

Philadelphia, January 27, 1940.

BUREAU OF WATER REPORT OF PROCEEDINGS FOR
THE YEAR 1939

The volume of water furnished daily from the filters for use throughout the City averaged 321 million gallons which, reduced to a per capita consumption, amounts to 155 gallons per day.

The bacteriological character of the water was in accord with the standards as set up by the United States Treasury Department. The integrity of the supply is indicated by the low typhoid fever death rate of 0.6 per 100,000 inhabitants. The fatalities from this disease numbered 12 for the year, of which 6 were non-residents of the City but were within its limits at the time of death.

In addition to the personnel of the Bureau there was engaged throughout the work on Federal projects an average of 1300 men, the activities of whom are of substantial value to the operation of the Water Works.

Combined with the plants of the Water Works, and operated by the Bureau of Water, are the Northeast Sewage Disposal Works, the Frankford Grit Chamber, the Southwest Sewage Pumping Station, the Mingo Creek and Southeast Stations, the two latter serving to prevent overflow of low land ditches in their respective areas.

The absorption of the water system by purchase from The Overbrook Steam Heat Co. was effected and a substantial footage of pipe to render improved and more flexible service was constructed.

The preparation of plans for the rehabilitation of the water system was carried on in a substantial way and work on improvements may be started upon the acquisition, allocation and assignment of financial backing.

RIVER PATROL

The cities and towns on the Schuylkill River between Philadelphia and Reading have observed the request for and in most localities followed with the construction of sewage disposal works thereby reducing polluting contribution to the river.

The industrial plants where no definite or complete elimination of harmful waste is practiced, have given every effort towards a minimum offence with plant effluents.

The contact which is routine between the technical men of this Bureau and the representatives of the industry group is harmonious and productive.

INTAKES

The silting along the banks of the Schuylkill River encroaching upon the Shawmont and Belmont intakes remains a seasonal visitation. During the past summer a substantial amount of dredging was accomplished in front of the Belmont Pumping Station and evidence of a better character in river water draft was an immediate result.

The silting of approach from the Delaware River continues and the sedimentation basin has lost much of its value due to the accumulation of mud thereby reducing the cross-section for sediment retention.

PUMPING STATIONS

Torresdale - Paving on the inside of westerly slope of sedimentation basin has advanced to an appreciable extent. Filling of old coal pocket with clay from an adjacent pile was accomplished and general landscaping has improved the grounds surrounding station.

Lardner's Point - The failure of parts on steam turbine unit imposed a burden on vertical-triple pumps of which number ten (10) out of twelve (12) units may be relied upon for serviceable operation.

Oak Lane - Service of this station was suspended for a short period due to an interior flash of fire which interrupted the power delivery.

Reserve equipment readily restored the operating ability of the pumps.

Shawmont - The service of station late in the year was deprived of one of the two motor driven units. Repairs are in progress on the parts crippled and normal ability of service will be restored early in the coming year.

Roxborough High - The capacity of this station was stressed during periods of high atmospheric temperatures to contribute towards the added demands of volume delivery and upon one occasion during the winter season pumping was interrupted temporarily due to mechanical irregularity on power equipment.

Queen Lane - The construction of new roof on engine room was undertaken and a completion is anticipated early in the coming year.

Funds have been assigned and plans prepared for the replacement of roof over boiler house, work on which will be started in the near future.

The major station at Belmont; the high service stations at East Park and Belmont; the booster stations at Roxboro and Chestnut Hill; the drainage and sewage stations at Mingo Creek, the Southeast and Southwest all contributed essential and satisfactory service throughout the year.

The High Pressure Fire Stations at 7th and Lehigh and Delaware and Race St. were in service for fire control and responded respectively to 448 and 206 alarms.

FILTERS

The service of water in volume and the potability of delivery from all plants was satisfactory.

Torresdale - The valuable assistance contributed through Federal agencies has been reflected in the successful operation of plant.

The repairs and reconditioning of a group of twenty preliminary units have been completed and similar work is progressing on ten additional beds under a project set up by the Works Progress Administration. The field

for additional activity is extensive at this plant and considerable repair work was accomplished on brick buildings, metal doors, granolithic pavements and court curbing, all on the area occupied by the slow sand filters.

Queen Lane - The rehabilitation of the north side of plant involving floors of slow sand units and roof of the underlying basin has been completed. The waterproof membrane on slow sand filter floors has demonstrated the advisability of the adopted construction. Sub-normal service of the revamped units still prevails due to the restricted flow channels from sedimentation basin of raw water formerly refined by passage through preliminary filter beds. Continued work of a similar nature on the south side will effect a completion during the coming year. Additional work is active on the reconstruction of one mechanical unit. All of these improvements have been made possible by a Works Progress Administration project.

Belmont - The reservoir receiving raw river pumpage was dewatered and silt deposit removed thereby improving the sedimentation value of the basins.

Work on reconstruction of one rapid sand filter bed was completed and progress is well advanced with similar modification on a second unit.

Faulty sections of concrete groined arch roof on two slow sand filter units were removed and rebuilt. In two other beds removal, washing and restoring of sand and gravel was accomplished and coincident with this work was the cleaning and restoring of terra cotta underdrains.

Participation on repairs to courts and buildings by Works Progress Administration rendered general plant improvement.

Upper and Lower Roxborough - Repair work on masonry defects have been made on buildings and drives all under the efforts of Works Progress Administration.

RESERVOIRS

Belmont - The accumulated silt was removed from the two reservoirs and the encircling fence painted.

Roxborough - Upper - Construction of a new driveway with masonry side walls has approached completion.

Roxborough - Lower - Masonry walls and steps were under construction all of which work lends towards a general improvement of grounds.

DISTRIBUTION

The periods of high temperatures through the summer season marked the annual abuse of the City fire hydrants. The authorized hydrant showers at many locations were operated by inexperienced persons and in spite of the favor granted for attachments, there were numerous violations on opening hydrants which were allowed to run freely, with no shower control. Such abuse definitely affects the working parts of this valuable equipment. Worthy efforts of control were practiced by the Department of Public Safety but continued and combined offences not only reduced the neighborhood pressures for water service but contributed towards a serious waste of water and damage to hydrants made evident when resorted to in the event of fire. Replacement of over 1700 new hydrants was accomplished during the year.

Substantial footage of service mains was constructed by the operating builders.

Service studies for Federal Housing Authority have been made and advice offered to guide such agencies for a water supply.

Construction of a 24 inch steel main was completed in the Belmont High Service section. A complete loop now prevails for flexible service to the Overbrook area, which section automatically contributed several hundred properties formerly served under the jurisdiction of the Overbrook Steam Heat Co.

Further extension of water main in Island Road was accomplished and during the coming year additional footage will be constructed in the direction of Fort Mifflin.

On Holme Avenue a main was laid for water service to a point beyond the location of the new Nazareth Hospital.

Service System

Mains in miles	2,504
Valves in service	50,512
Fire hydrants in service	20,377

High Pressure Fire System

Mains in miles	63
Valves in service	1,872
Fire hydrants in service	1,070

Broken mains were respectively 317 on service and fire systems.

Continued work under Works Progress Administration is producing valuable information for the recording of pipe, valve and hydrant location upon standard sheets for office reference and distribution studies.

Meters

Installations - total number	224,233
Per cent. of City services metered	48

Maintenance Activities

Meters - repaired in shop	16,048
" " on premises	4,153

Statement of Complaints (Jobs on Hand)

January 1st, 1939	17,069
December 31st, 1939	18,877
Received during year	22,145
Repairs accomplished	20,201

-7-
REVENUE

Water Rents - Flat Rates:

Current	-	\$2,415,872.66	
Delinquent	-	<u>616,797.36</u>	\$3,032,670.02

Meter Rates:

Current	-	\$3,436,550.50	
Delinquent	-	<u>404,524.53</u>	\$3,841,075.03

Water Pipe Searches	-	\$ 2,407.00	
Water Pipe Frontage	-	20,127.34	
Specials	-	5,509.14	
New Services	-	12,801.50	
Meter Repairs	-	58,594.12	
Miscellaneous	-	<u>17,101.49</u>	116,540.59
			<u>\$6,990,285.64</u>

FINANCIAL REPORT

<u>OPERATION</u>	<u>SALARY & WAGES</u>	<u>MATERIAL & EQUIPMENT CONSUMED</u>	<u>TOTAL</u>
Administration	\$ 75,911.93	\$ 4,942.54	\$ 80,854.44
Pumping	312,716.69	986,896.12	1,301,402.81
Filtration	192,023.39	225,103.06	417,126.45
Distribution	269,309.33	102,334.04	372,143.37
High Pressure Fire	61,894.95	9,491.50	71,386.45
Sewage Disposal Plants	76,643.16	29,776.31	106,419.47
Miscellaneous	1,602.72		1,602.72
Other Bureaus	<u>3,381.38</u>	<u>491.74</u>	<u>3,873.12</u>
Totals	<u>\$ 923,383.52</u>	<u>\$1,360,925.51</u>	<u>\$2,354,808.83</u>
<u>CONSTRUCTION WORK IN PROGRESS</u>	5,074.46	120,213.81	125,288.27
<u>ADDITIONS AND BETTERMENTS</u>			
Filters		232.20	232.20
Distribution	21,285.46	17,995.88	39,279.04
Headquarters		6,167.44	6,167.44
Pumping	125.00	36.33	161.33
High Pressure Fire		809.50	809.50
Northeast Sewage	646.00	1,023.91	1,669.91
Loan Roll Improvements	<u>48,980.52</u>	<u>107.76</u>	<u>49,088.28</u>
Totals	<u>\$ 71,036.98</u>	<u>\$ 26,570.72</u>	<u>\$ 97,407.70</u>
Grand Totals	*\$1,070,094.96	**\$ 1,507,402.84	\$ 2,577,504.80

**Includes \$464,550.07 Electric Current for Power & Light furnished by Philadelphia Electric Co. and
 11,200.00 Credit Coal Adjustment at Queen Lane Pumps

* Includes \$ 54,799.00 Labor furnished by Mechanical Equipment Bureau

A group of draftsmen have been engaged upon the preparation of plans for general improvement and rehabilitation of the water system. A substantial volume of this work is ready to receive proposals for construction when financial ability of the City is provided.

ACTIVITIES OF THE WORKS PROGRESS ADMINISTRATION

<u>Queen Lane Filters</u> -	Repairing structure, waterproofing floors,	
restoring sand and gravel	-	men engaged 616
<u>Belmont Filters</u> -	Restoring faulty roofs, removing and re-	
placing sand and gravel, reconstruction of beds, painting buildings and	-	men engaged 247
removing silt from reservoirs		
<u>Roxborough Filters</u> -	Cleaning beds; repairing masonry courts;	
building brick driveway	-	men engaged 185
<u>Torresdale Filters and Station</u> -	Cleaning filters; rebuilding	
and revamping units; laying masonry slopes on sedimentation basin;	-	men engaged 258
landscaping grounds		
<u>Water Main Survey</u> -	Collecting data for records and plotting	
on office plates and standard sheets	-	men engaged 96
	Total	<u>1,582</u>

The work this force has produced is and will be of essential value to the Bureau.

Respectfully submitted,

S. M. VAN LOAN,
 Chief, Bureau of Water.

SMVL/D.