	10,716	32,973.5	56,438	10.68

TABLE IV.

PRIVATE WATER PIPES IN VILLAGE, WITH NUMBER OF GATES, HYDRANTS AND CONNECTIONS.

Street.	Length in Feet.		Gates.		Hydrants.	Connections.	Owner.
	6 Inch.	4 Inch.	6 In.	4 In.			
Centre St*	2,400		3		4	10	Montrose Park Co.
Franklin Place		696	1	1	1	1	P. Scherrer.
Hamilton Road*		825				1	Montrose Park Co.
Hartford Road*		1,150	1	3	9		" " "
Kingman Ave *		822		2	3		" " "
Lester Place		503	1	1			P. Scherrer
Montrose Ave *		1,150		2	1		" "
Stanley Ave *		850		2			Montrose Park Co.
Turrell Ave		1,250	1	1	2		Geo. B. Turrell.
W. Montrose Av		715	1	2			P. Scherrer.
	2,400	7,964	3	5			

† Estimated length, etc.

TABLE VI.

METERS IN USE MARCH, 1892.

Size in Inches	3	1½	1	¾	½	Total.
Crown		1	5		19	25
Worthington	2		1	3		6
Total	2	1	6	3	19	31

* The Village meters did not register properly during the early part of 1891, and the readings were discarded by mutual consent in settlement of water bill with Commonwealth Company.

† The daily average is given above is by Company's meters to July 9, 1891, and after that date by average of Company's and Village's meters.

TABLE VII.

CONSUMPTION.

Months	Gallons per Month.		Gallons Per Day. +	No. Taps.	Gallons Per Day, Each Tap.
	Company Meters.	Village Meters.*			
1891.					
February 7th to April 2nd	1,971,727	Read Disc'd	36,516 c	81	450
April 2nd to May 5th	2,416,477		73,226 c	108	678
May 5th to June 9th	1,069,387		30,553 c	119	257
June 9th to July 9th	2,456,573		81,886 c	136	601
July 9th to August 4th	1,791,634		68,734 a	147	467
August 4th to September 8th	1,890,475	1,802,573	53,635 a	157	341
September 8th to October 5th	1,473,150	1,863,980	54,359 a	165	390
October 5th to November 9th	1,910,550	1,462,275	54,912 a	183	300
November 9th to December 7th	1,486,875	1,933,350	53,420 a	194	270
December 7th to January 4th	2,139,510	1,504,657	77,972 a	198	393
1892.		2,226,967			
January 4th to February 2nd	1,874,990	1,956,562	66,061 a	200	330
February 2nd to March 7th	2,023,792	2,112,787	60,832 a	202	301
Total					

Estimated population to date	3,350	Total gal. sup. (Mar. 7, '92) 22,505,325
" " on pipe lines	3,000	Gals. per day to each consumer
" " supplied	1,500	" " " " inhabitant

INVENTORY OF STOCK AND TOOLS ON HAND MARCH 1, 1892.

Cast Iron Pipes.

Diameter in Inches.	No. of Pipe.	Length in Feet.
10	2	24
8	2	24
6	2	24
4	2	24

Sleeves.

2 10-inch,	2 8-inch,	2 6-inch,	2 4-inch.
49 ½-inch taps and couplings,		49 ½-inch curb stops,	
10 ¾-inch " " "		10 ¾-inch " " "	
5 1-inch " " "		8 1-inch " " "	

15 Stop Boxes.

- 1 Tapping Machine and Fittings,
- 1 Extra ½-inch Drill and Tap,
- 1 Extra ¾-inch Drill and Tap,
- 1 Extra 1-inch Drill and Tap,
- 2 Gate Keys,
- 1 Curb Stop Key,
- 3 Hydrant Wrenches.

METERS.

The great problem that confronts all Water Departments is how to reduce the consumption to a minimum, yet allowing a liberal supply for all legitimate purposes, in short, to prevent the waste of water. In

a village supplied as ours is, this is a subject of some magnitude, for as we pay for each gallon of water delivered at the village line, the amount wasted is a steady drain upon the community for which there is no equivalent returned.

We have seen that during the past Summer the consumption was greater than during the Winter months, despite the fact that the number of consumers was one-third less than the present number, and it is to be expected that a large quantity will be required for sprinkling purposes in the coming warm months. Although lawn sprinkling is paid for, it appears that the rate charged is not sufficient for those who have a large lawn or garden area, in comparison with the ordinary house holder, and it is patent that it cannot be equitably estimated with justice to all the consumers.

The Board of Trustees has established certain regulations for sprinkling, but we have reason to believe that the rules are constantly violated and the water allowed to run at all times through the day or the night. Many other things contribute to the waste, leaky faucets, leaving the faucet open in Summer to keep the water cool, or in Winter to prevent freezing, waste in washing carriages, etc., which, in a single case does not amount to much, yet when multiplied throughout the Village, the waste assumes startling proportions.

Inspection is powerless to prevent it; officials cannot be expected to enter private property at all times, and the only remedy appears to be that of measuring the flow and charging accordingly.

The importance of checking waste has led to great improvements in water meters during the past few years, and those of the best manufacture can be relied upon to register all that passes through them.

The water meter is an ever vigilant inspector, costing little, requiring but few repairs, and a rate based upon its measurement is necessarily fair and equitable to all.

The use of a metered system would obviate the difficulties encountered even during the brief period of the existence of this department by complaints of excessive charges for various fixtures when a consumer has more than one source of supply.

The experience of other cities has conclusively demonstrated the benefits of a metered system, and this opinion is fortified by the testimony of the best engineers.

The available supply of pure water for domestic service in this State is constantly diminishing, owing to the increasing population and the contamination of streams by sewage, and it seems to be the

height of folly and extravagance to allow good water to run to waste after conducting it in an expensive manner from great distances.

A comparison of the consumption in metered cities with those where few meters are set will show their value in reducing the waste. The city of Providence which has over two-thirds the population of Newark does not consume one-half as much water, and the daily average of each consumer in Providence is 55 gallons against 84 gallons in Newark, but Providence has 9,972 meters and Newark has but 590.

In Berlin, Germany, where every house is metered and a large quantity of water needed to flush the sewers which have a fall of but one foot in a thousand, the daily consumption is but 25 gallons for each inhabitant.

The following table shows the number of meters, etc., in eight cities in various parts of the country in which the consumption can be compared and the bearing of meters on this subject calculated.

City.	Estimated Population.	Estimated Population Supplies.	Average Daily Consumption.	No. Meters.	Per Cent. of Water Metered.	Gallons per Day to Each Inhabitant.	Gallons per Day to Each Consumer.	No. Taps.	Gallons per Day to Each Tap.
*Bradford, Pa. . .	13,000	10,544	1,444,000	12		106	132	1,899	749
Bay City, Mich. .	32,000	13,000	2,779,384	327	12.1	87	214	1,655	1,679
Springfield, Mass	45,460	33,500	4,010,986	1,126	12.93	88	120	6,181	649
†N. Bedford, Mass	45,000	38,500	4,145,648	135	22.65	92	108	6,742	615
Fitchburgh, Mass	25,000	17,000	1,560,000	1,111	29.11	62	88	3,103	502
Taunton, Mass. . .	25,448	21,320	1,022,211	1,059	37.10	40	48	3,386	302
Fall River, Mass. .	77,329	71,000	2,355,700	3,975	40.2	30.46	33.8	5,247	456
Woonsocket, R. I.	22,000	15,000	360,538	1,041	52.5	16.38	24.03	1,276	232

It is not asserted that there are flagrant offenses in regard to waste in this Village, but it is advisable at the inauguration of a system to secure the most efficient means of conducting it, for abuses of long standing are always the most difficult to eradicate.

It is also to be expected that the sewerage system soon to be established will offer an inducement to more waste, as the probability of filling cesspools and other receptacles for sewage might have operated heretofore in preventing an incessant flow of water.

An apparent objection to setting meters by the Village authorities would be the cost, which at first would entail considerable expense, but this might be met by an annual charge or rent covering the in-

* Manufactories metered only.

† Motors metered only.

terest on the cost and allowing a margin for inspection and repairs. In Orange the rent of a meter is five dollars per annum in addition to the rates established for the water registered. This seems to be an excessive charge and might safely be modified in our case.

These facts are respectfully submitted for your consideration, and I believe a further investigation will result in strengthening the opinion I have endeavored to demonstrate, that the profits are augmented, the efficiency increased and the benefits of a water system more equitably distributed by the adoption of meters for the majority of the consumers.

CHAS. J. BARRETT,
Superintendent.

REPORT OF Chief of Fire Department.

To the Honorable the Board of Trustees of the Village of South Orange:

GENTLEMEN: I herewith submit my annual report as follows:

The apparatus of the Fire Department at present consists of two hose carriages, one thousand feet of hose and other necessary implements, and one hook and ladder truck, all being in good condition.

The apparatus is stored in Detrich's stable on Vose avenue, the rent of which is paid by the village. The headquarters of the company is in Decker's Building, the company paying the rent for the same. I would suggest that the Board of Trustees consider the advisability of erecting a building in a suitable location for the use of the department, as it is unjust to them to compel them to pay anything toward sustaining the department outside of their services.

The department now consists of 38 active members, all of whom have been fully trained in the art of fighting fire and, I believe, are capable of coping with any conflagration which may occur.

The following is the record of fires for 1891 and to May 1, 1892, in this Village:

First fire on March the 5th, at the house of Mr. P. Fitzgerald, on Church street; inmates, Mr. L. Corcoran and family; loss about \$100; cause, defective flue.

Second fire on March the 5th, at the home of Mr. J. F. Kennelly, on First street; loss slight; cause defective flue.

Third fire on March the 10th, at the home of Mr. H. Trenchard, on Roland avenue; loss about \$300; cause unknown; fully insured.

Fourth fire on the 26th of April, at the home of Mr. James A. Griffing, on South Orange avenue; loss about \$100; cause unknown.

Fifth fire on the 27th of April, at the home of Mr. H. B. Halsey, on Bowers place; loss about \$100; fully insured; cause unknown.

Sixth fire on the 30th of July, at the home of Mr. P. Sharkey, on Church street; loss \$50; fully insured; cause defective flue.

Seventh fire, Mr. J. S. Sazarac's barn, on Centre street, was burned on Wednesday afternoon, October 14, 1891.

Eighth fire occurred on Tuesday evening, November 24th, when Mr. John Pettit's barn, in West Orange, was destroyed, at which fire the department rendered its services; loss \$5,000.

Ninth fire on Saturday evening, December 5th, when the house near the Field Club grounds and owned by Mr. George B. Turrell (now the property of Mr. Kraus Mor) was damaged.

Tenth fire, Sunday evening, December 6th, at the M. E. Church. The department responded, but the fire, which was slight, was subdued without their aid.

Eleventh fire, Thursday, April 28, 1892. Dr. William J. Chandler's barn, on Milligan place, was totally destroyed.

I would recommend that an additional 500 feet of hose be purchased, as experience has proven that our present supply is not sufficient for all occasions.

I wish to return thanks to the citizens of South Orange for their generosity in assisting us during the past year, and I also wish to publicly express my regard to the members of the department for their deportment and the splendid service performed.

Yours respectfully,

WILLIAM D. DECKER.

Report of Sewerage Committee.

At the beginning of the session of the present Board of Trustees a plan for sewerage of this village had been perfected, which, in the opinion of the Sewerage Committee, was the best and at the same time the most economical which could be devised. A number of citizens, however, took the ground that not sufficient time had been given to the subject and disapproved of the plan in certain particulars. These parties applied to the court for a writ to prevent the carrying out of the scheme as proposed. This writ, however, was withdrawn by the applicants, owing to a compromise or agreement between them and the Sewerage Committee. To carry out the terms of the agreement, the Board went to considerable expense. A board of expert engineers was appointed, including as high an authority on sewerage as could be found in the country. This Board of Engineers heartily approved in every particular, of the plan as previously proposed by the Committee and gave their endorsement to it as being the best and most economical system the village could adopt.

On the presentation of the report by the engineers it was decided by the Board of Trustees to at once obtain the land required for a filtration bed, which had been recommended by the engineers. This was accomplished in the purchase of the Woodruff farm at Millburn. The Trustees authorized the issue of \$25,000 worth of 5 per cent. sewer bonds, which were sold at a good premium; an engineer was engaged to lay out the route for a main trunk sewer and to superintend the preparation of the filtration bed; also to make a map covering the system proposed.

Work having progressed satisfactorily so far, the Committee have a right to believe that a system of sewerage for South Orange will soon be an established fact. It may be proper to mention that several citizens of Millburn, fearing that a sewerage farm within the limits of that town would prove an injury to the health of that community or cause depreciation in value to adjoining property, used their influence to obtain the passage of a law forbidding one municipality to construct sewerage disposal works within the limits of another municipality without the consent of the governing body of such municipality. This law was passed, but as it cannot legally apply to the village of

South Orange, which already had its system in process of construction, the Committee do not consider it important except so far as the law may be made to cause legal expenses and delays.

In this connection the Committee desires to state that a resolution has been passed by the Board of Trustees inviting the town of Millburn to join this village in its sewerage system upon as favorable terms as this village would enjoy, and under the joint supervision of inspectors from each municipality.

The Sewerage Committee are aware that all improvements in the municipal affairs of small communities which involve expense, meet with more or less objection and impediments are thrown in the way of such improvements, often by the parties who are most to be benefited. They expected to meet with obstacles but do not know that they have had more difficulties to contend with than fall to the lot of other schemes for public benefit.

A. C. BABSON, Chairman.

Report of Committee on Police.

The Committee on Police begs leave to present the following annual report:

On the 23rd of April, 1891, the Committee recommended that the Police Department of the Village should be increased so as to consist of the following force:

A village marshal, five regular constables and one special constable, one of the regular constables being constituted sergeant.

The report was duly approved by the Board of Trustees and the force organized accordingly. This force was continued on duty until January, 1892, when, by a re-arrangement of the tours, it was found practicable to reduce the number of men, and the services of one constable were accordingly dispensed with.

All parts of the Village are now regularly patrolled at night. Faithful attention to duty is tested by means of the ordinary watchmen's clocks, with the keys, located at conveniently distributed points. A sufficient force is also available for day duty when necessary. The total salaries of the force amount to \$295.00 a month.

Soon after the force was organized a number of robberies having occurred, the services of detectives were employed in addition to the regular force, resulting in an expense to the Village of \$185.00. No arrests were made.

The present regular force appears to be sufficient for all occasions that have since arisen, and its members are deserving of commendation for their attention to their proper duties. All causes of complaint have been investigated and certain additional rules adopted to meet cases not previously provided for. The annual report of the Village Marshall is attached hereto.

Respectfully submitted, W. F. ALLEN,
H. B. HALSEY,
A. C. BABSON,
Committee on Police.

MARSHALL'S REPORT FOR THE YEAR.

Arrests for the year	80	SOUTH ORANGE, April 21, 1892.	
Drunk and disorderly	60	Committed to county jail	19
Hitching to trees	4	Discharged	32
Vagrancy	9	Males	75
Suspicion	7	Females	5
Fined	29	Fines for the year	\$138
		Lamps not burning	185

H. T. TRENCHARD, Marshal.

