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REPORTS

OF THE

WATER COMMISSIONERS

TO THE

COMMON COUNCIL OF THE CITY OF ALBANY,

TRANSMITTING THE

REPORTS OF THE CHIEF ENGINEER

AND THE

SUPERINTENDENT OF THE WATER WORKS.



ALBANY :

WEED, PARSONS AND COMPANY.

1852.

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OF THE  
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## WATER COMMISSIONERS' REPORT.



*To the Hon. the Mayor, and  
Common Council of the City of Albany.*

GENTLEMEN :

The resolutions passed by the Common Council on the 22d of September last, and sent to this Board, were referred to our Chief Engineer to report thereon ; and his report is herewith transmitted to you.

The Commissioners have some time been aware that the work would exceed the original estimate, but not until they received the accompanying report of the Chief Engineer, did they anticipate that the works would cost so much.

JAMES STEVENSON,  
ERASTUS CORNING,  
JOHN TOWNSEND,  
JOHN TAYLOR,  
R. E. TEMPLE,

*Water Commissioners.*

WATER COMMISSIONERS' OFFICE,  
*Albany, Oct. 18, 1851.*

# REPORT OF CHIEF ENGINEER.

ALBANY, Oct. 3, 1851.

*To the Water Commissioners of the City of Albany.*

GENTLEMEN :

In pursuance of your instructions, I herewith submit a reply to the resolutions which were adopted by the Common Council, on the 22d of September last.

I have presented these replies without reference to the order in which the resolutions are arranged.

The estimate which I submitted to you on the 3d of August, 1850, and which is now called for, is as follows :

## II. From Patroon's Creek at the junction.

### *Junction Reservoir.*

90 acres of land, at \$25, -----	\$2,250 00
61 acres of chopping and clearing, \$25, -----	1,525 00
2,500 rods of fence, \$1.50, -----	3,750 00
Grubbing, -----	150 00
Bridges and roads for farmers, -----	500 00
1,000 cubic yards of excavation, 20c., -----	200 00
3,000 cubic yards of excavation, 12c., -----	360 00
30,000 cubic yards of embankment, 12c., -----	3,600 00
4,000 cubic yards of embankment, puddled, 35c., -----	1,400 00
Extra puddling and lining near dam, -----	1,500 00
1,300 cubic yards of slope wall, \$2.25, -----	2,925 00
Turfing banks, &c., -----	500 00
200 lineal feet of drain pipe, \$2.50, -----	500 00
2 stop-cocks, \$75, -----	150 00
Puddling and other work about do., -----	200 00
Gate chamber pipes, &c., -----	1,500 00
Waste weir, -----	1,500 00
House for gate keeper, -----	500 00
<b>Total, -----</b>	<b>\$23,010 00</b>

*Conduit, and Grading therefor.*

20 acres of land, \$20, .....	\$400 00
12 acres of land, \$50, .....	600 00
3 acres of land, \$200, .....	600 00
4,000 cubic yards of rubble concrete, &c., founda- tions, \$5, .....	20,000 00
6,800 cubic yards of brick masonry, \$6, .....	40,800 00
Other work on ditto, .....	2,850 00
5 waste weirs, &c., \$500, .....	2,500 00
10 culverts, \$300, .....	3,000 00
10 road crossings, \$25, .....	250 00
Turnpike crossing, .....	150 00
Temporary fences, .....	500 00
150,000 cubic yards of excavation, 1st section, 12c., ..	18,000 00
70,000 cubic yards of embankment, 1st section, 10c., ..	7,000 00
Temporary drains and bailing, .....	1,000 00
Grubbing, .....	150 00
Turfing banks and trimming slopes, .....	500 00
80,000 cubic yards excavation and embankment, 2d section, 10c., .....	8,000 00
Grubbing, 2d section, .....	150 00
Turfing, &c., 2d section, .....	500 00
20,000 cubic yards excavation and embankment, 3d section, 12c., .....	2,400 00
2,000 cubic yards puddle, 25c., .....	500 00
Turfing banks, 3d section, .....	500 00
2 road crossings, .....	200 00
<b>Total, .....</b>	<b>\$110,550 00</b>

*Receiving Reservoir.*

10 acres of land, \$500, .....	\$5,000 00
50,000 cubic yards of excavation, 12c., .....	6,000 00
16,000 cubic yards of puddling, 20c., .....	3,200 00
6,000 cubic yards of gravel, 50c., .....	3,000 00
600 cubic yards of brick masonry, \$6, .....	3,600 00
50 cubic yards of stone masonry, \$4, .....	200 00
Turfing, .....	500 00
Fencing and drains, .....	500 00
Inlet chamber, .....	1,000 00
Inlet and outlet pipes and cocks, .....	2,400 00
<b>Total, .....</b>	<b>\$25,400 00</b>

*Enlarging Pond at foot of Tivoli Falls.*

No detailed estimate was made in the report of the engineer, of 3d August, 1850, -----	\$20,000 00
Extending pipes from the lower to the upper pond at Tivoli, the same as above, -----	5,000 00
Repairs and additions to old Company Water Works, the same as above, -----	5,000 00

*Distribution Pipes, Stop-cocks, Hydrants, &c.*

65,000 lineal feet pipe 3 in. diameter, \$0.60,	\$39,000	
20,000 lineal feet pipe 4 in. diameter, 0.90,	18,000	
15,000 lineal feet pipe 6 in. diameter, 1.25,	18,750	
8,000 lineal feet pipe 8 in. diameter, 1.40,	11,200	
2,500 lineal feet pipe 10 in. diameter, 1.60,	4,000	
5,800 lineal feet pipe 12 in. diameter, 2.50,	14,500	
		105,450 00
160 stop-cocks for pipes 3 in. diam., \$20.00,	\$3,200	
80 stop-cocks for pipes 4 in. diam., 25.00,	2,000	
30 stop-cocks for pipes 6 in. diam., 35.00,	1,050	
20 stop-cocks for pipes 8 in. diam., 50.00,	1,000	
10 stop-cocks for pipes 10 in. diam., 70.00,	700	
5 stop-cocks for pipes 12 in. diam., 75.00,	375	
		8,325 00
200 hydrants, \$25, -----		5,000 00
Pipe, yard and buildings and testing apparatus, ----		4,000 00
Expenses of proving, carting, and laying down, not provided for above, -----		17,225 00
		17,225 00
Total, -----		\$140,000 00

The first division of the second resolution calls for the estimated quantity of each kind of work to be performed under each contract, (as included in the original estimates referred to,) the price estimated by the engineer, the price to be paid to the contractor, &c., which amounts to a comparison of the quantities, prices and aggregate cost of the above estimate, with the prices paid the the several contractors. and the aggregate cost at their prices, applied to the above quantities, distributed among the several contracts.

It is proper here to state, that after this estimate was made and before the work was contracted for, numerous and radical changes were made, as follows :

The contract for the retentive reservoir embraces a dam located nearly half a mile from the one which is in the above estimate.

The contract for sections 2 and 3, embraces a distance of more than three fourths of a mile, no part of which was included in the above estimate, and which was nearly half a mile distant from the line assumed therein, and of a character of work entirely different.

On section No. 1, the line was changed both before and after the contract was made, for its entire length, except for about eight hundred feet.

The plan for the receiving reservoir was changed in dimensions, omissions and additions.

Watervliet lake was totally changed both in location and plan.

The distribution pipes were changed in dimensions and mode of casting, and the quantity greatly increased, by laying in streets, not contemplated in making the estimate.

The price which is stated in the estimates for brick masonry, includes the furnishing of the materials and placing them in the work complete. The contracts were made separately for the brick, and for furnishing the cement, and laying up the masonry.

The prices which are stated in the estimates for the iron pipes, include in one item the furnishing of the pipes, proving and hauling them, digging the trenches, laying the pipes, and restoring the earth and pavements.

Contracts were made separately for the delivery and hauling of the pipes, and for the trenches. No contracts were made for the other items which are embraced in the estimated prices.

These changes have so materially altered the work for which the above estimate of \$361,960 was made, as to render the application of the contract prices of the amended line, and changed circumstances of the work, nearly as impracticable as would be their application to the Hungerkill route, for which I submitted an estimate at the same time.

The location, quantities, and character of the work being essentially different, the application of the contract prices to the estimates alluded to, for the purpose of comparison, cannot be made.

The prices, however, which were estimated, are already given; and the prices to be paid to the contractors on the amended lines, will be found in a subsequent part of this report.

The second division of the second resolution calls for the actual quantity of each kind of work already performed under each contract, the price paid and to be paid for the same, and its aggregate cost which, is as follows:

*Estimate of the amount of work done on the 1st, 2d and 3d contracts for Furnishing Brick, up to October 1st, 1851.*

1,024,000 brick, at \$7, .....	\$7,168 00
205,486 brick, at \$6.50, .....	1,335 66
1,411,559 brick, at \$7.12, .....	10,050 30

*Estimate of the amount of work done on contract for Constructing the Retentive Reservoir, up to October 1st, 1851.*

24,020 cubic yards excavation, 8c., .....	\$1,921 60
28,682 cubic yards embankment, 9c., .....	2,581 38
17,870 cubic yards puddling, 14c., .....	2,501 80

Carried forward, ----- \$7 004 78

Brought forward, -----	\$7,004 78
13,072 cubic yards lining, 17c., -----	2,222 24
28½ acres clearing and chopping, \$20, -----	570 00
4.38 acres clearing and grubbing, \$75, -----	328 50
32,637 feet hemlock lumber, \$18, -----	587 46
1,690 feet hemlock lumber, used 2d time, \$9, -----	15 21
207 cubic yards brick masonry, \$3, -----	621 00
8 cubic yards cut stone masonry, \$15, -----	120 00
62 cubic yards slope wall, \$2.13, -----	132 06
2,554 feet oak timber, \$30, -----	76 62
183 cubic yards rubble masonry, \$5, -----	915 00
294 pounds wrought iron, 8c., -----	23 52
32.33 cubic yards concrete, \$4.50, -----	145 48
200 cubic yards slope wall, stone delivered, \$1.50, ---	300 00
325 pounds lead around iron gate frames, 10c., -----	32 50
47½ days extra work hauling brick-bats, &c., \$1, -----	47 50
2,000 feet hemlock lumber, delivered, \$9, -----	18 00
Total, -----	<u>\$13,150 87</u>

*Estimate of the amount of work done on the contract for Constructing Sections Nos. 2 and 3, up to October 1st, 1851.*

122,309 cubic yards of excavation, 13c., -----	\$15,900 17
14,450 cubic yards of excavation, 7c., -----	1,011 50
25,540 cubic yards of embankment, 16c., -----	4,086 40
13,470 cubic yards of embankment, 10c., -----	1,347 00
1,617½ cubic yards of brick masonry in conduit and culverts, \$2.90, -----	4,690 25
2,452 cubic yards of brick masonry in conduit and culverts, \$2.85, -----	6,988 20
161.10 cubic yards of rubble masonry, \$8, -----	1,288 80
8.40 cubic yards of concrete masonry, \$8, -----	67 20
519,977 feet hemlock lumber, \$35, -----	18,199 20
299,000 feet hemlock lumber, used 2d time, \$17.50, ---	5,232 50
6,515 pounds wrought iron, 12c., -----	781 80
5.96 acres chopping and clearing, \$50, -----	298 00
3.51 acres clearing and grubbing, \$125, -----	438 75
10 cubic yards puddling, 30c., -----	3 00
250 cubic yards gravel in foundation for conduit, \$1.50, ---	375 00
16½ cubic yards stone and brick filling for culvert, 75c., ---	12 37
Extra haul of brick, -----	441 00
Making road, -----	5 00
Farm gate, -----	5 00
66 cubic yards broken stone in foundation for conduit, \$1.50, -----	99 00
5.50 cubic yards stone filling for foundation, \$2.25, ---	12 38
241½ days labor cleaning out conduit, \$1, -----	241 50
10 days labor, overseer, cleaning out conduit, \$2, ---	20 00
2¼ cubic yards taking up conduit, braces breaking, \$1, ---	2 25
Carried forward, -----	<u>\$61,546 27</u>



	\$61,546 27
Brought forward, - - - - -	18 00
6 days labor of teams, hauling lumber and clay, \$3, - - -	5 11
Building plank dam, - - - - -	11 25
Wooden tubs for measuring quicksand, - - - - -	21 45
Cleaning out cribs and conduit, - - - - -	\$61,602 08
Total, - - - - -	<u>61,602 08</u>

*Estimate of the amount of work done on the contracts for  
Section No. 1, up to September 23d, 1851.*

	\$3,738 15
41,535 cubic yards of excavation, 9c., - - - - -	6,561 44
41,009 cubic yards of embankment, 16c., - - - - -	47 40
237 cubic yards of puddling, 20c., - - - - -	7,317 92
2,661.06 cubic yards of brick masonry in conduit, &c., \$2.75, - - - - -	77 60
9.70 cubic yards of concrete masonry, \$8, - - - - -	88 25
3.53 cubic yards of cut stone masonry, \$25, - - - - -	5,577 90
111,558 feet of hemlock lumber, \$50, - - - - -	76 00
3,040 feet of hemlock lumber, used second time, \$25, - - -	11 25
225 feet of oak timber, \$50, - - - - -	130 56
1,088 pounds wrought iron work, 12c., - - - - -	295 00
2.36 acres grubbing and clearing, \$125, - - - - -	200 00
4 acres clearing and chopping, \$50, - - - - -	24 00
48,000 hauled 2,000 feet, extra haul of brick, 50c., - - -	68 00
17 cubic yards dry stone work, \$4, - - - - -	22 50
15 cubic yards gravel under conduit, \$1.50, - - - - -	385 00
Stone foundation at Sta. 26 and 27, - - - - -	31 50
126 rods, making roads along section, 25c., - - - - -	47 81
127½ rods removing and putting up fence, 37½c, - - - - -	453 12
362½ rods fence, \$1.25, - - - - -	2 00
Making road along section at Sta. 31, - - - - -	8 00
Repairing fence, - - - - -	331 00
331 rods, making road along section, \$1, - - - - -	\$25,495 40
Total, - - - - -	<u>25,495 40</u>

*Estimate of the amount of work done on the contract for  
Receiving Reservoir, up to October 1st, 1851.*

76,265 cubic yards of excavation, 12c., - - - - -	\$7,151 80
5,660 cubic yards of embankment, 15c., - - - - -	849 00
1,067 cubic yards of gravel lining, 20c., - - - - -	213 40
24,050 cubic yards of puddling, 10c., - - - - -	2,405 00
63½ cubic yards of brick masonry in conduit and culverts, &c., \$3.85, - - - - -	244 47
61 cubic yards of brick masonry in house, \$3, - - - - -	183 00
3 cubic yards of concrete masonry, \$4.50, - - - - -	13 50
Carried forward, - - - - -	<u>\$13,060 17</u>

Brought forward,-----	\$13,060 17
13,113 feet hemlock and pine lumber, \$.5, -----	327 83
700 feet oak lumber, \$50, -----	35 00
67,158 brick, \$7,-----	470 10
2 days extra labor, \$1, -----	2 00
13 days extra labor, \$7½c., -----	11 37
Total, -----	<u>\$13,906 47</u>

*Estimate of the amount of work done on the contract for Constructing Picket Fence at Bleecker Reservoir, up to October 1st, 1851.*

2,000 lineal feet built, 22c.,-----	<u>\$440 00</u>
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*Estimate of the amount of work done on the contract for Constructing the Waterliet Lake Reservoir, up to October 1st, 1851.*

3½ acres grubbing and clearing on the lake and ditches, \$1.50,-----	\$525 00
½ acre grubbing on the gate house, waste weirs, &c., \$200, -----	100 00
25½ acres chopping and clearing on the lake and ditches, \$50, -----	1,275 00
27,000 cubic yards excavation on the lake and ditches, 12c., -----	3,240 00
8,518 cubic yards excavation on the gate house, waste weirs, &c., 20c., -----	1,703 60
67,900 cubic yards embankment on the lake and ditches, 11c.,-----	7,469 00
5,569 cubic yards embankment on gate house, waste weirs, &c., 18c.,-----	1,002 42
1,700 cubic yards lining on the lake and ditches, 12c.,	201 00
162 cubic yards lining on the gate house, waste weirs, &c., 30c.,-----	48 60
15,200 cubic yards puddling on the lake and ditches, 12c., -----	1,821 00
2,436 cubic yards puddling on the gate house, waste weirs, &c., 25c., -----	609 00
98 cubic yards slope wall on the lake and ditches, \$3, -----	294 00
47 cubic yards slope wall, on the gate house, waste weirs, &c., \$4, -----	183 00
12½ cubic yards stone paving on gate house, waste weirs, &c., \$5, -----	62 50
10 cubic yards concrete masonry, \$7, -----	70 00
18 cubic yards rubble stone masonry on the lake and ditches, \$10, -----	180 00
6 cubic yards cut stone masonry on the gate house, \$30, -----	180 00
Carried forward, -----	<u>\$18,975 12</u>

Brought forward,-----	\$18,975 12
Transporting and laying brick, including mortar, &c.:	
133 $\frac{1}{2}$ cubic yards do. in gate house, \$6,-----	801 00
53 $\frac{1}{4}$ cubic yards do. in culverts, &c., \$3.50,-----	188 12
148 $\frac{1}{4}$ cubic yards furnishing brick, \$12,-----	1,785 00
38 cubic yards furnishing brick, \$10,-----	380 00
47,315 feet pine and hemlock lumber in gate house, \$40,-----	1,892 60
13,531 feet pine and spruce lumber on the lake and ditches, \$30,-----	405 93
2,395 feet oak lumber in gate house, \$100,-----	239 50
383 rods constructing new fence, \$1.50,-----	574 50
102 rods removing old fence, 25c.,-----	25 50
123 $\frac{1}{2}$ days labor, \$1,-----	123 50
3 new gates in fence, \$1.50,-----	4 50
220 tons carting pipes from north yard, 85c.,-----	187 00
7 tons carting pipes from south yard, \$1,-----	7 00
E. G. Otis' bill repairing old pipe, &c.,-----	5 44
2 $\frac{1}{2}$ days labor with teams moving pipe layers, \$3,-----	7 50
1,281 stakes for engineers, 2c.,-----	25 62
Hauling gates from Townsend's furnace,-----	1 00
7 $\frac{1}{4}$ days Wm. Gray's bill for setting gates, \$2.75,-----	19 94
Townsend's bill for helping Gray,-----	7 88
800 pounds spikes in gate house, waste weirs, &c., 15c.,-----	120 00
243 bushels charcoal in box around pipe at bridge, 18 $\frac{3}{4}$ c.,-----	45 56
Setting wood chimney in the lake over waste pipe,-----	3 00
7 pounds bolts in abutments to sustain coal box, 15c.,-----	1 05
To Townsend's furnace twice for wrench,-----	0 25
Sharpening drills (August),-----	2 50
Taking down abutments to bridge near Otis',-----	6 00
31 days taking down abutments near lower dam, \$1.50.,-----	46 50
Carting gate rods to and from Townsend's,-----	2 00
Total,-----	<u>\$25,883 51</u>

*Estimate of the amount of work done on the 1st contract for Iron  
Pipes, up to October 3d, 1851.*

1,445 tons six inch pipes and under, also curves, branches, &c., \$47,-----	\$67,915 00
638 tons eight, ten and twelve inch pipes, \$41.50,-----	26,477 00
320 tons sixteen inch pipes, \$42.50,-----	13,600 00
Total,-----	<u>\$107,992 00</u>

*Estimate of the amount of work done on the 2d contract for Iron Pipes, up to October 1st, 1851.*

450 tons of pipes, \$39, -----	\$17,550 00
14.42 tons of branch pipes, \$40, -----	576 80
Total, -----	<u>\$18,126 80</u>

*Estimate of the amount of work done on the contract for Hydrants, up to October 4th, 1851.*

21,000 pounds of cast iron, 3c., -----	\$630 00
4,200 pounds of wrought iron, 12c., -----	504 00
1,300 pounds of composition, 30c., -----	390 00
1,800 pounds of lead, 6c., -----	108 00
149 fitting up, \$2.50, -----	372 50
Total, -----	<u>\$2,004 50</u>

*Estimate of the amount of work done on the contract for Stop-cocks, up to October, 1st, 1851.*

22,000 pounds cast iron, 2½c., -----	\$550 00
1,400 pounds wrought iron, 13c., -----	182 00
600 pounds composition, 30c., -----	180 00
50 pounds copper, 30c., -----	15 00
1,200 pounds lead, 5½c., -----	66 00
50 fitting up, \$5, -----	250 00
Patterns and extra work on fitting up, -----	500 00
	<u>\$1,743 00</u>
Deduct for charges for stop-cocks purchased, &c., -----	863 27
Total, -----	<u>\$879 73</u>

*Estimate of the amount of work done on the contract for Trenches for Water Pipes, up to October, 1st, 1851.*

20 miles, \$1,500, -----	\$30,000 00
5,000 cubic yards of sand, 25c., -----	1,250 00
Total, -----	<u>\$31,250 00</u>

*Estimate of the amount of work done on the 1st contract for Hauling Pipes, up to August 11th, 1851.*

209 tons of pipes carted, 80c., -----	\$167 20
45 tons of pipes carted, 50c., -----	22 50
7 tons of pipes carted, 55c., -----	3 85
53 tons of pipes carted, 80c., -----	42 40
30 tons of pipes carted, 75c., -----	22 50
Total, -----	<u>\$258 45</u>

*On the 2d contract, up to September 16th, 1851.*

175 tons of pipes carted, \$1, -----	\$175 00
152 tons of pipes carted, 80c., -----	121 60
Total, -----	<u>\$266 60</u>

*On the 3d contract, up to September 23d, 1851.*

29 tons of pipes carted, 80c., -----	\$23 20
119½ tons of pipes carted, 75c., -----	89 62½
248½ tons of pipes carted, 70c., -----	173 95
283½ tons of pipes carted, 55c., -----	155 92½
168½ tons of pipes carted, 50c., -----	84 25
158 tons of pipes carted, 80c., -----	126 40
35 tons of pipes carted, \$1, -----	35 00
13 tons of pipes carted, 90c., -----	11 70
123 tons of pipes carted, 50c., -----	61 50
130 tons of pipes carted, 55c., -----	71 50
59 tons of pipes carted, 70c., -----	41 30
4 tons of pipes carted, 75c., -----	3 00
60 tons of pipes carted, 85c., -----	51 00
56 tons of pipes carted, \$1, -----	56 00
Total, -----	<u>\$984 35</u>

The third division of the second resolution calls for the estimated quantity of each kind of work yet to be performed on each contract, the price to be paid therefor, and its aggregate cost at the price so named, which is as follows :

*Brick.*

170,000 brick, one-half on each contract, viz :	
85,000, \$7, -----	\$595 00
85,000, \$7.12, -----	605 20
Total, -----	<u>\$1,200 20</u>

*Retentive Reservoir.*

4 acres chopping and clearing, \$20, -----	\$80 00
10,000 cubic yards of embankment, 9c., -----	900 00
4,200 cubic yards of puddling, 14c., -----	588 00
200 cubic yards of slope wall, 63c., -----	126 00
House for gate chamber, -----	100 00
Deduct charges for cement furnished, -----	\$1,794 00
	125 00
Total, -----	<u>\$1,669 00</u>

*Sections Nos. 2 and 3 of Conduit.*

1,800 cubic yards of excavation, 13c., -----	\$234 00
14,500 cubic yards of embankment, 16c.,-----	2,320 00
3,500 cubic yards of embankment, 10c.,-----	350 00
300 cubic yards of brick masonry, \$2.85,-----	855 00
45 cubic yards of brick masonry, \$2.90,-----	130 50
10,000 feet, (board measure,) lumber, \$35,-----	350 00
75,000 feet, (board measure,) lumber, used second time, \$17.50,-----	1,312 50
1,700 pounds of wrought iron, 12c.,-----	204 00
8 cubic yards of cut stone masonry, \$25,-----	200 00
	<hr/>
Deduct charges for cement furnished, &c.,-----	\$5,956 00
	1,000 00
	<hr/>
Total,-----	<u>\$4,956 00</u>

*Receiving Reservoir.*

6,000 cubic yards of excavation, 12c.,-----	\$720 00
5,500 cubic yards of embankment, 15c.,-----	825 00
600 cubic yards of puddling, 10c.,-----	60 00
1,300 cubic yards of gravel lining, 20c.,-----	260 00
	<hr/>
Total,-----	<u>\$1,865 00</u>

*Watervliet Lake Reservoir.*

7,700 cubic yards of embankment, 11c.,-----	\$847 00
1,600 cubic yards of excavation, 12c.,-----	192 00
3,000 cubic yards of excavation, 20c.,-----	600 00
100 cubic yards of lining, 12c.,-----	12 00
700 cubic yards of puddling, 12c.,-----	84 00
60 cubic yards of slope wall, \$4,-----	240 00
13 cubic yards of pavement, \$5,-----	65 00
10 rods of fence, \$1.50,-----	15 00
5,000 feet (board measure.) lumber, \$40,-----	200 00
House on gate chamber, \$75,-----	75 00
Windows, doors, &c., \$40,-----	40 00
38,000 brick to be laid, \$2,-----	76 00
Moving wooden trunk, \$30,-----	30 00
	<hr/>
	\$2,476 00
Deduct for work embraced above, which is not required to be done at present,-----	850 00
	<hr/>
Total,-----	<u>\$1,626 00</u>

*First contract for Cast Iron Pipes.*

200 tons of pipes, \$47,-----	\$9,400 00
60 tons of pipes, \$41.50,-----	2,490 00
82 tons of pipes, \$42.50,-----	3,485 00
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	\$15,375 00
Deduct for charges for unloading, &c.,-----	1,000 00
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Total,-----	\$14,375 00

*Second contract for Cast Iron Pipes.*

50 tons of pipes, \$39,-----	\$1,950 00
Deduct for charges for repairs and unloading, &c.,---	500 00
	<hr/>
Total,-----	\$1 450 00

*Hydrants.*

2 hydrants, \$12,-----	\$24 00
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*Trenches for Water Pipes.*

7½ miles of trench, \$1,500,-----	\$11,250 00
1,000 cubic yards of sand, 25c.,-----	250 00
	<hr/>
	\$11,500 00

*Hauling Water Pipes, three contracts.*

1,000 tons of pipe, 75c.,-----	\$750 00
--------------------------------	----------

The fourth division of the second resolution calls for a statement of the items composing the \$33,000, styled "contingencies, &c.," in the estimate of August, 1850.

The word "contingencies" was used in that estimate to provide for such occurrences as could not be anticipated, classified, and estimated upon by items, and as an indefinite series of events, each differing from the other, were liable to occur, and thereby render the expenditure of that sum necessary, it would be absurd now to name either specific series, as that on which the estimate was then made.

The resolution, however, calls for the estimated cost of engineering, superintending, &c. which is erroneously supposed in the resolution to have been embraced in the item of contingencies. The estimated cost of these items was merged in the general estimate, and cannot now be furnished separately.

The resolution further calls for the actual sum paid on account of these items of engineering, superintending, &c.; and although

it does not explicitly call for any other expenditures than those which are embraced in the several contracts, yet I have deemed it proper to furnish the following statement of all the expenditures which have been made for the work, which have not been already given in the preceding statements; and also in a subsequent place in this report, to furnish an estimate of the cost of completing the works in the same manner as the resolutions call for on that part which is under contract.

*Statement of the expenditures which have been made for Engineering, Superintending, and all other items which have not been already given in the preceding part of this report.*

Engineer's pay, -----	\$8,048 75
Miscellaneous expenses of gauging streams, excavating shafts, and building sluices, -----	879 71
Clerk hire in engineer and commissioner's office, -----	429 62
Stationery, maps, &c., -----	266 87
Office furniture, -----	132 67
Office expenses, cleaning, fuel, and gas, -----	440 57
Inspector's pay, -----	2,288 06
Printing and advertising, -----	1,585 19
Purchase of bricks, and hauling same, -----	7,071 22
Proving and laying down pipes, -----	19,629 09
Stop-cocks and hydrants, -----	905 14
Making fences, -----	774 38
Damages, -----	50 00
Land and water:	
Payment to S. Van Rensselaer for creek and land, -----	\$150,100 00
J. Van Rensselaer for land, -----	1,500 00
James Edwards for land, -----	2,500 00
Benjamin Van Arnam for land, -----	3,377 68
Richard H. Ogden for land, -----	1,500 00
Stephen Van Rensselaer for land, -----	2,200 81
P. Grattan for land, -----	300 00
J. Lewis and others for land, -----	500 00
Money on deposit in Commercial Bank by order of Supreme Court, in favor of James Taylor, cashier, -----	1,379 25
Payment to Albany & Schenectady Railroad Company for land, -----	300 00
Isaac Edwards for services to procure lands, -----	609 95
G. L. Wilson for services in referee case, -----	25 00
Payment to P. Grattan for extra land required by changing line of conduit, -----	400 00
Total for land and water damages, -----	164,692 69
Carried forward, -----	\$207,193 96



Brought forward, -----	\$207,193 96
Payment to old Water Works Company, -----	114,600 00
Expenses for old water works :	
Repairs of factories, -----	\$2,239 09
Insurance, -----	154 37
Repairs of old water works, -----	117 30
Superintendence of old water works, ---	575 00
Horse, collection, tools, taxes for old wa- ter works, &c., -----	2,947 85
Service-cocks for houses, -----	1,045 00
	7,078 61
Total, -----	<u>\$328,872 57</u>

*Estimate of the expenditure necessary for Engineering, Superintending, Proving, Inspecting, and Laying Pipes, Stop-cocks, and Hydrants, &c., for the completion of the work.*

Engineering, office rent and stationery, -----	\$1,000 00
Superintending, -----	200 00
Proving and laying pipes, cocks and hydrants, -----	6,000 00
Turfing banks, -----	1,000 00
Total, -----	<u>\$8,200 00</u>

The recapitulation called for by the fifth division of the second resolution, showing the estimated cost of the reservoirs, conduits pipes, &c., is as follows :

Junction reservoir, -----	\$23,010 00
Conduit and grading, -----	110,550 00
Receiving reservoir, -----	25,400 00
Enlarging pond at foot of Tivoli falls, -----	20,000 00
Extending pipes from the lower to the upper pond at Tivoli, -----	5,000 00
Repairs and additions to the old company's works, --	5,000 00
Distribution pipes, stop-cocks, hydrants, &c., -----	140,000 00
Contingencies, &c., 10 per cent. on \$330,000, -----	33,000 00
	<u>\$261,960 00</u>

The resolution also calls for a *recapitulation* of payments made on account of each of the several divisions named.

The preceding division of the resolution calls for the *actual quantity* of each kind of work already performed under each contract, and the *aggregate* cost of the same.

A *recapitulation* of the latter is not called for by the resolution, but will be given in a subsequent part of this report.

A statement of the actual payments which have been made on each of the contracts, is as follows :

First contract for brick, Sept. 20th, 1851, -----	\$5,506 40
Second contract for brick, in full, -----	1,335 66
Third contract for brick, Sept. 15th, 1851, -----	8,680 95
Retentive reservoir, Sept. 2d, 1851, -----	9,507 46
Sections Nos. 2 and 3 of conduit, Sept. 16th, 1851, ----	49,558 76
Section No. 1 of conduit, Sept. 23d, 1851, -----	22,862 81
Receiving reservoir, Sept. 2d, 1851, -----	10,096 13
Picket fence at receiving reservoir,	
Watervliet lake reservoir and ditches, Sept. 2d, 1851,	18,412 10
First contract for cast iron pipes, Sept. 3d, 1851, -----	76,342 45
Second contract for cast iron pipes, Sept. 3d, 1851, ---	12,689 99
Hydrants for cast iron pipes, Sept. 4th, 1851, -----	771 83
Stop-cocks,	
Trenches for water pipes, Sept. 2d, 1851, -----	17,763 48
First contract for hauling water pipes, Sept. 2d., 1851,	206 76
Second contract for hauling water pipes, Sept. 26th, '51,	237 28
Third contract for hauling water pipes, Sept. 16th, 1851,	787 19
Total, -----	<u>\$234,759 25</u>

A recapitulation of the aggregate cost, at the contract prices, of the work already performed under each contract, is as follows :

First contract for brick, -----	\$7,168 00
Second contract for brick, completed, -----	1,335 66
Third contract for brick, -----	10,050 30
Retentive reservoirs, -----	13,159 87
Sections Nos. 2 and 3 of conduit, -----	61,602 08
Section No. 1 of conduit, completed, -----	25,495 40
Receiving reservoir, -----	13,906 47
Picket fence at receiving reservoir, -----	440 00
Watervliet lake reservoir and ditches, -----	25,883 51
First contract for cast iron pipes, -----	107,992 00
Second contract for cast iron pipes, -----	18,126 80
Hydrants, -----	2,004 50
Stop-cocks, completed, -----	879 73
Trenches for water pipes, -----	31,250 00
First contract for hauling water pipes, -----	258 45
Second contract for hauling water pipes, -----	296 60
Third contract for hauling water pipes, -----	984 35
Total, -----	<u>\$320,833 72</u>

The aggregate expenditure which has been made on account of engineering, superintending, laying pipes, land, and water, and all other items, which have not been given in the above statement, is : -----

\$328,872 57

The resolution also calls for a recapitulation of the estimated amount which will be required to complete each branch of the work as enumerated, being that portion under contract, which is as follows :

First contract for brick,-----	\$595 00
Second, completed,	
Third contract for brick,-----	605 20
Retentive reservoir,-----	1,669 00
Sections 2 and 3 of conduit,-----	4,956 00
Section No. 1, of conduit, completed,	
Receiving reservoir,-----	1,865 00
Picket fence at do.,-----	240 80
Watervliet Lake reservoir,-----	1,626 00
First contract for cast iron pipes,-----	14,375 00
Second contract for cast iron pipes,-----	1,450 00
Hydrants,-----	24 00
Stop-cocks completed,	
Trenches for water pipes,-----	11,500 00
First, second, and third contract for hauling water pipes,-----	750 00
Total,-----	<u>\$39,656 00</u>

The aggregate expenditure which will be required to be made to complete the work, for engineering, superintending, laying pipes, and including all the items which have not been given in the above statement, is ----- \$8,200 00

The first resolution requires a report in detail of the expenses incurred, and which were not contemplated or authorized, prior to the 17th day of April, 1851.

It is impracticable now to state, with any degree of accuracy, all of the items which were not contemplated at any particular date, during the progress of the work.

The changes which have been made in the location and plans of the work since the estimates were made, which I had the honor to submit to you in August, 1850, and the extra expenses which have been caused by such changes, are as follows :

### Sections Nos. 2 and 3.

Extending Conduit to upper dam, altering line for Railroad Company, Foundations and Protections, increased Dimensions of Excavation, and extra Ditches.

2.50 acres chopping and clearing, \$50,-----	\$125 00
1.25 acres grubbing and clearing, \$125,-----	156 25
7,000 cubic yards excavation, 7c.,-----	490 00
39,200 cubic yards excavation, 13c.,-----	5,096 00
4,700 cubic yards embankment, 10c.,-----	470 00
Carried forward,-----	<u>\$6,337 25</u>

Brought forward,-----	\$6,337 25
610 cubic yards brick masonry, \$2.90,-----	1,769 00
503 cubic yards brick masonry, \$2.85,-----	1,433 55
668,000 bricks, \$7.06,-----	4,716 08
517,000 feet lumber, \$35,-----	18,095 00
320,000 feet lumber, used second time, \$17.50,-----	5,600 00
250 cubic yards gravel in foundation, \$1.50,-----	375 00
6,400 pounds spike and nails, 12c.,-----	768 00
129 days extra labor, \$1,-----	129 00
Total,-----	<u>\$39,222 88</u>

*Section No. 1.*

Increased dimensions of Excavation and extra Ditches, Foundations and Protections, and extra cost of new lines.

13,300 cubic yards excavation, 9c.,-----	\$1,197 00
5,000 cubic yards embankment, 16c.,-----	800 00
170 cubic yards brick masonry, \$2.75,-----	467 50
88,000 brick, \$7.06,-----	621 28
92,700 feet lumber, \$50,-----	4,635 00
900 pounds spike and nails, 12c.,-----	108 00
3 culverts, \$103,-----	309 00
Extra damages paid P. Gratton,-----	400 00
Expense of moving fence,-----	27 00
Total,-----	<u>\$8,564 78</u>

The extra cost of the Watervliet Lake reservoir, is---- \$8,359 71

The extra cost of the distribution pipes, stop-cocks, and hydrants, is as follows:

Of the pipes delivered, and to be delivered,-----\$78,383 89

The extra cost of land, is as follows:

For Rensselaer lake,-----	\$3,328 49
For conduit,-----	1,379 25
For Bleeker reservoir,-----	1,000 00
Total,-----	<u>\$5,707 74</u>

Extra payment to old Water Works Company,----- \$6,000 00

Extra expenses, being the cost of brass cocks, repairs of mills, repairs of old works, and superintendence, and collection of water rates, &c.,----- \$5,846 24

The above statement includes some items of expense which were contemplated and authorized prior to the 17th day of April, 1851, which are as follows:

5,800 cubic yards of excavation, 7c.,-----	\$406 00
4,700 cubic yards of embankment, 10c.,-----	470 00
610 cubic yards of brick masonry, \$2.90,-----	1,769 00
370,000 bricks, \$7.06,-----	2,612 20
13,200 feet lumber, \$35,-----	462 00
400 pounds spikes and nails, 12c.,-----	48 00
2.50 acres chopping and clearing, \$50,-----	125 00
1.25 acres grubbing and clearing, \$125,-----	156 25
Total, -----	<u>\$6,048 45</u>

In addition to the items last above enumerated, the prosecution of the works has daily developed difficulties which could not reasonably have been anticipated, whereby the cost has been largely increased. These difficulties were partially developed prior to the 17th of April, but to what particular extent it is not now practicable to say with accuracy.

The remainder of the items were either not contemplated on the 17th of April last, or they are so connected with other work not contemplated at that date, that it is impracticable to separate them at this time.

In conclusion, it may be proper to add, that previous to the receipt of this call for so much detailed information, I was engaged in preparing a statement, which will embrace a very full account of the whole work, with the plan originally submitted, and such changes as have been deemed expedient and have been directed, together with such details as are necessary to explain the reasons, which were assigned to, and suggested by your Board, and which influenced your decisions; and also the benefits which will accrue therefrom.

It will also give a narrative of the obstacles which have been interposed and the difficulties which have been encountered in the progress of the work, the manner in which it has been executed, its capacity, utility, and cost, as compared with similar works.

In a few weeks the work will be entirely completed, and this statement can then be made so as to furnish, in a convenient form, all the information which may be desired, to show how the important trusts which have been confided to your care, and executed by your agents, have been discharged, and which cannot be communicated in categorical answers to calls for information on partial and detached branches of inquiry.

All of which is respectfully submitted,

WM. J. McALPINE,

*Engineer.*

## WATER COMMISSIONERS' REPORT.

---

*To the Hon. the Common Council.*

The undersigned, Water Commissioners of the city of Albany, in compliance with the request contained in the resolution passed by your Board on the first instant, as follows :

“ *Resolved*, That the Water Commissioners be requested to report to this Board the amount of indebtedness incurred for the purpose of supplying the city with water ; the amount paid and to be paid under each contract, and to whom paid ; the estimate of each contract, when executed ; the amount paid for extra work ; how much work remains to be done ; and how much, in their opinion, it will cost to finish the whole work,”

### RESPECTFULLY REPORT :

That the above recited resolution requires answers to several distinct matters which may be classified as follows :

- 1st. The amount of indebtedness incurred in supplying the city with water ;
- 2d. The amount paid under each contract, and to whom paid ;
- 3d. The amount remaining unpaid under each contract ;
- 4th. The estimate of each contract, when executed ;
- 5th. The amount paid for extra work ;
- 6th. The work remaining to be performed ;
- 7th. An estimate of the expenditures required to complete the whole work.

These several interrogatories will be answered in the order above recited.

*First.* The amount of indebtedness incurred in supplying the city with water.

A statement has been prepared and is hereto annexed marked A, which contains a list, under general heads, of the entire amount of debt incurred by the Commissioners for supplying the city with water.

From an examination of this statement it will be perceived that the aggregate is, -----	\$759,982 12
From this there should, however, be deducted, the same being chargeable to repairs, the sum of ---	8,398 96
Leaving a total of -----	<u>\$751,583 16</u>
If from this amount is deducted the sum of -----	<u>650,000 00</u>
borrowed by the city for the work in question, and it will leave, as the sum now required to discharge existing obligations, -----	<u><u>\$101,583 16</u></u>

*Second.* The amount paid under each contract, and to whom paid.

Statement B contains all the information desired under this head, the names of the contractors, the nature of the work, and the amount paid to each, being contained therein. The only contractor who has not received his pay direct from the Commissioners is Daniel Wormer; the estimates for work performed under his contract have been paid to his sureties, Messrs. Adams and Livingston.

*Third.* The amount remaining unpaid under each contract. Statement C contains the names of the several contractors to whom the city are at this time indebted, and the amount due to each, amounting in the aggregate to the sum of \$71,579.66. A part of the work performed by two of the contractors has not been definitely decided upon, and when so decided may increase the above amount one thousand or fifteen hundred dollars.

*Fourth.* The estimate of each contract when executed. Statement D contains the estimates made at the letting of the contracts for the Retentive reservoir, Receiving reservoir, Conduit, Watervliet Lake, Gate house, Trenches, Stop-cocks, and Hydrants. No estimates were made of the pipe contracts, the price per ton being the only question necessary to determine the value of the work.

*Fifth.* The amount paid for extra work.

No extra allowance has been made to any of the contractors; in some cases work has been performed by them which was not provided for in their contract, and for performing the same the engineer has allowed them what he considered a just and fair equivalent.

*Sixth.* The amount of work remaining to be done.

*Seventh.* An estimate of the expenditures required to complete the whole work.

The Superintendent, Mr. McCammon, has prepared a report which is herewith submitted, marked E, which contains a complete list of all the water pipes laid down during the past season; the water pipes heretofore laid by the old Water Works Company; the quantity of pipe required during the present year to furnish the paved streets with water, together with much other information.

From an examination of this document, it appears that the quantity of pipe required is 26,550 feet, equal to 5.03 miles, and 35 additional hydrants will also be required, and that both will cost, when put into the work, the sum of ----- \$31,985 80

That a facing is required for Blecker reservoir, which is estimated to cost -----	5,000 00
Facing for Rensselaer Lake dam,-----	1,000 00
Facing for Watervliet Lake dam,-----	425 00
Keeper's house at Rensselaer lake,-----	350 00
New dam for supplying mills,-----	2,000 00
Waste-weir at Watervliet lake,-----	1,160 00
Covering conduit and Rensselaer lake with sod,--	1,100 00
Fencing line of conduit,-----	3,438 05
Contingencies, -----	3,979 20
	<hr/>
	\$50,438 05

Making a total of-----  
If to the above is added the indebtedness already  
incurred by the Commissioners, as stated in state-  
ment A,-----

751,583 16

it will make the total cost for supplying the city  
with water,-----

\$802,021 21

The Commissioners having thus furnished the Board with the information required by the resolution hereinbefore recited, would, in conclusion, urge upon the Common Council the importance of



taking such early action in the premises as will enable the Commissioners to discharge promptly all claims now existing for materials furnished or for labor performed.

ALBANY, *March 16, 1852.*

ERASTUS CORNING,  
JOHN TOWNSEND,  
JOHN TAYLOR,  
R. E. TEMPLE,  
V. TEN EYCK,  
*Water Commissioners.*

( A. )

STATEMENT, showing the total amount and nature of the indebtedness incurred by the Water Commissioners, in supplying the city of Albany with water.

Nature of work.	Amount.
Retentive reservoir,-----	\$15,493 18
Receiving reservoir,-----	19,302 69
Conduit, section No. 1,-----	\$25,627 65
Conduit, sections Nos. 2 and 3,-----	71,617 91
	<hr/>
	97,245 56
	29,540 20
Watervliet lake,-----	\$158,548 42
Iron pipes,-----	3,326 99
Stop-cocks,-----	5,093 24
Hydrants,-----	5,391 01
Proof and inspection of pipe,-----	23,369 27
Laying down water pipes,-----	2,367 40
Hauling pipes,-----	46,223 06
Digging trenches,-----	
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	244,319 39
Printing and advertising,-----	1,585 19
Repairs of factories,-----	2,342 12
Insurance and taxes,-----	740 31
Superintendent and Deputy's salary,-----	1,625 00
Repairs of works,-----	1,307 78
Cement,-----	2,701 53
Incidentals,-----	9,676 97
Construction,-----	9,482 27
Engineering,-----	10,254 96
Office expenses,-----	1,879 43
Bricks,-----	24,187 11
Sundry accounts,-----	6,357 79
Land and water, including the \$2,300 to be paid to S. Van Rensselaer,-----	281,940 64
	<hr/>
	\$759,982 12
	<hr/>

## ( B. )

STATEMENT, showing the names of the several contractors, nature of the work performed, and the amount paid on each contract.

Name.	Nature of work.	Amount.
Andrew Bigham, -----	Retentive reservoir, --	\$14,508 59
Aspinwall & Jackson, -----	Receiving reservoir, --	15,129 67
A. G. Sage, -----	Conduit, Secs. 2 & 3, --	61,807 86
W. J. Marlett, -----	Conduit, Sec. 1, -----	23,862 81
D. Wormer, -----	Bricks, -----	10,233 59
A. Bigham, -----	Bricks, -----	7,151 40
Chollar, Sage & Dunham, -----	Iron pipe, -----	112,147 30
R. & S. H. Jones, -----	Iron pipe, -----	15,884 09
E. H. St. John, -----	Watervliet lake, -----	23,291 60
Simon Cunliff, -----	Hauling pipe, -----	206 76
Richard Middleton, -----	Hauling pipe, -----	1,136 30
James W. Jackson, -----	Hauling pipe, -----	475 06
E. H. Tracy, -----	Digging trenches, -----	30,498 54
Chollar, Sage & Dunham, -----	Hydrants, -----	771 83
Mulford & Martin, -----	Picket fence, -----	705 00
P. McCall, -----	Bricks, -----	1,335 66

## ( C. )

STATEMENT, showing the names of the several contractors, nature of the work performed, and the amount due on each contract.

Name.	Nature of work.	Amount.
Aspinwall & Jackson, -----	Receiving reservoir, --	\$2,817 52
Andrew Bigham, -----	Retentive reservoir, --	984 59
A. G. Sage, -----	Conduit, Secs. 2 and 3, --	9,810 05
W. J. Marlett, -----	Conduit, Sec. 1, -----	1,764 84
D. Wormer, -----	Bricks, -----	999 31
Chollar, Sage & Dunham, -----	Iron pipe, -----	27,063 22
R. & S. H. Jones, -----	Iron pipe, -----	3,453 81
E. H. St. John, -----	Watervliet lake, -----	6,248 60
E. H. Tracy, -----	Digging trenches, -----	15,136 46
A. T. Dunham, -----	Stop-cocks, -----	1,387 35
Chollar, Sage & Dunham, -----	Hydrants, -----	1,364 63
Simon Cunliff, -----	Hauling pipe, -----	52 08
Richard Middleton, -----	Hauling pipe, -----	241 17
James W. Jackson, -----	Hauling pipe, -----	256 03

\$71,579 66

( D. )

STATEMENT, showing the original estimates made at the letting of the contracts for the several works therein specified.

*Estimate of contract for constructing Retentive reservoir.*

2 acres grubbing and clearing, \$75.00,-----	\$150 00
20 " chopping and clearing, 20.00,-----	400 00
20,000 cubic yards excavation, 0.08,-----	1,600 00
15,000 " embankment, 0.09,-----	1,350 00
11,000 " puddling, 0.14,-----	1,540 00
1,400 " slope wall, 2.13,-----	2,982 00
	<hr/>
	\$8,022 00
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*Estimate of contract for constructing Receiving reservoir.*

70,000 cubic yards excavation, \$0.12,-----	\$8,400 00
1,000 " embankment, 0.15,-----	150 00
10,000 " lining, 0.20,-----	2,000 00
28,000 " puddling, 0.10,-----	2,800 00
1,000 " brick masonry, 3.00,-----	3,000 00
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	\$16,350 00
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*Estimate of contract for digging Trenches.*

27 $\frac{1540}{5280}$ miles of trenches, \$1,500,-----	\$40,937 37
19,300 cubic yards sand, 25 cts.-----	4,825 00
	<hr/>
	\$45,762 37
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*Estimate of contract for gate-house at Retentive reservoir.*

500 cubic yards excavation, \$0.12,-----	\$60 00
500 " embankment, 0.15,-----	75 00
300 " puddling, 0.18,-----	54 00
20 " stone pavement, 4.00,-----	80 00
40 " concrete mas'y, 5.00,-----	200 00
30 " cut stone, 15.00,-----	450 00
12 " brick masonry, 3.00,-----	36 00
150 " brick masonry in conduit, &c., \$3,-----	450 00
10,000 feet pine lumber, \$18,-----	180 00
7,000 " oak lumber, 30,-----	210 00
	<hr/>
	\$1,795 00
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*Estimate of contract for constructing Watervliet lake.*

2 acres grubbing and clearing,	\$150.00,-----	
5 " chopping and clearing,	50.00,-----	\$300 00
15,000 yards excavation,	0.12,-----	250 00
70,000 " embankment,	0.11,-----	1,800 00
35,000 " lining,	0.12,-----	7,700 00
15,000 " puddling,	0.12,-----	4,200 00
25 " concrete masonry,	7.00,-----	1,800 00
7 " cut stone, "	20.00,-----	175 00
100 " brick masonry,	3.50,-----	140 00
1,000 feet timber,	30.00,-----	350 00
house,-----		180 00
doors, &c.,-----		100 00
100 yards brick masonry,	\$12.00,-----	75 00
		1,200 00
		<u>\$18,270 00</u>

*Estimate of contract for constructing Stop-cocks.*

30,000 pounds cast iron,	\$0.03 $\frac{1}{2}$ ,-----	\$1,050 00
3,000 " wrought iron,	0.12,-----	360 00
1,300 " brass,	0.30,-----	390 00
3,000 " lead,	0.06,-----	180 00
Fitting 70 stop-cocks,	5.00,-----	350 00
		<u>\$2,330 00</u>

*Estimate of contract for furnishing Hydrants.*

100 pounds cast iron	\$0.03,-----	\$3 00
20 " wrought iron,	0.12,-----	2 40
5 " brass,	0.30,-----	1 50
Fitting,	2.00,-----	2 00
		<u>\$8 90</u>

*Estimate of contract for constructing Sec. No. 1 of Conduit.*

1 acre grubbing and clearing,	\$125.00,-----	\$125 00
30,000 cubic yards excavation,	0.09,-----	2,700 00
5,000 " embankment,	0.16,-----	800 00
1,000 " puddling,	0.20,-----	200 00
30 " stone pavement,	5.00,-----	150 00
2,500 " brick masonry,	2.75,-----	6,875 00
		<u>\$10,850 00</u>

*Estimate of contract for constructing Sec. No. 2 of Conduit.*

1 acre grubbing and clearing	\$125.00,-----	\$125 00
50,000 cubic yards excavation,	0.13,-----	6,500 00
5,000 " embankment,	0.16,-----	800 00
2,200 " brick mason'y,	2.85,-----	6,270 00
		<hr/>
		\$13,695 00
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*Estimate of contract for constructing Sec. No. 3 of Conduit.*

1 acre grubbing and clearing	\$125.00,-----	\$125 00
16,000 cubic yards excavation,	0.07,-----	1,120 00
8,000 " embankment,	0.10,-----	800 00
1,800 " brick mason'y,	2.90,-----	5,220 00
		<hr/>
		\$7,265 00
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( E. )

STATEMENT showing the quantity of water pipe laid, and to be laid; pipe laid by the old water works company; hydrants, and estimates to complete the whole work.

## SUPERINTENDENT'S REPORT.

To the Water Commissioners.

GENTLEMEN,

The Superintendent would offer the following report, in answer to a resolution of the Common Council asking for information :

1st. Account of pipes laid during the year 1851, including old 12 in. iron pipe leading from Watervliet lake and making part of the new works.

Streets.	From.	To.	Size.	Feet.
Arch, -----	Broadway -----	South Pearl, ---	6 in.	1,400
" -----	" -----	Dock -----	4	225
" -----	South Pearl	Grand, -----	4	625
Alexander, ---	Clinton -----	End of pipe, ---	3	332
Bassett, -----	South Pearl ---	Broadway, -----	4	1,403
Bleecker, -----	Church -----	Franklin, -----	3	917
Beaver, -----	Eagle -----	William, -----	4	868
Broadway, ---	Hodge -----	Vine, -----	4	3,176
Broad, -----	Lydius -----	Nucella, -----	4	2,601
Canal, -----	North Pearl ---	Hawk, -----	6	1,400
" -----	Hawk -----	Swan, -----	4	626
Catherine, ---	Clinton -----	End of pipe, ---	3	485
Centre, -----	Lumber -----	North Lansing, -	3	506
Cherry, -----	Franklin -----	Church, -----	3	900
Church, -----	Pruyn -----	Bassett, -----	4	2,738
Colonie, -----	North Pearl ---	Water, -----	4	1,555
Columbia, ---	Montgomery ---	Eagle, -----	8	1,319
" -----	" -----	Quay, -----	6	375
Clinton, -----	Arch -----	Nucella, -----	4	1,277

Carried forward, ----- 22,728

Streets.	From.	To.	Size.	Feet.
	Brought forward,			
Cross, -----	Canal	Orange, -----	4	22,728
Dallius, -----	Lydius	Bassett, -----	4	267
Dean, -----	Hudson	Steuben, -----	4	2,239
Dewitt, -----	Broadway	Montgomery, --	4	1,044
Division, -----	Green	Quay, -----	4	797
Dove, -----	State	Washington, ---	4	850
" -----	Lydius	Jefferson, -----	4	435
Eagle, -----	Columbia	connection with 12 inch pipe,	4	193
" -----	State	Elm, -----	8	556
Elm, -----	Grand	Eagle, -----	4	2,040
Elk, -----	Eagle	Hawk, -----	4	930
North Ferry, ---	Montgomery	to hydrant, ---	4	712
First, -----	Ten Broeck	Swan, -----	4	243
Franklin, -----	Lydius	John, -----	4	1,163
" -----	Arch	Nucella, -----	4	832
Fulton, -----	Lydius	Plain, -----	3	1,293
Green, -----	State	Lydius, -----	8	615
" -----	Lydius	Arch, -----	6	1,473
" -----	Arch	Bassett, -----	4	1,325
Grand, -----	Beaver	Arch, -----	4	910
" -----	Lydius	Beaver, -----	4	2,479
Hawk, -----	Jefferson	Elk, -----	4	1,130
" -----	Canal	Patroon, -----	4	2,547
Hamilton, -----	Quay	Liberty, -----	4	522
" -----	Grand	Hawk, -----	4	435
Herkimer, -----	South Pearl	Church, -----	4	1,511
Howard, -----	Wendell	Eagle, -----	4	1,206
Hodge, -----	Quay	Broadway, ---	4	300
Hudson, -----	"	Green, -----	4	124
" -----	Eagle	Hawk, -----	4	810
High, -----	State	Lydius, -----	4	710
Jackson, -----	Colonie	Lumber, -----	3	1,519
Jay, -----	Eagle	Hawk, -----	3	388
John, -----	Church	Franklin, -----	4	710
Jefferson, -----	Eagle	Dove, -----	3	931
Knox, -----	State	Schen'y Turn'k,	3	2,171
" -----	Third	Lumber, -----	4	570
Lark, -----	Washington	Lydius, -----	4	333
Lafayette, -----	Park Place	Swan, -----	8	1,970
Lawrence, -----	Broadway	Montgomery, --	4	1,113
Lansing, South,	Franklin	Church, -----	4	900
Lumber, -----	Water	Snipe, -----	3	923
Lydius, -----	Broadway	Grand, -----	6	5,574
" -----	Grand	Lark, -----	8	1,910
			6	3,569

Carried forward, ----- 75,000



Streets.	From.	To.	Size.	Feet.
Lancaster,-----	Eagle	forward,		
Lodge,-----	Columbia	Hawk,-----		75,000
Liberty,-----	Pruyn	Beaver,-----	3	715
Lansing, South,	Water	Hudson,-----	4	1,464
Maiden Lane,---	Dean	Broadway,-----	4	690
Montgomery,---	Steuben	Quay,-----	4	1,196
Morton,-----	Clinton	North Ferry,---	4	200
Mulberry,-----	Franklin	end of pipe,---	4	3,440
Nucella,-----	"	Broadway,-----	3	241
Orange,-----	Water	Clinton,-----	4	1,135
Park,-----	State	end of pipe,---	4	648
Patroon,-----	North Pearl	Lancaster,-----	4	2,490
"	"	Hawk,-----	3	490
"	Snipe	Broadway,-----	4	1,150
Pearl, North,---	State	Robin,-----	6	355
Pearl, South,---	Lydius	Patroon,-----	6	850
"	Nucella	Nucella,-----	10	1,830
Pruyn,-----	Liberty	Gansevoort,---	6	2,600
Park Place,---	Spring	Church,-----	4	275
Quackenbush,---	Broadway	Lafayette,-----	4	313
Quay,-----	Columbia	Water,-----	3	428
Rensselaer,---	South Pearl	Hodge,-----	6	590
Robin,-----	Sch'y Turnpike,	Church,-----	4	2,279
Rose,-----	Hamilton	Patroon,-----	4	1,157
Schuyler,-----	Clinton	Lydius,-----	6	1,000
Second,-----	Ten Broeck	Green,-----	3	370
Spencer,-----	Water	Lark,-----	4	1,010
Spring, Upper,---	Dove	Jackson,-----	3	2,369
" Lower,---	Swan	Knox,-----	4	538
State,-----	Eagle	Park Place,---	3	1,443
"	Lodge	Lodge,-----	3	1,121
"	Quay	Broadway,-----	12	428
"	Eagle	"	10	1,155
" North side,	"	Knox,-----	6	425
"	Lodge	Lodge,-----	4	3,611
Steuben,-----	Montgomery	James,-----	4	428
Snipe,-----	Lumber	Quay,-----	4	695
"	Washington	Patroon,-----	4	338
Swan,-----	State	Sch'y Turnpike,	4	1,300
"	Canal	Lafayette,-----	4	370
Ten Broeck,---	Patroon	Patroon,-----	4	642
" 2d line,	"	Lumber,-----	4	537
Third,-----	Ten Broeck	"	4	2,836
Van Tromp,---	Pearl	Knox,-----	4	2,987
Van Schaack,---	"	Broadway,-----	3	320
Van Woert,---	Broadway	Cross,-----	3	960
		Pearl,-----	4	342

124,761

Carried forward,

Street.	From.	To.	Size.	Feet.
	Brought forward,			124,761
Van Woert,	Pearl, North	End of pipe,	3	690
Van Zandt,	" South	Philip,	3	847
Vine,	Broadway	Church,	4	207
Washington,	Eagle	Lark,	12	3,000
"	Park Place	Snipe,	4	4,253
Water,	Steuben	North Lansing,	4	2,559
Wendell,	Howard	Beaver,	3	283
Westerlo,	Grand	Broadway,	4	1,923
William,	Howard	Hudson,	3	500
Wilson,	Ten Broeck	Broadway,	3	600

*Miscellaneous.*

Lydius,	South Side	Bleecker park,	3	424
	Bleecker reserv'r	Lark,	16	5,654
South side Tur'e	Knox	Robin,	4	1,758
From stop-cock,	Watervliet lake	Patroon,	12	8,437
From gate-house	Bleecker reserv'r	and around to 16 in pipe,	12	1,369

Total, ----- 157,265

Making 29.78 miles.

## RECAPITULATION.

	Feet.
16 inches -----	5,654
12 " -----	13,234
10 " -----	2,985
8 " -----	7,228
6 " -----	20,763
4 " -----	82,926
3 " -----	24,475
	<hr/>
	157,265

## 2d. Account of pipes, branches, &amp;c., on hand at the Water-works yard.

No.	Pipes, &c.	Size.	No.	Pipes, &c.	Size.
14	Pipes, &c., -----	16	5	Plugs, -----	3 inch.
20	" -----	12	12	Curves, -----	3 "
6	" -----	10	4	Bevel hubs, -----	
18	" -----	6*	20	Curved pipes, -----	3 "
25	" -----	6†	3	" -----	6 "
268	" -----	4*	6	Reducers, -----	12 to 10
134	" -----	4†	1	" -----	10 to 6
179	" -----	3*	7	" -----	8 to 6
47	" -----	3†	1	" -----	6 to 4
40	" -----	2†	1	" -----	4 to 3
65	Hydrant bends, -----		2	" -----	4 to 2
2	Two way branches	12×12	1	" -----	3 to 2
1	"	6×4	8	Hydrants, -----	
5	"	4×4	42	Double headers, --	2 inch.
6	"	4×3	7	" -----	1½ "
1	"	3×3	44	Branch pipes, -----	1½ "
8	One way branch, -	4×3	8	Penstocks, -----	
3	Two way branches	3×3	1	Stop-cocks, (new),	6 "
14	"	4×4	1	" (old),	4 "
1	"	6×3	2	" " "	3 "
1	"	8×6			
3	Caps, -----	10 inch,			
6	" -----	6 "			
3	" -----	2 "			

Those marked \* are heavy. Those marked † are light.

## 3d. Paved streets which have no new pipe.

Streets.	From.	To.	Size.	Feet.
Lark, -----	Second -----	Lumber, -----	4*	
Swan, -----	First -----	" -----	4†	625
Orange, -----	End of pipe -----	Swan, -----	4*	1,025
Patroon, -----	Hawk -----	" -----	4*	225
Hudson, -----	" -----	Lark, -----	4*	750
Hamilton, -----	" -----	" -----	4*	2,150
Jefferson, -----	Dove -----	" -----	4*	2,150
Green, -----	Bassett -----	Nucella, -----	3†	700
Church, -----	" -----	" -----	4*	350
Cherry, -----	Church -----	Broadway, -----	4*	350
Alexander, -----	South Pearl -----	Clinton, -----	3*	225
Schuyler, -----	Green -----	Broadway, -----	3*	375
Rensselaer, -----	Church -----	" -----	4*	725
Ferry, -----	South Pearl -----	" -----	4*	200
John, -----	Church -----	" -----	4*	1,350
South Lansing, -----	" -----	" -----	3*	200
Herkimer, -----	" -----	" -----	3*	200
Bleecker, -----	" -----	" -----	4*	200
" -----	South Pearl -----	" -----	3*	200
Lydius, -----	Broadway -----	Franklin, -----	3*	300
Franklin, -----	John -----	Dock, -----	4*	300
Philip, -----	Hudson -----	Arch, -----	4*	450
Daniel, -----	Beaver -----	Elm, -----	4*	950
Plain, -----	South Pearl -----	Eagle, -----	4*	500
Howard, -----	" -----	Philip, -----	4*	750
South Pearl, -----	State -----	Wendell -----	4*	600
Beaver, -----	Broadway -----	Lydius, -----	8*	1,500
Hudson, -----	Green -----	South Pearl, -----	4*	850
Divison, -----	" -----	William, -----	4*	800
Hamilton, -----	Liberty -----	South Pearl, -----	4*	500
Union, -----	Hudson -----	" -----	4*	1,000
Liberty, -----	Pruyn -----	Lydius, -----	4*	950
Broadway, -----	State -----	" -----	4*	400
Chapel, -----	" -----	Hodge, -----	8*	1,200
Broadway, -----	" -----	Patroon, -----	4*	1,650
Steuben, -----	Montgomery -----	Lumber, -----	8*	3,200
Pine, -----	Chapel -----	Eagle, -----	4*	1,250
James, -----	State -----	" -----	4*	550
Maiden Lane, -----	Dean -----	Columbia, -----	4*	1,000
Exchange, -----	Quay -----	Eagle, -----	4*	1,600
State, -----	James -----	Broadway, -----	4*	400
Orange, -----	Water -----	" -----	4*	425
Spencer, -----	Jackson -----	Quay, -----	4*	225
Centre, -----	Spencer -----	Broadway, -----	4*	300
Jackson, -----	" -----	Lumber, -----	4*	500
		" -----	4*	650

Carried forward, ----- 34,725

Streets.	From.	To.	Size.	Feet.
	Brought forward, -----			34,725
Broadway, -----	Lumber -----	city line, -----	6*	1,600
North Ferry, -----	End of pipe -----	Broadway, -----	4*	650
Broad, -----	Nucella -----	city line, -----	4*	250
Lark, -----	Lydius -----	Jefferson, -----	4*	200
				<hr/> 37,425

Making 7.09 miles.

\* Heavy pipe. † Light pipe.

4th. Streets having old iron pipe, and no new pipe.

Streets.	From.	To.	Length.
South Pearl, -----	State -----	Lydius, -----	1,500
Chapel, -----	Patroon -----	Van Schaack, -----	350
Plain, -----	Pearl -----	Grand, -----	350
Hudson, -----	" -----	Green, -----	425
Beaver, -----	William -----	" -----	600
Broadway, -----	State -----	Lumber, -----	3,200
" -----	Lumber -----	city line, -----	1,600
" -----	State -----	Hodge, -----	1,200
Ferry, -----	Franklin -----	Broadway, -----	1,100
Steuben, -----	Eagle -----	Chapel, -----	450
Chapel, -----	Steuben -----	State, -----	650
Howard, -----	Wendell -----	Lodge, -----	175
			<hr/> 11,600

Paved streets which have no new pipe, ----- 37,425

Paved streets which have old iron pipe, and no  
new pipe, ----- 11,600

---

25,825 feet.

Making 4.88 miles.

## RECAPITULATION.

Size of pipe.		No. of feet of pipe required if all the paved streets in the city are laid.	No. of feet in streets in which old iron pipe is laid, and no new pipe.	No. of feet of pipe, exclusive of those on hand required in 1852	No. of pipe required.
8	Heavy,	5,900	5,900		
6	"	1,600	1,600		
4	"	26,075	4,100	21,975	2,588
4	Light,	1,650		1,650	194
3	"	700		700	82
3	Heavy,	1,500		1,500	176
		<u>37,425</u>	<u>11,600</u>	<u>25,825</u>	<u>3,040</u>

*Branches, &c.*

Size.		No.	No.	No.	Requir'd
4×4	One way, -----	4		4	
"	Two way, -----	25	5	20	
4×3	One way, -----	25		25	
"	Two way, -----	5	1	4	
8×6	One way, -----	10	8	2	
"	Two way, -----	8	6	2	
6×4	One way, -----	3		3	
		<u>80</u>	<u>20</u>	<u>60</u>	<u>60</u>
6 to 4	Reducers, -----	26		6	6
4 to 3	" -----	10		10	10
		<u>36</u>		<u>16</u>	<u>16</u>

Stop-cocks, ----- 10.

5th. Pipes to complete, in addition to those on hand.

Size.	Pipes required to complete.	Pipes of sizes on hand.	Pipes to be ordered.
4*	2,588	268	2,320
4†	194	134	60
3†	292	47	245
3*	176	179	3
			<u>2,622</u>

*Branches, &c, to be ordered.*

No.	Description.	Size.
4,-----	One way,-----	4x4
4,-----	Two way,-----	4x4
17,-----	One way,-----	4x3
2,-----	One way,-----	8x6
1,-----	Two way,-----	8x6
3,-----	One way,-----	6x4

*Reducers to be ordered.*

No. 5,-----	Reducers,-----	6 to 4
19,-----	"-----	4 to 3

Hydrants,----- 35.  
Sleeves, caps, &c. Contingencies.

6th. The amount of work remaining to be done in the following streets, 1852.

Streets.	From.	To.	Size.	Feet.
Lark,-----	Second-----	Lumber,-----	4*	625
Swan,-----	First-----	"-----	4†	1,025
Orange,-----	End of pipe-----	Swan,-----	4*	225
Patroon,-----	Hawk-----	"-----	4*	750
Hudson,-----	"-----	Lark,-----	4*	2,150
Hamilton,-----	"-----	"-----	4*	2,150
Jefferson,-----	Dove-----	"-----	3†	700
Green,-----	Bassett-----	Nucella,-----	4*	350
Church,-----	"-----	"-----	4*	350
Cherry,-----	Church-----	Broadway,-----	3*	225
Alexander,-----	South Pearl-----	Clinton,-----	3*	375
Schuyler,-----	Green-----	Broadway,-----	4*	725
Rensselaer,-----	Church-----	"-----	4*	200
Ferry,-----	South Pearl-----	Franklin,-----	4*	250
John,-----	Church-----	Broadway,-----	3*	200
South Lansing,-----	"-----	"-----	3*	200
Herkimer,-----	"-----	"-----	4*	200
Bleecker,-----	"-----	"-----	3*	200
"-----	"-----	"-----	3*	300
Lydius,-----	South Pearl-----	Franklin,-----	3*	300
Franklin,-----	Broadway-----	Dock,-----	4*	225
Philip,-----	John-----	Arch,-----	4*	450
Daniel,-----	Hudson-----	Elm,-----	4*	950
Plain,-----	Beaver-----	Eagle,-----	4*	500
Howard,-----	Grand-----	Philip,-----	4*	400
Beaver,-----	Wendell-----	South Pearl,-----	4*	600
Hudson,-----	Green-----	Broadway,-----	4*	300
Division,-----	Pearl-----	William,-----	4*	150
Hamilton,-----	Green-----	South Pearl,-----	4*	500
	Liberty-----	"-----	4*	1,000
				<hr/>
				16,275

Carried forward,-----

Streets.	From.	To.	Size.	Feet.
	Brought forward,			16,275
Union, -----	Hudson -----	Lydius, -----	4*	950
Liberty, -----	Pruyn -----	" -----	4*	400
Chapel, -----	Columbia -----	Van Schaack, --	4*	650
Steuben, -----	Montgomery --	Chapel, -----	4*	800
James, -----	State -----	Columbia, -----	4*	1,000
Maiden Lane, --	Dean -----	Eagle, -----	4*	1,600
Exchange, -----	Quay -----	Broadway, -----	4*	400
State, -----	James -----	" -----	4*	425
Orange, -----	Water -----	Quay, -----	4*	225
Spencer, -----	Jackson -----	Broadway, -----	4*	300
Centre, -----	Spencer -----	Lumber, -----	4*	500
Jackson, -----	" -----	" -----	4*	650
North Ferry, --	End of pipe --	Broadway, -----	4*	650
Broad, -----	Nucella -----	city line, -----	4*	250
Lark, -----	Lydius -----	Jefferson, -----	4*	200
Pine, -----	Chapel -----	Eagle, -----	4*	550
				25,825

*Estimate cost for completing the work, 1852.*

For laying pipes in streets, hydrants, &c.,---	\$31,985 80
For facing Bleecker reservoir with brick, ---	5,000 00
For facing Van Rensselaer Lake dam, -----	1,000 00
For facing Watervliet Lake dam -----	425 00
Keeper's house at Van Rensselaer lake, -----	350 00
New dam for supplying mills at Tivoli Hol- low, -----	2,000 00
Waste-weir at Watervliet lake, -----	800 00
Waste-weir under pipe at Watervliet lake, --	360 00
Contingencies, -----	3,979 20
Covering conduit at Van Rensselaer lake with sod, -----	1,100 00
	\$47,000 00
Fencing line of conduit, -----	3,438 05
	\$50,438 05



7th. Estimated cost of supplying the Penitentiary and Alms-house with water.

86 pipes, 4 inch light, in Lydius, from Lark to Knox,	} Penitentiary.
160 pipes, 3 inch light, in Knox, from Lydius to Warren, -----	
290 pipes, 3 inch from corner of Warren and Knox to Alms-house and Hospital.	

1 Two-way branch, 4 × 3	} Penitentiary.
5 Two-way branch, 3 × 3	
2 Two-way branch, 3 × 3	

One stop-cock, corner of Lark and Lydius streets.  
One stop-cock, box, caps, &c.

Cost of supplying penitentiary,-----	\$1,600 49
Cost of supplying alms-house and hospital,-----	1,563 59
	<hr/>
	\$3,164 08

8th. Recapitulation of pipes required for streets, Penitentiary, Alms-house, and Hospital, 1852.

Size, 4 inch, heavy,-----	No. 2,588
4 inch, light,-----	280
3 inch, light,-----	742
3 inch, heavy,-----	176
	<hr/>
	3,786

#### Branches, &c.

Size, 4 × 4, -----	One way,-----	No. 4
4 × 4, -----	Two way,-----	20
4 × 3, -----	One way,-----	25
4 × 3, -----	Two way,-----	5
8 × 6, -----	One way,-----	2
8 × 6, -----	Two way,-----	2
6 × 4, -----	One way,-----	3
3 × 3, -----	Two way,-----	7
		<hr/>
		68

#### Reducers.

Size, 6 to 4,-----	No. 6
4 to 3,-----	10
	<hr/>
	16

9th. Number of hydrants, and their location in the city of Albany, 1851.

- South west corner Lumber and Montgomery streets.  
 South east corner Lumber and Water streets.  
 North east corner Pearl and Colonie streets.  
 North east corner Broadway and Lumber street.  
 North west corner North Lansing and Centre streets.  
 North east corner Colonie and Water streets.  
 North east corner North Ferry, opposite White's malt-house.  
 North east corner Broadway and North Lansing street.  
 North east corner Broadway and Dewitt streets.  
 North east corner Van Woert and Pearl streets.  
 Centre of canal bridge, foot of Lawrence and Montgomery streets.  
 North west corner Spencer and Montgomery streets.  
 North east corner Patroon street and Broadway.  
 East side of Montgomery, 57 feet north of North Lansing street.  
 South west corner Broadway and Wilson street.  
 North east corner Quackenbush and Water streets.  
 North west corner Lumber and Pearl streets.  
 North west corner Water and Orange streets.  
 North west corner Steuben and Montgomery streets.  
 North west corner Columbia street and Broadway.  
 North east corner Columbia and Pearl streets.  
 Foot of Maiden Lane, on Quay street.  
 North west corner Hawk and Canal streets.  
 North east corner Swan and Canal streets.  
 South west corner Swan and Second streets.  
 North east corner Lark and Second streets.  
 North side Second, one-third way east of Lark street.  
 South west corner Third and Lark streets.  
 South west corner Third and Swan streets.  
 South side Third, half way between Swan and Lark streets.  
 South west corner Franklin and Bleecker streets.  
 North west corner Clinton Park.  
 South west corner State and Knox streets.  
 North east corner Spencer and Water streets.  
 North west corner Maiden Lane and Dean street.  
 At Columbia-street bridge.  
 South side of State-street bridge.  
 North east corner State street and Broadway.  
 North west corner Beaver and Green streets.  
 South west corner State and Green streets.  
 North west corner Broadway and Hudson street.  
 South east corner Union and Hudson streets.  
 North east corner Hudson and William streets.  
 South east corner Howard and William streets.  
 North east corner Beaver and Lodge streets.  
 North west corner Grand and Plain streets.  
 North west corner Hamilton and Philip streets.  
 South west corner Hamilton and Pearl streets.  
 South west corner Fulton and Plain streets.

- North west corner Van Zandt and Fulton streets.  
 South west corner Hamilton and Rose streets.  
 North west corner Arch and Green streets.  
 North east corner Arch street and Broadway.  
 North west corner Arch and Franklin streets.  
 North west corner Quay street and Trotter's Alley.  
 South west corner Quay and Hodge streets.  
 Foot of Hamilton, at Draw-bridge.  
 North east corner Broadway and Pruyn street.  
 South west corner Liberty and Pruyn streets.  
 North west corner Broadway and Lydius street.  
 South west corner Hamilton and Liberty streets.  
 North east corner Lydius and Green streets.  
 North west corner Broadway and Division street.  
 South west corner Grand and Westerlo streets.  
 In Broad, 265 feet from Lydius street.  
 North east corner Union and Lydius streets.  
 South west corner Pearl and Lydius streets.  
 South east corner Franklin and John streets.  
 In Pearl, opposite north corner of Herkimer.  
 South east corner Jefferson and Hawk streets.  
 South east corner Lydius and Hawk, streets.  
 North west corner Lydius and Swan streets.  
 North west corner Lydius and Dove streets.  
 North west corner Lydius and Lark streets.  
 North west corner Hudson and Lark streets.  
 South west corner Hudson and Hawk streets.  
 South west corner of Chestnut and Hawk streets.  
 South east corner Grand and Lydius streets.  
 West side of Ten Broeck street, opposite Park gate.  
 South west corner Ten Broeck and First streets.  
 North east corner Hawk and Patroon streets.  
 South west corner Cross and Orange streets.  
 In Van Woert street, end of pavement.  
 North west corner Lumber and Swan streets.  
 North side Lumber, opposite Dove street.  
 North side Lumber street, near No. 236.  
 South west corner Lumber and Lark streets.  
 South west corner Van Tromp street and Broadway.  
 South east corner Swan and First streets.  
 In Canal, opposite Cross street.  
 South east corner State and Dove streets.  
 South east corner State and Swan streets.  
 North east corner Swan and Lafayette streets.  
 South west corner Hawk and Elk streets.  
 North west corner State and Pearl streets.  
 North east corner Third and Knox streets.  
 North side of Orange, 372 feet east of Swan street.  
 South west corner Dallius and Rensselaer streets.  
 North east corner Green and Schuyler streets.  
 South east corner Cherry and Franklin streets.  
 In Franklin, opposite Mulberry street.

North west corner Pearl and Schuyler streets.  
In Catharine, 476 feet from Clinton street.  
North west corner Clinton and Nucella streets.  
In Alexander, — feet from Clinton street.  
South west corner Arch and Clinton streets.  
South west corner Green and Bassett streets.  
South west corner Church and Bassett streets.  
South east corner Mulberry street and Broadway.  
South east corner Vine street and Broadway.  
South east corner Eagle and Lydius streets.  
North west corner Eagle and Elm streets.  
North east corner Washington and Knox streets.  
In Pearl, opposite north line of Gansevoort street.  
North west corner Pearl and Alexander streets.  
North east corner Liberty and Lydius streets.  
South east corner Dove and Jefferson streets.  
North east corner Washington and Snipe streets.  
North east corner Schenectady Turnpike and Snipe street.  
South east corner Schenectady Turnpike and Robin street.  
North west corner Arch and Pearl streets.  
North east corner Dallius and Ferry streets.  
North east corner Church and John streets.  
South west corner Herkimer and Dallius streets.  
South west corner Westerlo and Dallius streets.  
South west corner Lansing and Green streets.  
North east corner Lansing and Church streets.  
South west corner Green and Division streets.  
Opposite Dr. Bay's, North Pearl street.  
South east corner Columbia and Lodge streets.  
North west corner Pine and Lodge streets.  
South east corner Eagle and Howard streets.  
Opposite Wendell, in Howard street.  
South east corner Eagle and Hudson streets.  
North east corner Eagle and Beaver streets.  
North east corner Jay and High streets.  
North east corner Hamilton and High streets.  
North east corner Lydius and High streets.  
Foot of Spring street, at park.  
South east corner State and High streets.  
North east corner Pine and Eagle streets.  
North east corner Columbia and Eagle streets.  
North east corner State and Eagle streets.  
North west corner State and James streets.  
South west corner Washington and Hawk streets.  
North east corner Canal and Chapel streets.  
North east corner Orange and Chapel streets.  
Foot of Lafayette street, at park.  
In Washington, 159 feet east of Dove street.  
South west corner Washington and Lark streets.  
South east corner Bowery and Knox street, at park.  
North west corner State and Lark streets.  
North west corner State and Lodge streets.

In Lafayette, 278 feet west of Hawk street.  
In Spring, 200 feet west of Hawk street.  
North west corner Ten Broeck and Patroon streets.  
Whole number set..... 156

Respectfully submitted.

WM. McCAMMON, *Supt.*