

George Latimer, County Executive

Peekskill •



Peekskill
Water Resource Recovery
Facility



Materials
Recovery Facility

2019 ANNUAL REPORT

Wastewater
Treatment



Ossining
Water Resource Recovery
Facility

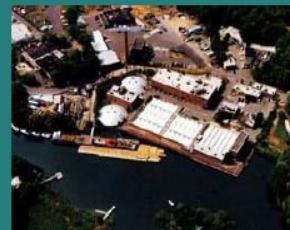
Water Agency
Solid Waste
Operations



Blind Brook
Water Resource Recovery
Facility



Mamaroneck
Water Resource Recovery Facility



Port Chester
Water Resource Recovery
Facility

Port Chester •
Rye
Mamaroneck
New Rochelle
Yonkers



Yonkers
Water Resource Recovery Facility



New Rochelle
Water Resource Recovery Facility

Contents

INTRODUCTION	4
DEF Division of Wastewater and Water Annual Summary	4
Executive Summary.....	4
Westchester County Sewer District Map.....	6
BLIND BROOK WATER RESOURCE RECOVERY FACILITY	11
Aerial Overview Image of the Blind Brook Water Resource Recovery Facility.....	12
MAMARONECK WATER RESOURCE RECOVERY FACILITY.....	15
Aerial Overview Image of the Mamaroneck Water Resource Recovery Facility.....	17
NEW ROCHELLE WATER RESOURCE RECOVERY FACILITY.....	20
Aerial Overview Image of the New Rochelle Water Resource Recovery Facility	21
OSSINING WATER RESOURCE RECOVERY FACILITY.....	24
Aerial Overview Image of the Ossining Water Resource Recovery Facility.....	25
PEEKSKILL WATER RESOURCE RECOVERY FACILITY	28
Aerial Overview Image of the Peekskill Water Resource Recovery Facility	29
PORT CHESTER WATER RESOURCE RECOVERY FACILITY	32
Aerial Overview Image of the Port Chester Water Resource Recovery Facility	33
YONKERS JOINT WATER RESOURCE RECOVERY FACILITY	36
YONKERS JOINT (Continued)	37
Aerial Overview Image of the Yonkers Joint Water Resource Recovery Facility	38
MAINTENANCE SECTION	41
<i>North Yonkers Pumping Station 2019 Annual Performance Report</i>	42
<i>Yonkers Joint Sewer Districts Pumping Stations 2019 Annual Performance Report</i>	43
<i>Ossining and Peekskill Sewer Districts Pumping Stations 2019 Annual Performance Report</i>	44
WATER DIVISION - COUNTY WATER DISTRICT No. 1	49
<i>Kensico Dam 2019 Annual Performance Report</i>	50
<i>Shaft 22 2019 Annual Performance Report</i>	51
WATER DIVISION - COUNTY WATER DISTRICT No. 3	52
<i>Gate of Heaven 2019 Annual Performance Report</i>	53

DEF Division of Solid Waste Management Annual Summary	54
Executive Summary.....	54
DEF/Recycling & Solid Waste Facilities	55
Material Recovery Facility (MRF)	55
Charles Point Waste to Energy Facility	55
County Transfer Stations.....	55
Household-Material Recovery Facility (H-MRF).....	55
Recycling Programs	56
Recycling Education	56
Medication Take Back Program	57
Mobile Shredder Program.....	57
Boat Wrap Recycling Program	57
Westchester County's Recycling HelpLine	58
Electronic Waste Recycling Program	58
Organic Yard Waste Transfer Station IMA Program	58
Recycling Equipment.....	58
Household Recycling Days	59
New Initiatives.....	60
Food Waste Study	60
REFUSE DISPOSAL DISTRICT #1	61
Refuse Disposal District Advisor Board	61
Attachment 1: Westchester County Recycling Rate 2019	62
Attachment 2: Municipally Collected Waste & Recyclables - 2019.....	63

Westchester County

Department of Environmental Facilities

2019 Annual Report

Water and Wastewater Operations

Solid Waste Operations

Vincent F. Kopicki, P.E.	Commissioner
Nat J. Federici, P.E.	Deputy Commissioner
Louis Vetrone	Deputy Commissioner
Erin O'Shea	Deputy Commissioner
Michael Kaplowitz	Deputy Commissioner
Jagdish Mistry, P.E.	Director of Wastewater Treatment
Anthony Della Valle P.E.	Director of Wastewater Treatment
Joseph Gibney, P.E.	Director of Wastewater Treatment
Michael J. Facelle, P.E.	Director of Collection Systems
Jeffrey Bryant	Superintendent, Yonkers Joint WRRF
John Lennon	Superintendent, Mamaroneck WRRF
Warren Pierce	Superintendent, New Rochelle WRRF
David Ciuffreda	Superintendent, Ossining and Peekskill WRRF
Edmond Pellegrino	Superintendent, Blind Brook and Port Chester WRRF
Joseph LaBella	Superintendent of Maintenance
Russell Sorrentino	Superintendent of Maintenance
Michael Ferraro	Water Districts Superintendent
Melissa Rotini	Director, Environmental Management Operations, Solid Waste

INTRODUCTION

The County of Westchester's Department of Environmental Facilities is responsible for the operations of infrastructure and facilities to address the management of water, wastewater, materials recycling, and disposal, as well as other related environment services.

The Wastewater and Water divisions are responsible for the operation of seven water resource recovery facilities and their auxiliaries, and two water districts.

The Solid Waste Management Division is responsible for the recycling and solid waste disposal programs for Westchester County's Refuse Disposal District, which includes four transfer stations, one materials recovery facility, and one household hazardous material recovery facility.

DEF Division of Wastewater and Water Annual Summary

Executive Summary

The County's water resource recovery facilities are located in Yonkers, New Rochelle, Mamaroneck, Rye (Blind Brook Treatment Plant), Port Chester, Ossining and Peekskill. A map of the County sewer districts indicating the locations of these treatment facilities is on page 4. The water districts serve the cities of Yonkers, Mount Vernon and White Plains, the Village of Scarsdale and the Westchester County facilities at Grasslands.

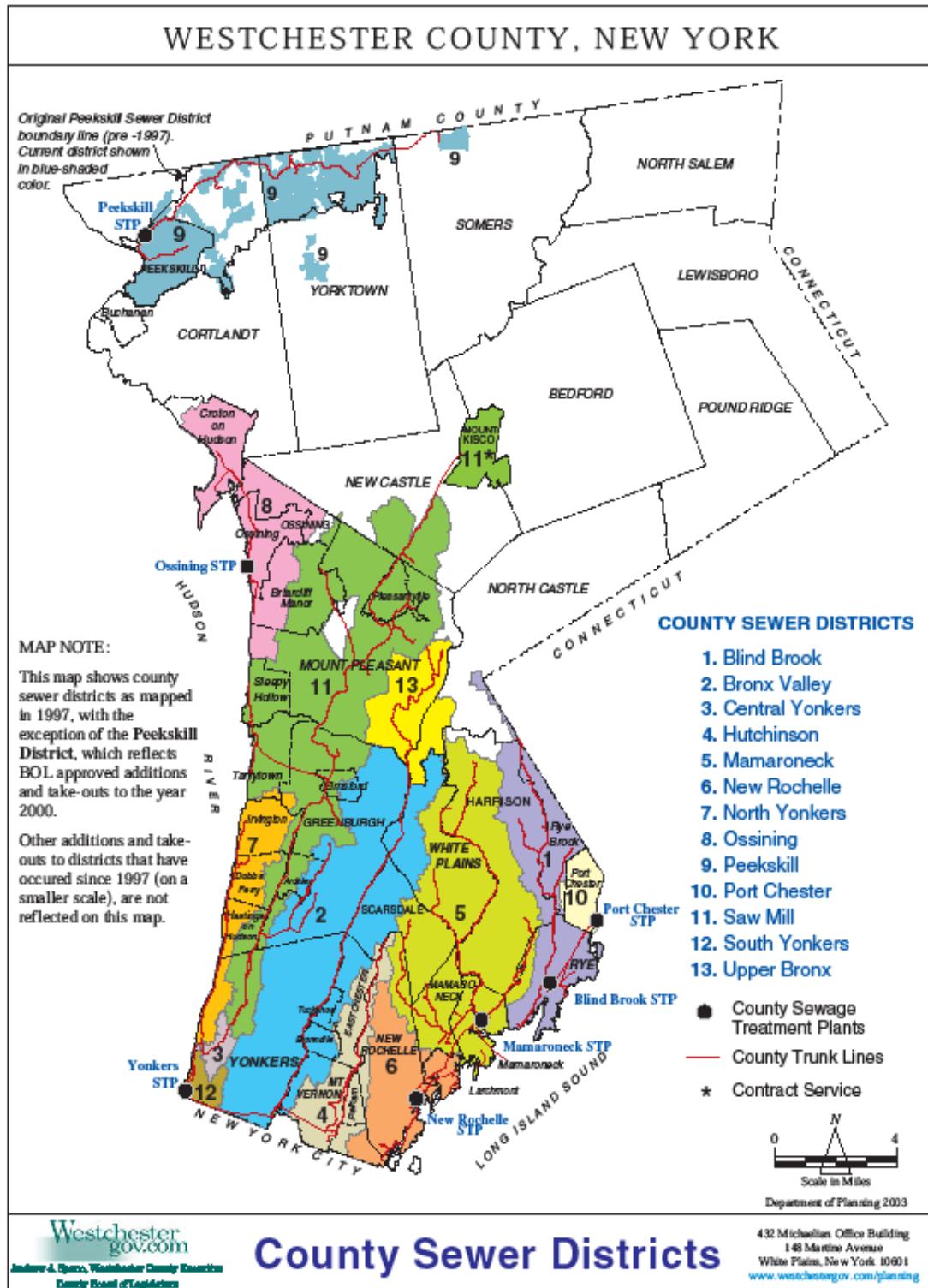
The auxiliaries include forty-two pump stations, two overflow retention facilities, twenty storm-flow regulating chambers, and about 194 miles of County-owned trunk sewers and force mains. They serve several municipal collection systems with locally maintained sewers and pumping stations.

The seven water resource recovery facilities generally operated well in 2019. The total flow treated by all seven plants averaged 134.5 MGD or a total of 49.09 billion gallons, which is a 3.5% decrease from 2018. Our overall efficiency was 95% for suspended solids and 95% for carbonaceous biochemical oxygen demand. Our average cost of operation was \$2.52 per 1000 gallons of sewage treated.

During 2019 the four treatment plants on Long Island Sound had a total 12 month rolling average nitrogen load of 1,611 pounds per day. Reduced nitrogen in the discharges helps reduce oxygen demand in the Sound by eliminating nutrients and minimizing hypoxia.

The number of authorized employees in the wastewater division Operations and Maintenance at 2019 year end totaled 264. This included 197 employees working in the seven plants, and 67 employees in pumping stations and collection systems.

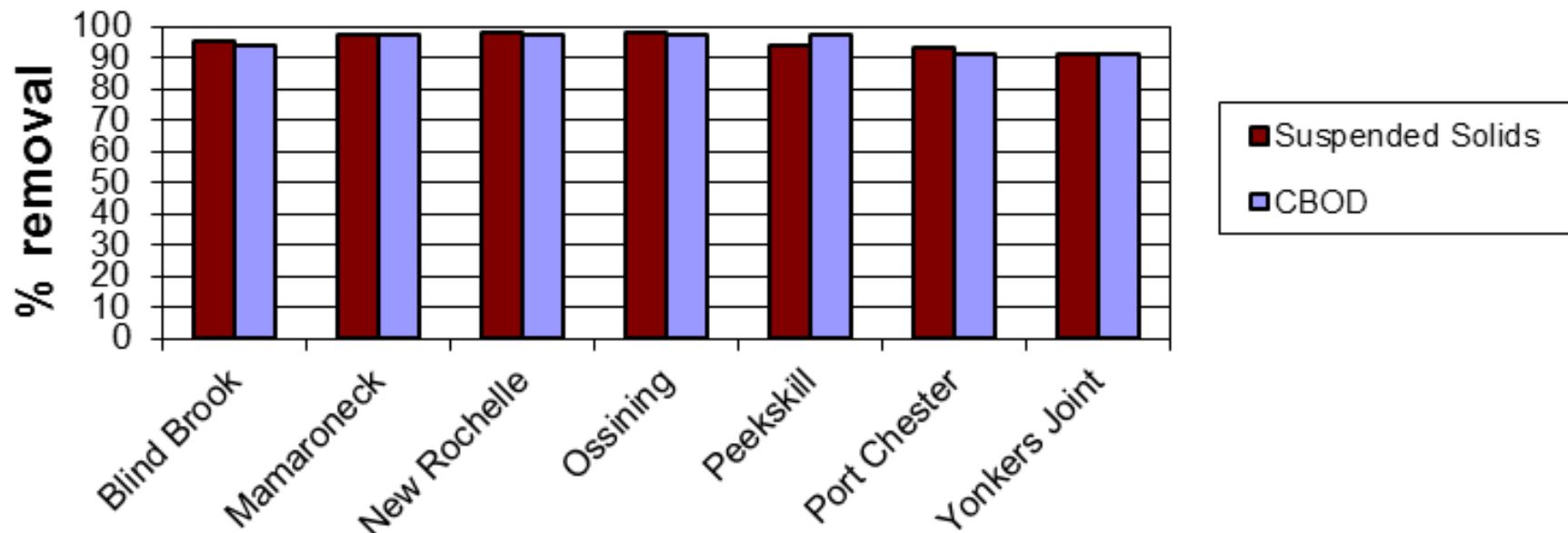
Westchester County Sewer District Map



Plant Removal Efficiencies

Plant Efficiencies

2019

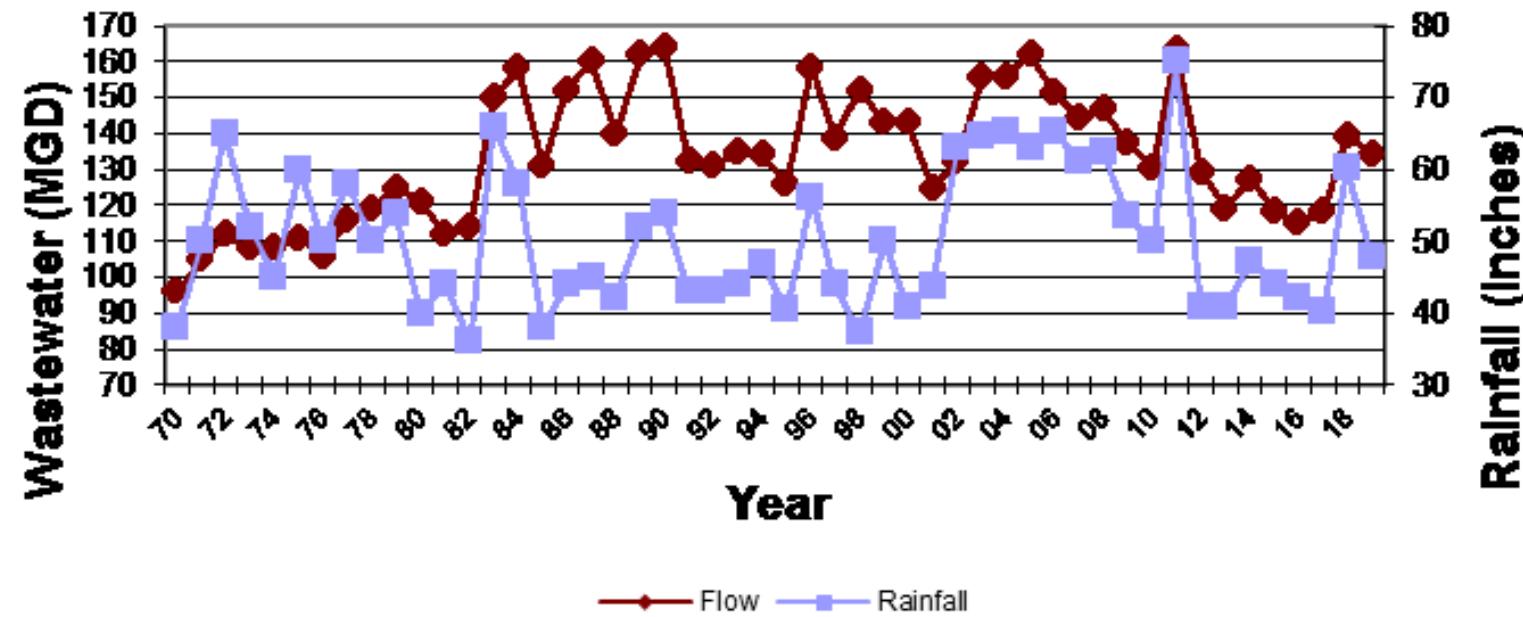


Average Flow and Precipitation for 2019

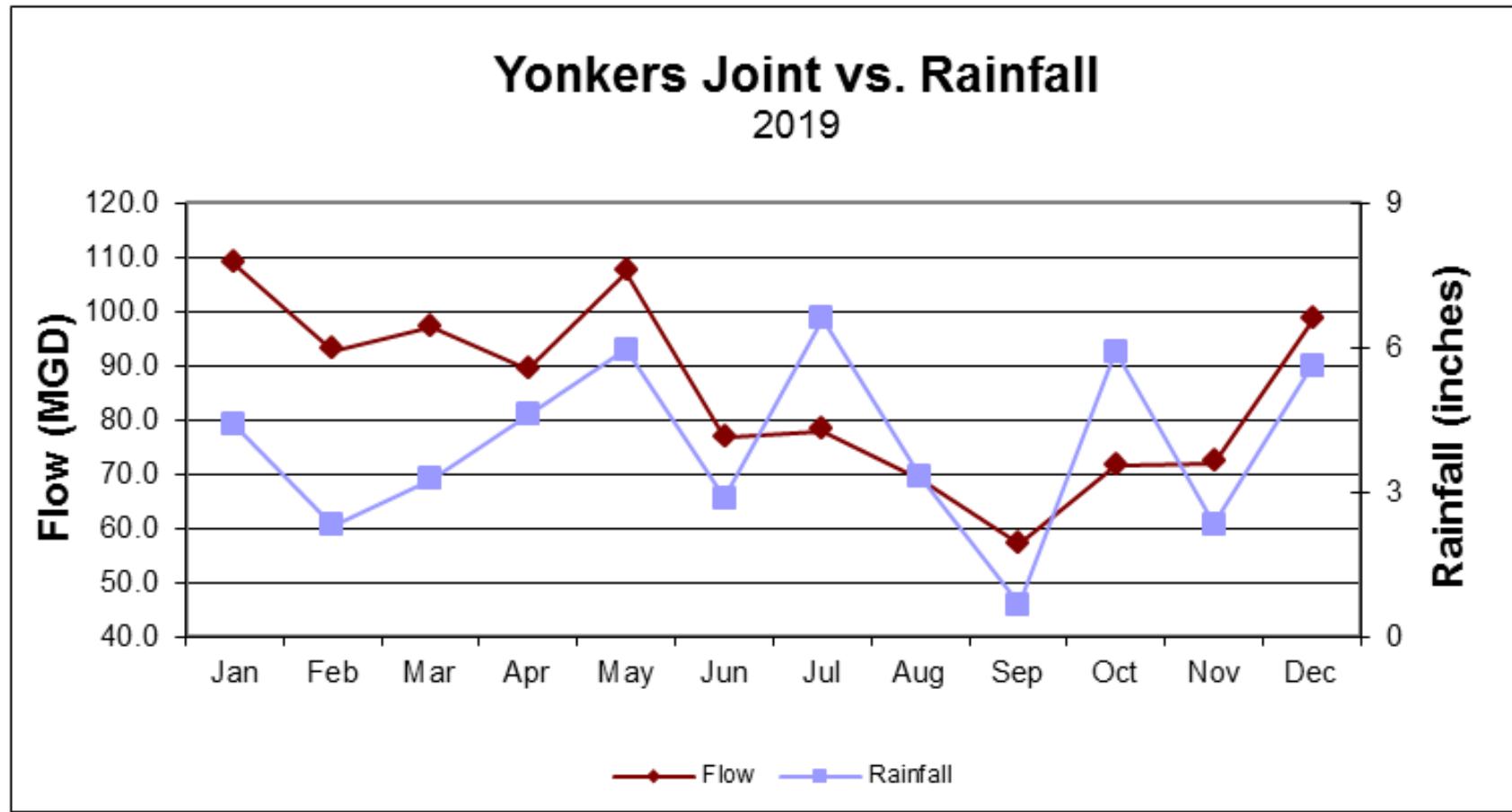
Month	Blind Brook in MGD	Mamaroneck in MGD	New Rochelle in MGD	Ossining in MGD	Peekskill in MGD	Port Chester in MGD	Yonkers Joint in MGD	2018 Rainfall in inches	2019 Rainfall in inches
January	4.7	20.4	18.4	6.5	8.3	5.7	109	2.89	4.40
February	4.0	16.5	15.8	5.4	7.0	4.9	93	5.87	2.30
March	3.9	17.1	16.0	5.4	7.3	4.9	97	4.96	3.26
April	3.5	14.8	14.2	5.2	7.2	4.8	89	4.87	4.61
May	4.6	20.5	17.3	6.0	7.6	5.7	107	2.98	5.97
June	2.9	13.2	12.4	4.9	6.3	4.3	77	2.72	2.88
July	3.3	14.0	14.1	4.3	5.5	5.2	78	5.25	6.60
August	3.0	13.6	12.0	4.3	5.3	5.0	69	6.71	3.32
September	2.4	11.3	10.1	3.8	5.0	3.9	57	7.82	0.66
October	3.0	12.9	11.8	3.9	5.3	4.5	71	3.93	5.92
November	3.4	12.5	12.3	3.9	5.6	4.3	72	6.32	2.33
December	4.7	19.6	18.0	4.9	6.9	5.3	98	5.76	5.62
Average	3.6	15.5	14.4	4.9	6.4	4.9	84.8	5.01	3.99
Maximum	4.7	20.5	18.4	6.5	8.3	5.7	109	7.82	6.60
Minimum	2.4	11.3	10.1	3.8	5.0	3.9	57	2.72	0.66
Permitted flow	5.0	23.2	20.6	7.0	10.0	6.0	120		
TOTAL								60.08	47.87

Flow versus Rainfall

Flow vs. Rainfall All Plants



Yonkers Joint versus Rainfall Image



BLIND BROOK WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS: Screenings, grit removal, primary sedimentation, activated sludge process, final clarification, sodium hypochlorite disinfection. Blind Brook sludge is pumped to Port Chester for processing.

COUNTY TRUNK SEWERS: 17 miles

SITING ACRES: 3

MUNICIPALITIES SERVED: City of Rye; Towns of Rye, Harrison, and North Castle; Westchester County Airport; State University of New York at Purchase.

TRIBUTARY POPULATION: 25,855

EMPLOYEES: 12

2019 EXPENDITURES: \$10,284,085

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1962 - Primary Treatment	\$1,500,000
1985 - Secondary Treatment	\$13,200,000

FLOW CAPACITIES

2019 ACTUAL FLOW: 3.6 MGD

DESIGN FLOW: 5.0 MGD

HYDRAULIC CAPACITY: 15.0 MGD

PERMITTED FLOW: 5.0 MGD

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Playland	4.32 MGD	0.393 MGD

Aerial Overview Image of the Blind Brook Water Resource Recovery Facility



Blind Brook 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge to Port Chester (gallons/day)	Sludge to Port Chester (dry tons)
January	4.7	73	6	92	75	4	94	237,955	49
February	4.0	85	4	96	89	3	97	234,097	55
March	3.9	72	2	97	74	2	97	236,575	59
April	3.5	83	4	95	87	4	96	216,765	70
May	4.6	82	4	95	83	4	95	220,010	64
June	2.9	106	3	97	117	3	97	224,629	68
July	3.3	106	3	97	91	4	96	219,259	58
August	3.0	92	2	98	71	2	97	218,274	44
September	2.4	127	7	95	103	7	94	220,895	73
October	3.0	135	15	89	109	17	84	208,897	42
November	3.4	124	11	91	89	11	87	225,262	48
December	4.7	85	5	94	86	4	95	222,565	60
Average	3.6	97	5	95	90	5	94	223,765	58

Blind Brook 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Fuel Oil (gallons)	Water (gallons)	Electric Usage (kWh)	Screenings (cubic feet)	Grit (cubic feet)	Average Total Daily Nitrogen Influent (mg/l)	Average Total Daily Nitrogen Effluent (mg/l)	Average Total Daily Nitrogen (Lbs/Day Out)
January	3,018	2,220	1,014,970	384,800	62	42	16.4	7.5	299
February	2,347	1,937	948,397	321,200	56	28	20.1	8.4	261
March	2,377	2,062	1,006,985	354,000	62	35	18.6	9.2	310
April	2,142	1,154	991,269	338,000	60	21	23.3	8.0	236
May	2,993	149	995,430	373,600	62	31	19.9	6.3	276
June	2,275	34	995,792	304,000	60	47	27.4	5.5	131
July	3,431	35	965,336	350,000	62	77	25.6	7.2	197
August	3,024	35	930,738	337,600	62	81	23.6	6.1	153
September	2,495	48	1,008,618	312,000	60	42	36.2	10.2	204
October	2,432	35	1,118,455	245,200	63	91	33.4	26.2	658
November	1,884	1,485	1,134,612	256,000	60	63	30.7	23.1	674
December	2,512	2,030	1,073,410	364,000	62	84	20.5	14.1	552
Total	30,930	11,224	12,184,012	3,940,400	731	641	N/A	N/A	N/A
Average	2,578	935	1,015,334	328,367	61	53	24.6	11.0	329
Daily Average	85	31	33,381	10,796	2	2	N/A	N/A	N/A

MAMARONECK WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS:	Screening, Grit Removal, Primary Sedimentation, Activated Sludge, Final Clarification and Sodium Hypochlorite Disinfection. Sludge pumped to New Rochelle for processing.
COUNTY TRUNK SEWERS:	39 miles
SITING ACRES:	4
MUNICIPALITIES SERVED:	Cities of New Rochelle, Rye, and White Plains; Towns of Harrison, Mamaroneck, North Castle, Rye, and Scarsdale; Villages of Larchmont and Mamaroneck.
TRIBUTARY POPULATION:	89,423
EMPLOYEES:	20
2019 EXPENDITURES:	\$19,188,450

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1929 - Original Screen Plant	\$700,000
1965 - Primary Treatment	\$3,800,000
1989 - Secondary Treatment	\$100,000,000
2014 – BNR	\$40,600,000

FLOW CAPACITIES

2019 ACTUAL FLOW:	15.5 MGD
DESIGN FLOW:	20.6 MGD/ 23.2 MGD*
HYDRAULIC CAPACITY:	90.0 MGD
PERMITTED FLOW:	20.6 MGD/23.2 MGD*

* Design flow was increased when the BNR upgrade was substantially completed

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Beaver Brook	0.058 MGD	0.006 MGD
Cove Road	0.58 MGD	0.073 MGD
East Basin	2.88 MGD	0.136 MGD
Edgewater Point	1.73 MGD	0.094 MGD
Fenimore Road	1.87 MGD	0.239 MGD
Saxon Woods	0.52 MGD	0.064 MGD

Weaver Street	4.32 MGD	0.427 MGD
West Basin	5.80 MGD	0.526 MGD

Aerial Overview Image of the Mamaroneck Water Resource Recovery Facility



Mamaroneck 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge to New Rochelle (Gallons/Day)	Sludge to New Rochelle (Dry Tons)
January	20.4	94	5	95	65	2	96	10,046,400	281
February	16.5	111	3	98	76	2	97	9,076,700	278
March	17.1	105	4	97	73	3	96	10,529,300	271
April	14.8	125	3	98	94	2	98	10,810,700	362
May	20.5	113	4	97	74	3	96	11,643,200	334
June	13.2	160	4	98	110	2	98	12,105,800	374
July	14.0	148	4	97	101	2	98	10,653,300	419
August	13.6	132	4	97	92	3	97	11,746,900	415
September	11.3	183	5	97	129	2	98	11,818,200	343
October	12.9	159	5	97	120	3	98	11,155,100	397
November	12.5	143	5	97	106	3	97	10,344,500	283
December	19.6	104	7	93	89	4	96	12,650,600	227
Average	15.5	131	4	97	94	3	97	11,048,392	332

Mamaroneck 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Fuel Oil (gallons)	Water (cubic feet)	Methanol, 25% (gallons)	Electric Usage (kWh)	Screenings (cubic feet)	Average Total Daily Nitrogen Influent (mg/l)	Average Total Daily Nitrogen Effluent (mg/l)	Average Total Daily Nitrogen (Lbs/Day Out)
January	9,801	14,823	92,100	94,811	823,800	1,053	18.9	2.2	369
February	7,632	12,691	71,200	82,440	715,200	972	22.0	2.0	269
March	8,323	13,251	98,400	82,250	811,200	1,051	21.0	2.0	298
April	7,641	4,263	102,500	88,055	710,400	1,377	26.2	2.2	271
May	9,275	1,726	137,700	91,197	763,200	972	20.4	2.3	438
June	7,392	0	93,900	78,470	633,600	972	28.9	2.9	320
July	9,708	0	160,900	69,410	700,800	1,134	29.9	3.8	450
August	8,225	0	256,800	86,269	705,600	1,134	29.1	2.5	280
September	7,204	0	349,900	83,125	624,000	1,053	38.8	2.0	189
October	7,750	1,800	276,200	84,390	700,800	1,458	34.8	2.4	285
November	7,350	10,979	144,800	80,980	686,400	891	29.4	3.1	317
December	8,779	13,369	142,900	93,763	840,000	891	20.2	3.5	577
Total	99,080	72,902	1,927,300	1,015,160	8,715,000	12,958	N/A	N/A	N/A
Average	8,257	6,075	160,608	84,597	726,250	1,080	26.6	2.6	339
Daily Average	271	200	5,280	2,781	23,877	36	N/A	N/A	N/A

NEW ROCHELLE WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS:	Screening, Primary Sedimentation, Pure Oxygen Activated Sludge, Final Clarification, Sodium Hypochlorite Disinfection, Gravity Thickening, Belt press dewatering, and sludge disposed for beneficial use by private hauler.
COUNTY TRUNK SEWERS:	10 miles
SITING ACRES:	14
MUNICIPALITIES SERVED:	City of New Rochelle; Town of Mamaroneck; Villages of Larchmont and Pelham Manor.
TRIBUTARY POPULATION:	75,072
EMPLOYEES:	38
2019 EXPENDITURES:	\$21,324,344

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1956 - Primary Treatment	\$4,100,000
1982 - Secondary Treatment	\$18,000,000
2014 - BNR and Secondary Upgrade	\$235,000,000

FLOW CAPACITIES

2019 ACTUAL FLOW:	14.4 MGD
DESIGN FLOW:	20.6 MGD
HYDRAULIC CAPACITY:	54.0 MGD
PERMITTED FLOW:	20.6 MGD

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Beach Avenue	0.72 MGD	0.165 MGD
Circle/Park Avenue	1.31 MGD	0.147 MGD
Fifth Avenue	4.90 MGD	0.258 MGD
Flint Avenue	5.80 MGD	1.546 MGD
Glen Island Administration	0.70 MGD	0.181 MGD
Glen Island Casino	0.25 MGD	0.028 MGD
Magnolia Avenue	1.44 MGD	0.035 MGD
Sutton Manor	0.52 MGD	0.046 MGD
Woodbine Avenue	1.44 MGD	0.114 MGD

Aerial Overview Image of the New Rochelle Water Resource Recovery Facility



New Rochelle 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge Removed (wet tons)	Sludge Removed (% solids)	Sludge Removed (dry tons)
January	18.4	91	2	98	76	2	97	2,107	22.8	480.4
February	15.8	95	2	98	84	2	97	1,941	21.8	422.3
March	16.0	102	2	98	79	3	96	2,091	22.3	466.4
April	14.2	124	2	98	90	2	97	2,262	21.8	493.0
May	17.3	106	2	98	77	3	96	2,355	22.0	518.7
June	12.4	141	2	98	111	2	98	2,027	21.6	438.3
July	14.1	128	2	98	100	2	98	1,872	23.3	437.0
August	12.0	124	2	98	103	2	98	2,044	22.5	460.4
September	10.1	148	3	98	122	3	98	1,678	22.9	384.8
October	11.8	141	3	98	110	3	97	1,838	24.5	450.4
November	12.3	127	2	98	116	3	98	1,957	23.5	459.9
December	18.0	99	2	98	87	3	97	1,975	24.0	473.9
Average	14.4	119	2	98	96	3	97	2,012	22.8	457.1

New Rochelle 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Methanol, 25% (gallons)	Natural Gas (gallons)	Water (cubic feet)	Electric Usage (kWh)	Polymer (gallons)	Potassium Permanganate (pounds)	Oxygen Delivered (pounds)	Screenings (cubic feet)	Average Total Daily Nitrogen Influent (mg/l)	Average Total Daily Nitrogen Effluent (mg/l)	Average Total Daily Nitrogen (Lbs/Day Out)
January	8,948	89,489	3,957,000	142,373	1,137,600	1,052	16,830	27,167	50	18.8	1.5	2,893
February	8,790	78,739	3,395,000	131,709	993,600	949	13,200	22,070	50	19.6	1.8	2,506
March	7,998	90,848	3,262,000	149,682	1,113,600	978	10,890	25,755	50	19.8	1.8	2,700
April	6,940	84,271	1,442,000	141,360	950,400	1,281	15,840	28,929	50	21.6	1.9	2,530
May	8,893	95,363	18,000	137,082	955,200	1,420	26,730	28,772	50	18.9	1.6	2,846
June	8,118	83,420	13,000	127,501	892,800	1,264	23,100	30,337	50	24.4	1.8	2,514
July	8,784	83,326	11,000	135,047	1,003,200	1,087	21,780	31,449	50	23.1	1.9	2,477
August	7,622	75,771	11,000	134,892	926,400	1,357	22,110	30,346	50	24.5	1.7	2,461
September	12,899	71,591	11,000	143,847	859,200	1,353	21,450	33,773	50	29.5	1.7	2,508
October	17,626	71,307	674,000	159,626	959,800	1,470	22,440	34,704	50	27.6	1.9	2,604
November	6,882	69,518	2,501,000	155,956	979,200	1,268	22,440	35,581	50	25.2	1.6	2,638
December	1,942	88,164	3,302,000	161,558	1,142,400	1,444	20,460	28,994	50	19.2	1.7	2,828
Total	105,442	981,807	18,597,000	1,720,633	11,913,400	14,923	237,270	357,877	600	N/A	N/A	N/A
Average	8,787	81,817	1,549,750	143,386	992,783	1,244	19,773	29,823	50	22.7	1.7	2,625
Daily Average	289	2,690	50,951	4,714	32,639	41	650	980	2	N/A	N/A	N/A

OSSINING WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS: Screening and Grit removal, Primary Treatment, Activated sludge, Final Clarification, Sodium Hypochlorite Disinfection, Sodium Bisulfite dechlorination, gravity thickening, disposal of liquid sludge by contract.

COUNTY TRUNK SEWERS: 8 miles

SITING ACRES: 4

MUNICIPALITIES SERVED: Towns of Mount Pleasant and Ossining; Villages of Briarcliff Manor, Croton-on-Hudson, and Ossining.

TRIBUTARY POPULATION: 39,415

EMPLOYEES: 17

2019 EXPENDITURES: \$5,131,619

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1981 - Secondary Treatment	\$42,000,000

FLOW CAPACITIES

2019 ACTUAL FLOW: 4.9 MGD

DESIGN FLOW: 7.0 MGD

HYDRAULIC CAPACITY: 26.0 MGD

PERMITTED FLOW: 7.0 MGD

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Archville	0.14 MGD	0.009 MGD
Country Club Lane	0.10 MGD	0.0025 MGD
Croton	5.30 MGD	0.674 MGD
Crotonville	13.40 MGD	1.228 MGD
Kemey's Cove	2.02 MGD	0.352 MGD
Croton Landfill (Ballfield)	0.27 MGD	0.00 MGD
Croton Landfill (Seeps)	0.19 MGD	0.0015 MGD
Croton Landfill Station #1	0.56 MGD	0.0200 MGD
Croton Landfill (Condensate)	0.075 MGD	0.000128 MGD
Croton Landfill Station #2	0.79 MGD	0.110 MGD

Aerial Overview Image of the Ossining Water Resource Recovery Facility



Ossining 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge Removed (gallons)	Sludge Removed (% solids)	Sludge Removed (dry tons)
January	6.5	116	4	97	108	4	96	455,000	4.3	80
February	5.4	143	5	96	135	7	95	448,000	4.1	75
March	5.4	146	6	96	135	7	95	490,000	4.3	87
April	5.2	137	4	97	145	6	96	539,000	4.0	89
May	6.0	195	3	98	167	6	96	539,000	4.2	94
June	4.9	154	4	98	135	3	98	588,000	4.0	95
July	4.3	181	4	98	152	3	98	700,000	3.6	99
August	4.3	207	2	99	169	3	98	728,000	3.4	103
September	3.8	183	3	99	160	3	98	672,000	2.7	75
October	3.9	176	5	97	158	7	95	581,000	3.4	81
November	3.9	146	4	97	161	5	97	553,000	3.7	87
December	4.9	192	4	98	203	5	98	448,000	4.0	74
Average	4.9	165	4	98	152	5	97	561,750	3.8	86

Ossining 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Water (gallons)	Electric Usage (kWh)	Removed from Sewage Screenings (cubic feet)	Removed from Sewage Grit (cubic feet)
January	5,125	23,000	367,200	608	1,350
February	6,278	21,690	330,400	628	540
March	7,199	22,490	353,600	608	540
April	10,091	21,580	318,400	649	810
May	11,134	21,010	308,000	548	1,080
June	10,274	21,500	314,400	406	1,080
July	10,283	21,220	294,400	547	1,080
August	8,957	25,590	349,600	629	1,080
September	9,597	18,010	280,800	649	810
October	8,816	19,930	336,000	669	810
November	4,212	16,500	2,091,000	406	540
December	2,867	17,550	339,200	589	810
Total	94,833	250,070	5,683,000	6,936	10,530
Average	7,903	20,839	473,583	578	878
Daily Average	260	685	15,570	19	29

PEEKSKILL WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS: Screening and Grit removal, Primary Treatment, Activated sludge, Final Clarification, Ultraviolet Light Disinfection, Gravity Thickening and Anaerobic Digestion. Liquid sludge removed by contract.

COUNTY TRUNK SEWERS: 15 miles

SITING ACRES: 35.6

MUNICIPALITIES SERVED: City of Peekskill; Towns of Cortlandt, Somers and Yorktown.

TRIBUTARY POPULATION: 41,349

EMPLOYEES: 17

2019 EXPENDITURES: \$ 5,614,091

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1953 - Primary Treatment	\$19,443,000
1980 - Secondary Treatment	\$55,000,000

FLOW CAPACITIES

2019 ACTUAL FLOW: 6.4 MGD

DESIGN FLOW: 10.0 MGD

HYDRAULIC CAPACITY: 22.5 MGD

PERMITTED FLOW: 10.0 MGD

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Mill Street	9.72 MGD	1.12 MGD
Water Street	10.15 MGD	1.91 MGD

Aerial Overview Image of the Peekskill Water Resource Recovery Facility



Peekskill 2019 Annual Performance Report 1

Month	Flow MGD	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge Removed (gallons)	Sludge Removed (% solids)	Sludge Removed (dry tons)
January	8.3	118	12	89	145	8	94	884,000	3.0	99
February	7.0	125	7	94	161	7	96	851,500	2.9	94
March	7.3	110	4	97	130	3	98	1,248,000	2.3	110
April	7.2	137	8	94	148	4	98	1,085,500	2.2	88
May	7.6	135	11	92	134	5	96	903,500	2.7	93
June	6.3	164	7	96	165	3	98	1,326,000	2.0	99
July	5.5	189	11	94	209	5	98	1,547,000	1.5	89
August	5.3	162	4	97	192	4	98	1,488,500	1.9	107
September	5.0	172	9	95	161	7	96	1,464,645	1.7	92
October	5.3	162	11	93	182	9	95	292,500	1.8	20
November	5.6	145	14	90	239	11	96	563,900	3.0	64
December	6.9	169	4	97	170	6	96	402,700	2.9	45
Average	6.4	149	9	94	170	6	97	1,004,812	2.3	83

Peekskill 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Fuel Oil (gallons)	Water (cubic feet)	Electric Usage (kWh)	Digester Gas Produced (cubic-feet)	Digester Gas Wasted (cubic feet)	Removed from Sewage Screenings (cubic feet)	Removed from Sewage Grit (cubic feet)	Removed from Sewage Grease (cubic feet)
January	0	10,693	27,807	326,400	0	0	431	162	--
February	0	10,087	26,872	302,400	0	0	363	162	--
March	0	7,765	26,872	312,000	0	0	397	162	78
April	0	6,287	24,064	302,400	0	0	386	324	--
May	64	3,630	26,872	345,600	0	0	407	162	--
June	1,257	1,866	24,198	321,600	0	0	361	270	156
July	6,655	180	34,893	307,200	0	0	378	162	234
August	6,001	992	29,679	312,000	0	0	369	162	78
September	7,100	1,870	35,762	307,200	0	0	342	168	156
October	4,860	2,992	25,000	316,800	0	0	402	324	78
November	4,108	8,666	24,332	350,400	0	0	398	162	--
December	3,565	8,360	25,936	312,000	0	0	416	162	78
Total	33,610	63,388	332,286	3,816,000	0	0	4,650	2,382	858
Average	2,801	5,282	27,691	318,000	0	0	388	199	123
Daily Avg.	92	174	910	10,455	0	0	13	7	2

PORt CHESTER WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS: Screening and Grit Removal, Primary Settling Tanks, Rotating Biological Contactors, Final Settling Tanks, Sodium Hypochlorite Disinfection, Gravity thickening and liquid sludge removed by contract

COUNTY TRUNK SEWERS: None

SITING ACRES: 3

MUNICIPALITIES SERVED: Town of Rye; Village of Port Chester.

TRIBUTARY POPULATION: 30,116

EMPLOYEES: 17

2019 EXPENDITURES: \$3,642,683

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1989 - Secondary Treatment	\$43,100,000

FLOW CAPACITIES

2019 ACTUAL FLOW: 4.9 MGD

DESIGN FLOW: 6.0 MGD

HYDRAULIC CAPACITY: 13.4 MGD

PERMITTED FLOW: 6.0 MGD

PUMPING STATIONS

None

Aerial Overview Image of the Port Chester Water Resource Recovery Facility



Port Chester 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge Removal (Gallons)	Sludge Removal (% solids)	Sludge Removal (Dry Tons)
January	5.7	178	13	93	147	14	90	754,000	4.7	134
February	4.9	199	10	95	188	14	93	799,500	3.5	105
March	4.9	191	14	93	159	15	91	975,000	3.1	115
April	4.8	116	11	90	148	13	91	845,000	4.4	141
May	5.7	88	12	87	118	12	90	773,500	5.0	146
June	4.3	124	14	89	155	15	90	897,000	3.6	124
July	5.2	248	13	95	188	13	93	1,046,500	3.0	119
August	5.0	191	10	95	159	12	93	910,000	3.5	121
September	3.9	258	9	96	210	11	95	903,500	3.8	129
October	4.5	213	12	94	171	13	93	819,000	4.2	130
November	4.3	228	12	95	204	15	92	663,000	5.6	141
December	5.3	114	12	90	112	15	86	851,500	4.8	156
Average	4.9	179	12	93	163	13	91	853,125	4.1	130

Port Chester 2018 Annual Performance Report 2

Month	Sodium Hypochlorite Effluent (gallons)	Sodium Hypochlorite Thickeners (gallons)	Natural Gas (cubic feet)	Fuel Oil (gallons)	Water (cubic feet)	Electric Usage (kWh)	Sewage Removals Screenings (cubic feet)	Sewage Removals Grit (cubic feet)	Average Total Daily Nitrogen Influent (mg/l)	Average Total Daily Nitrogen Effluent (mg/l)	Average Total Daily Nitrogen (Lbs/Day Out)
January	2,506	5,952	1,016	3,628	10,035	384,800	294	84	26.1	16.3	754
February	1,970	7,140	841	3,725	18,737	360,000	252	252	31.6	17.9	698
March	2,533	8,537	719	4,224	20,113	399,200	280	252	29.8	16.3	685
April	2,491	8,544	273	666	13,946	335,200	280	168	27.4	15.4	595
May	2,448	8,928	139	23	17,231	349,600	280	168	21.9	14.3	698
June	2,374	9,632	7	48	21,993	307,200	294	84	29.9	20.1	721
July	3,114	9,693	1	66	36,121	340,000	322	252	33.7	19.4	762
August	2,546	8,928	0	43	63,932	339,200	266	168	31.1	18.2	747
September	1,920	10,728	0	37	165,219	307,200	280	84	41.2	24.7	797
October	2,234	9,792	94	320	90,086	326,400	280	0	33.5	21.1	782
November	2,432	8,640	571	2,641	2,795	320,800	280	84	34.1	19.8	722
December	2,986	8,928	1,171	2,776	9,255	373,600	658	0	25.9	16.3	697
Total	29,554	105,442	4,832	18,197	469,463	4,143,200	3,766	1,596	N/A	N/A	N/A
Average	2,463	8,787	403	1,516	39,122	345,267	314	133	30.5	18.3	721
Daily Avg.	81	289	13	50	1,286	11,351	10	4	N/A	N/A	N/A

YONKERS JOINT WATER RESOURCE RECOVERY FACILITY

TREATMENT PROCESS:	Screening and Grit removal, Primary Treatment, Activated Sludge, Final Clarification, Sodium Hypochlorite Disinfection, dechlorination with sodium bisulfite, Gravity and Dissolved Air Flotation Thickening, Anaerobic Digestion, Dewatering by Centrifuge, sludge cake removed by contract for beneficial use, with a landfill as a backup site.
COUNTY TRUNK SEWERS:	100 miles
SITING ACRES:	27
MUNICIPALITIES SERVED:	Cities of Mount Vernon, New Rochelle, White Plains, and Yonkers; Towns of Bedford, Greenburgh, Mount Pleasant, Mount Kisco, New Castle, North Castle; Villages of Ardsley, Briarcliff Manor, Bronxville, Dobbs Ferry, Elmsford, Hastings, Irvington, Pleasantville, Scarsdale, Sleepy Hollow, Tarrytown, and Tuckahoe.
TRIBUTARY POPULATION:	509,921
EMPLOYEES:	76
2019 EXPENDITURES:	\$58,364,624 (Sewer Districts) \$10,406,304 (Yonkers Joint WWTP) \$1,780,448 (North Yonkers Pump Station)
<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1931 - Original Screen Plant	\$583,000
1961 - Primary Treatment	\$10,300,000
1979 - Secondary Treatment	\$84,800,000
<u>FLOW CAPACITIES</u>	
2019 ACTUAL FLOW:	84.8 MGD
DESIGN FLOW:	120 MGD
HYDRAULIC CAPACITY:	330 MGD
PERMITTED FLOW:	120 MGD (12-month rolling average)

YONKERS JOINT (Continued)

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Alexander Street	12.60 MGD	1.478 MGD
Briarcliff	4.90 MGD	1.0 MGD Estimated
Dobbs Ferry	0.29 MGD	0.053 MGD
Hastings	1.44 MGD	0.217 MGD
Hutchinson	28.80 MGD	3.0 MGD Estimated
Irvington	11.23 MGD	1.612 MGD
Jackson Avenue	3.46 MGD	0.584 MGD
Ludlow Street	3.90 MGD	0.793 MGD
Main Street	8.10 MGD	0.957 MGD
North Yonkers	74.00 MGD	28.70 MGD
Sprain Lift	1.44 MGD	0.131 MGD
Tarrytown	26.00 MGD	2.508 MGD

Aerial Overview Image of the Yonkers Joint Water Resource Recovery Facility



Yonkers Joint 2019 Annual Performance Report 1

Month	Flow (MGD)	Suspended Solids Influent (mg/l)	Suspended Solids Effluent (mg/l)	Suspended Solids Efficiency (% removal)	Carbonaceous Biochemical Oxygen Demand Influent (mg/l)	Carbonaceous Biochemical Oxygen Demand Effluent (mg/l)	Carbonaceous Biochemical Oxygen Demand Efficiency (% removal)	Sludge Removed (wet tons)	Sludge Removed (% solids)	Sludge Removed (dry tons)	Removed from Sewage Screenings (pounds)	Removed from Sewage Grit (cubic yards)
January	109	97	10	90	70	8	89	2,679	27.1	727	38,000	140
February	93	102	11	89	83	11	86	2,106	28.2	593	32,000	160
March	97	104	13	87	78	12	85	2,217	27.6	612	36,000	100
April	89	122	11	91	104	11	90	2,512	29	729	32,000	120
May	107	106	16	85	86	11	88	2,449	25.6	626	40,000	140
June	77	157	11	93	141	9	94	2,375	26	616	55,000	100
July	78	147	6	96	133	6	95	3,739	20.3	759	60,000	80
August	69	145	6	96	140	7	95	3,584	22.2	794	54,000	60
September	57	162	14	92	144	9	94	2,363	23.1	545	62,000	80
October	71	154	13	92	137	9	93	3,840	23.5	902	64,000	100
November	72	134	7	95	127	6	95	3,491	24.4	853	54,000	60
December	98	106	8	92	92	9	91	3,213	22.3	715	52,000	60
Average	84.8	128	10	91	111	9	91	2,881	24.9	706	48,250	100

Yonkers Joint 2019 Annual Performance Report 2

Month	Sodium Hypochlorite (gallons)	Liquid Polymer Used Dewatering (pounds)	Potassium Permanganate (pounds)	Sodium Bisulfite (gallons)	Fuel Oil (gallons)	Water (cubic feet)	Electric Usage Used (kWh)	Electric Usage Demand (kWh)	Digester Gas Used (cubic feet)
January	55,441	10,826	0	21,505	235	366,340	1,859,020	3,960	0
February	50,234	9,552	0	18,885	0	358,450	1,790,720	3,950	0
March	58,443	9,258	0	21,324	0	405,010	2,188,660	3,910	0
April	50,874	10,027	0	20,730	0	333,700	2,110,171	3,800	0
May	58,774	10,700	592	22,521	0	343,000	1,920,564	3,810	0
June	46,679	14,211	24,750	19,159	1,027	380,160	2,398,776	3,710	16,482
July	56,468	15,205	30,690	16,188	0	307,418	2,591,218	3,680	0
August	79,033	14,430	25,740	15,534	0	500,840	2,594,397	3,750	0
September	82,950	13,922	29,700	14,824	0	441,400	2,554,973	3,740	0
October	76,763	14,475	30,690	17,322	263	466,430	1,827,772	3,720	0
November	59,447	12,182	7,576	15,314	0	437,670	2,455,692	4,520	0
December	63,754	12,706	498	17,420	981	488,600	1,911,199	3,990	0
Total	738,860	147,494	150,236	220,726	2,506	4,829,018	26,203,162	46,540	16,482
Average	61,572	12,291	12,520	18,394	209	402,418	2,183,597	3,878	1,374
Daily Avg.	2,024	404	412	605	7	13,230	71,789	128	45

MAINTENANCE SECTION

The Maintenance Section has 67 people in various duties. The Maintenance section is responsible for maintaining the County's sewage pumping stations, interceptor sewers and forcemains.

Pump Stations - 36 people

- A total of 42 pump stations and 2 Overflow Retention Facilities (ORF's) located throughout the County including the Croton Landfill are operated, repaired, and maintained by this section.

Outside Maintenance (Collection System) - 31 people

- Sewer maintenance: repair and clean all County sewers, manholes, regulators and air release valves as needed.
- Receives requests and performs markouts for the Dig Safely New York Program. (Formerly called the UFPO - Code 753).
- Picks up garbage, rags and screenings from the seven Treatment Plants and the three major Pump Stations and transports it to the RESCO facility.
- Provide emergency hauling of sludge or Airport deicing fluid and transports it for disposal to the Hawthorne Receiving Manhole
- Provide bypass trucking of sewage in the event of a sewer break or similar emergency.
- Specialized crews: Electricians, machinists, welders, and instrumentation mechanics, handling all those specialized crafts primarily at the pump stations.
- Operates and Maintains the Hawthorne Receiving Manhole for septic disposal by licensed private septic haulers.

Engineering - 4 people

- This section receives Dig Safely New York (Code 753) requests for utility markouts and processes the requests with the help of our Outside Maintenance Section. In 2019, the Department received 44,807 tickets requesting utility mark outs. Of this total, 2,564 tickets required mark outs by the Outside Maintenance and Water Department crews.
- This section tracks and processes the sampling and data collection for the Hawthorne Receiving Manhole.
- This section monitors and compiles the data for the operation of the Combined Sewer Overflow (CSO) facility at the North Yonkers Pumping Station to satisfy all NYSDEC SPDES permit requirements for this operation.
- This section compiles, edits, and produces the Annual Report for this Department.
- This section performs review of plans and specifications for various Department projects, and new connections to the County Trunk Sewer System.
- This section is involved in the Capital Program for Pumping Station and Trunk Sewer projects. The planning of projects, setting scope, providing budget estimates, conceptual and preliminary design are all performed by this section.

North Yonkers Pumping Station 2019 Annual Performance Report

Month	Flow to Yonkers (MGD)	Flow to CSO (Million Gallons)	Sodium Hypochlorite (Gallons)	Grit (Cubic feet)	Fuel Oil (gallons)	Natural Gas (Cubic feet)	Electric Usage (kWh)	Water (Cubic feet)
January	36.3	6.12	1,162	540	3,886	1,702	297	6,674
February	31.1	--	0	540	7,707	1,383	208	5,539
March	31.6	--	0	1,080	4,000	1,343	244	6,509
April	31.7	--	0	540	4,000	452	212	6,870
May	38.0	4.11	1,643	540	0	0	196	7,206
June	26.9	--	1,360	1,080	0	0	177	4,472
July	28.0	9.97	1,913	2,160	0	0	209	3,882
August	24.7	--	0	2,700	0	0	212	5,382
September	19.5	--	0	1,080	0	0	216	6,875
October	22.9	19.09	3,379	2,700	0	0	192	7,769
November	23.9	--	0	540	0	808	198	7,250
December	30.0	12.89	2,879	1,080	4,100	1,433	243	7,902
Total	n/a	52.18	12,336	14,580	23,693	7,121	2,604	76,330
Average	n/a	n/a	1,028	1,215	1,974	593	217	6,361
Daily Average	28.7	n/a	34	40	65	20	7	209

Yonkers Joint Sewer Districts Pumping Stations 2019 Annual Performance Report

Month	Alexander St (gal/day)	Briarcliff* (gal/day)	Dobbs Ferry (gal/day)	Hastings (gal/day)	Hutchinson* (gal/day)	Irvington (gal/day)	Jackson Ave (gal/day)	Ludlow St (gal/day)	Main St (gal/day)	Sprain Lift (gal/day)	Tarrytown (gal/day)
January	1,196,267	1,000,000	53,595	225,677	3,000,000	2,181,516	900,968	807,322	1,484,400	164,710	3,415,253
February	1,540,214	1,000,000	51,150	179,893	3,000,000	1,778,286	572,857	815,080	841,886	141,643	3,091,313
March	1,558,774	1,000,000	53,307	183,097	3,000,000	1,915,355	916,452	604,255	934,374	72,968	2,714,698
April	1,788,000	1,000,000	53,214	195,900	3,000,000	1,717,233	485,000	990,926	706,920	217,400	2,561,698
May	1,188,700	1,000,000	67,653	286,355	3,000,000	2,084,871	706,129	1,089,601	1,408,297	169,839	2,898,496
June	1,250,000	1,000,000	61,392	226,600	3,000,000	1,606,733	632,667	993,605	1,134,680	110,000	2,244,377
July	1,759,354	1,000,000	69,385	183,774	3,000,000	1,378,516	797,419	844,262	1,128,929	96,290	2,359,640
August	1,730,322	1,000,000	55,175	161,613	3,000,000	1,218,000	576,452	942,780	931,974	84,290	2,166,193
September	1,302,000	1,000,000	40,108	107,400	3,000,000	1,115,567	254,667	640,661	739,520	72,200	1,961,910
October	1,556,129	1,000,000	46,721	329,032	3,000,000	1,251,581	272,581	692,660	848,439	74,032	2,144,058
November	1,455,333	1,000,000	39,180	253,200	3,000,000	1,336,600	335,667	529,891	538,800	136,500	2,056,712
December	1,416,774	1,000,000	40,988	271,839	3,000,000	1,754,742	554,516	566,562	781,510	233,710	2,477,082
Avg. GPD	1,478,489	1,000,000	52,656	217,032	3,000,000	1,611,583	583,781	793,134	956,644	131,132	2,507,619
Avg. MGD	1.478	1.000	0.053	0.217	3.000	1.612	0.584	0.793	0.957	0.131	2.508

*Estimated Flows

Ossining and Peekskill Sewer Districts Pumping Stations 2019 Annual Performance Report

Month	Archville (gal/day)	Country Club (gal/day)	Croton (gal/day)	Crotonville (gal/day)	Kemey's Cove (gal/day)	Mill St (gal/day)	Water St (gal/day)
January	12,437	12,890	1,091,302	1,609,355	605,265	1,360,452	2,466,381
February	9,627	6,013	831,954	1,338,429	429,429	1,254,000	2,086,789
March	10,254	1,113	830,142	1,351,355	457,084	1,281,252	2,308,197
April	8,433	3,166	779,979	1,306,200	413,520	1,292,280	2,298,540
May	31,558	238	845,928	1,432,645	506,787	1,348,529	2,424,497
June	6,588	1,008	707,505	1,293,600	333,360	1,136,520	2,039,057
July	5,835	1,095	510,958	1,100,903	263,613	913,781	1,496,261
August	4,935	1,248	564,378	1,005,871	228,077	857,148	1,564,503
September	3,777	714	507,130	946,400	186,720	813,560	1,367,603
October	4,552	799	512,440	1,061,226	204,387	876,735	1,493,500
November	5,187	754	549,452	1,020,200	224,640	1,274,240	1,550,717
December	6,985	1,053	359,178	1,271,613	374,168	1,029,174	1,846,781
Avg. GPD	9,181	2,508	674,196	1,228,150	352,254	1,119,806	1,911,902
Avg. MGD	0.009	0.0025	0.674	1.228	0.352	1.120	1.912

Croton Landfill Pumping Stations 2019 Annual Performance Report

Month	Ballfield* (gal/day)	Seeps (gal/day)	Pump Station No. 1 (gal/day)	Condensate (gal/day)	Pump Station No. 2 (gal/day)
January	0	2,332	29,805	0	149,622
February	0	0	24,155	0	110,913
March	0	1,795	26,578	6	206,121
April	0	1,918	22,294	1	12,532
May	0	2,625	26,105	0	129,115
June	0	1,923	19,598	0	103,337
July	0	419	15,024	143	78,717
August	0	699	12,823	260	76,302
September	0	227	11,384	1,110	46,514
October	0	1,447	13,841	0	93,260
November	0	2,203	15,791	0	191,061
December	0	2,715	22,220	12	128,260
Avg. GPD	0	1,525	19,968	128	110,479
Avg. MGD	0.000000	0.0015	0.0200	0.000128	0.110

*No Flow in 2019

Blind Brook and Mamaroneck Sewer Districts Pumping Stations 2019 Annual Performance Report

Month	Beaver Brook (gal/day)	Cove Rd (gal/day)	East Basin (gal/day)	Edgewater (gal/day)	Fenimore (gal/day)	Playland (gal/day)	Saxon Woods (gal/day)	Weaver St (gal/day)	West Basin (gal/day)
January	7,397	91,452	178,774	123,668	308,314	519,355	128,311	1,014,387	698,477
February	7,444	82,629	205,286	141,793	295,021	439,286	87,789	843,107	624,857
March	7,752	77,942	124,645	85,926	315,913	506,452	67,517	595,742	584,206
April	6,732	104,015	106,633	73,710	253,552	360,000	57,852	343,200	496,160
May	7,688	77,918	150,129	103,727	343,175	538,710	71,071	419,516	670,452
June	5,460	46,705	105,000	72,345	173,446	290,000	41,436	254,100	468,000
July	6,718	78,194	134,935	92,908	176,922	403,226	51,387	309,774	583,587
August	5,470	53,042	123,194	84,856	164,039	322,581	53,756	243,000	316,645
September	3,480	35,185	100,533	69,290	109,967	183,333	33,876	179,700	353,920
October	5,052	47,981	121,774	83,976	165,813	280,645	47,764	228,774	410,323
November	6,294	57,195	109,467	75,855	214,175	296,667	51,228	262,200	423,200
December	8,257	123,053	173,968	121,026	348,647	570,968	74,241	430,258	676,490
Avg. GPD	6,479	72,942	136,195	94,090	239,082	392,602	63,852	426,980	525,526
Avg. MGD	0.006	0.073	0.136	0.094	0.239	0.393	0.064	0.427	0.526

New Rochelle Sewer District Pumping Stations 2019 Annual Performance Report

Month	Beach Ave (gal/day)	Circle/Park (gal/day)	Fifth Ave (gal/day)	Flint Ave (gal/day)	Glen Island Admin (gal/day)	Glen Island Casino (gal/day)	Magnolia (gal/day)	Sutton Manor (gal/day)	Woodbine (gal/day)
January	225,292	219,348	301,174	1,704,503	201,484	9,880	55,935	42,799	122,903
February	186,774	153,311	293,068	1,615,821	161,357	10,263	39,000	91,894	99,643
March	159,627	158,429	292,665	1,598,690	188,129	23,626	39,677	57,688	101,613
April	119,626	125,510	255,760	1,623,600	195,600	27,234	29,000	39,161	80,000
May	187,757	211,994	300,623	1,745,168	249,677	46,356	48,387	66,357	140,323
June	110,682	114,330	226,943	1,593,460	156,000	36,663	22,000	27,707	87,000
July	162,790	218,429	235,935	1,727,710	173,613	35,077	37,742	37,715	105,484
August	166,868	104,332	216,697	1,079,845	153,290	38,854	20,323	23,777	85,161
September	83,678	64,360	199,033	1,107,480	141,600	35,553	12,000	27,934	96,000
October	134,410	106,984	210,168	1,591,452	152,129	34,845	25,161	31,533	221,613
November	152,650	99,390	230,737	1,398,540	141,600	22,611	12,000	22,415	89,000
December	287,046	190,210	328,394	1,765,394	257,226	16,885	75,484	77,441	134,516
Avg. GPD	164,767	147,219	257,600	1,545,972	180,975	28,154	34,726	45,535	113,605
Avg. MGD	0.165	0.147	0.258	1.546	0.181	0.028	0.035	0.046	0.114

Sludge and Septage Disposal at Hawthorne Manhole 2019 Annual Performance Report

Month	Sanitary Waste Disposal Contractors (gallons)	Peekskill WWTP (gallons)	Other Green Tickets (gallons)	Materials Recovery Facility, Yonkers (gallons)	Westchester County Airport (gallons)
January	809,095	0	0	0	0
February	673,105	0	0	0	0
March	903,150	0	0	0	0
April	1,488,793	0	0	0	0
May	1,383,275	0	0	0	0
June	1,193,208	0	0	0	0
July	1,119,930	0	0	0	0
August	1,903,343	0	0	0	0
September	1,088,250	0	0	0	0
October	1,138,375	0	17,500	0	0
November	1,183,400	0	0	0	0
December	961,650	0	0	0	0
Total MGD	13,845,574	0	17,500	0	0
Average MGD	1,153,798	0	1,458	0	0
Daily Average MGD	37,933	0	48	0	0

WATER DIVISION - COUNTY WATER DISTRICT No. 1

TREATMENT PROCESS:	Kensico Dam Facility - Disinfection using sodium hypochlorite, pH adjustment with sodium hydroxide (caustic soda) and corrosion control using orthophosphate.
	Shaft 22 Facility - Disinfection using gaseous chlorine, pH adjustment using caustic soda and corrosion control using orthophosphate.
MUNICIPALITIES SERVED:	Cities of Mount Vernon, White Plains and Yonkers; Village of Scarsdale.
GENERAL INFORMATION:	The Cities of Mount Vernon, White Plains and Yonkers and the Village of Scarsdale formed the District in 1964. The District purchased the 48" Kensico-Bronx pipeline from the City of New York, rehabilitated it, and built a metering and chlorination facility at the source inside New York City's Kensico Dam. An emergency connection to Shaft No. 22 of the Delaware Aqueduct in Yonkers was also constructed. Since 1978, this connection has been used full time to supply approximately half the District's water.
EMPLOYEES:	5
2019 EXPENDITURES:	\$20,127,538

Kensico Dam 2019 Annual Performance Report

Month	Flow (MGD)	Raw Water Chlorination Sodium Hypochlorite (gallons)	Raw Water Chlorination Residual (mg/l)	Sodium Hydroxide (gallons)	Turbidity Finished Water (NTU)	Orthophosphate (gallons)
January	10.008	7,623	1.67	2,790	0.71	2,855
February	9.982	4,427	1.80	1,471	0.77	1,698
March	9.797	4,708	1.80	1,497	0.94	1,822
April	10.018	4,643	1.65	1,550	0.65	1,789
May	10.581	5,019	1.48	1,885	0.58	1,971
June	13.151	6,070	1.43	3,147	0.55	2,325
July	16.221	6,757	1.27	4,671	0.47	2,853
August	15.201	6,157	1.26	5,609	0.45	2,674
September	15.427	5,925	1.22	5,710	0.48	2,517
October	11.673	4,508	1.17	3,538	0.58	3,538
November	9.508	3,544	1.22	2,749	0.69	1,592
December	9.233	3,486	1.25	2,164	0.82	1,596
Total	n/a	62,867	n/a	36,781	n/a	27,230
Average	11.733	5,239	1.44	3,065	0.64	2,269
Daily Average	n/a	172	n/a	101	n/a	75

Shaft 22 2019 Annual Performance Report

Month	Flow (MGD)	Raw Water Chlorination Sodium Hypochlorite (gallons)	Raw Water Chlorination Residual (mg/l)	Sodium Hydroxide (gallons)	Turbidity Finished Water (NTU)	Orthophosphate (gallons)
January	11.158	4,290	1.45	5,483	0.75	3,438
February	11.213	5,060	1.35	4,363	0.81	3,267
March	12.579	5,418	1.35	5,637	1.09	3,647
April	11.583	5,363	1.36	6,042	0.82	3,433
May	11.691	5,748	1.34	6,178	0.96	3,291
June	12.186	5,360	1.34	7,210	0.88	3,364
July	13.252	5,388	1.34	8,418	0.79	3,775
August	12.900	5,363	1.34	8,717	0.86	4,128
September	12.790	4,758	1.33	9,005	0.90	3,605
October	11.935	4,453	1.35	6,765	0.82	3,755
November	11.491	4,235	1.34	5,651	0.89	3,462
December	12.311	4,555	1.35	6,234	0.85	3,280
Total	n/a	59,991	n/a	79,703	n/a	42,445
Average	12.091	4,999	1.35	6,642	0.87	3,537
Daily Average	n/a	164	n/a	218	n/a	116

WATER DIVISION - COUNTY WATER DISTRICT No. 3

TREATMENT PROCESS:	Disinfection using ultraviolet light and corrosion control using sodium hydroxide (caustic soda) and orthophosphate. Treated water is pumped to a 1.5 million gallon elevated storage tank that equalizes pressure within the distribution system.
POPULATION SERVED:	5,500 (per NYC water supply agreement). Serving over fifty separate County, State, and private facilities including: Westchester Medical Center, Westchester County Correctional Facility, New York Medical College, Fire Training Center, and the New York State Department of Transportation.
GENERAL INFORMATION:	The Gate of Heaven Pump Station connects via Commerce Street to the Delaware Aqueduct south of Kensico Reservoir and provides treated water to the Grasslands Reservation. In addition to the primary supply, there is one supplemental/emergency supply from the Town of Greenburgh.
EMPLOYEES:	4
2019 EXPENDITURES:	\$ 3,358,208

Gate of Heaven 2019 Annual Performance Report

Month	Flow from NYC (MGD)	Raw Water Chlorination Sodium Hypochlorite (gallons)	Raw Water Chlorination Residual (mg/l)	Sodium Hydroxide (gallons)	U/V Intensity Meter (>=70%)	Orthophosphate (gallons)
January	0.531	303	0.76	66	88.3	41
February	0.525	268	0.78	22	88.7	43
March	0.537	296	0.80	6	89.5	50
April	0.630	322	0.75	19	89.6	49
May	0.686	338	0.76	66	90.1	53
June	0.837	426	0.71	114	90.9	61
July	0.913	541	0.68	132	90.7	66
August	0.848	538	0.75	174	91.3	62
September	0.804	482	0.73	249	90.4	63
October	0.691	400	0.78	156	91.1	59
November	0.585	296	0.79	64	90.8	46
December	0.523	259	0.79	45	90.0	43
Total	n/a	4,469	n/a	1,113	n/a	636
Average	0.676	372	0.76	93	90.1	53
Daily Average	n/a	12	n/a	3	n/a	2

DEF Division of Solid Waste Management Annual Summary

Executive Summary

The Westchester County Department of Environmental Facilities (DEF) serves as New York State's designated Planning Unit for Westchester's 43 municipalities and manages Refuse Disposal District (RDD) No. 1, to which 36 of the County's municipalities belong. DEF oversees several solid waste and recycling facilities, which handle about 90% of the County's residential waste stream. DEF also manages the County's many recycling and waste reduction programs and services.

During the past three decades, Westchester County and DEF have consistently performed at or near the top of all waste management performance indicators, including waste reduction. Since 2003, the amount of residential solid waste the Refuse District has disposed of has decreased from 495,915 tons to 364,652 tons in 2019, a reduction of over 131,263 tons or 26.5%. In 2019, the County continued to demonstrate why it is considered a regional leader in the field of environmental management by posting a recycling rate of 50%, far outpacing the EPA national average of 35.2%. The County's recycling rate includes a wide variety of materials collected and diverted from the solid waste stream beyond cans, bottles and paper collected curbside, such as roadway millings, large bulk metals, construction debris, and composted organic waste

In December 2010, the New York State Department of Environmental Conservation finalized its Solid Waste Management Plan, which outlined a course of action for the next twenty years. The State's Plan, titled "Beyond Waste," identified a new goal for all Planning Units to drastically reduce solid waste disposed (i.e., non-recyclable waste) to 0.6 pounds per person per day ("PPD") by 2030. Westchester is working very hard to meet the State's goal. In 2019, the County's average of 3.9 PPD outperformed the New York State average of 4.5 PPD as well as the national average of 4.51 PPD (2017 rate). Moreover, while 52% of the waste generated in the U.S. ended up discarded in a landfill, it's estimated that over 90% of Westchester's non-recyclable waste stream was processed at a waste-to-energy facility, where it was used as a feedstock to produce clean energy. In comparison, EPA estimates that only 13% of the nation's waste stream was delivered to an energy recovery facility in 2017 (the most recent year for which data is available).

Recycling in Westchester continues to make good sense economically as well as environmentally. In 2019, 70,262 tons of curbside recyclables collected by municipalities within the RDD were delivered to the Daniel P. Thomas Material Recovery Facility (MRF). Revenue from the sale of these recyclables totaled \$2,898,648.54. Further, the RDD saved over 5.3 million dollars in tipping fees had these recycled tons been disposed of as garbage.

The environmental programs in place in Westchester County and managed by DEF, including recycling initiatives and enforcement, tours of the County's Material Recovery Facility, the recycling of municipally-collected yard waste under the Organic Yard Waste Program, operation of the Household-Material Recovery Facility and Mobile Shredder, and other programs that will be discussed in this report, all contribute to Westchester's excellent record of performance. The County, through the work of DEF, remains committed to serving as a leader in the environmental management field in 2019 and beyond.

DEF/Recycling & Solid Waste Facilities

[Material Recovery Facility \(MRF\)](#)

The Westchester County Department of Environmental Facilities (DEF) serves as New York State's designated Planning Unit for Westchester's 43 municipalities and manages Refuse Disposal District (RDD) No. 1, to which 36 of the County's municipalities belong. DEF oversees several solid waste and recycling facilities, which handle about 90% of the County's residential waste stream. DEF also manages the County's many recycling and waste reduction programs and services.



[Charles Point Waste to Energy Facility](#)



Operated by Wheelabrator Technologies, the Charles Point Waste-to-Energy Facility, located in the City of Peekskill, processes up to 2,250 tons of household and commercial waste per day. Refuse collected from Westchester municipalities and commercial customers is delivered to this fully enclosed

facility, where it is transferred to utility-type boilers that recover thermal energy in the form of high-pressure steam. The steam-powered turbines generate 63,000 kilowatts of electricity an hour—enough to power 67,000 homes. Additional steam not required for electricity generation is marketed to a nearby commercial customer, White Plains Linen, for use as a clean, reliable, and renewable energy source.

In 2019, the facility processed 684,105 tons of solid waste to generate electricity, while 13,561 tons of ferrous metal were extracted from the ash residue and properly recycled.

In 2019, RDD municipalities delivered 364,702 tons of solid waste to the facility.

[County Transfer Stations](#)

Three County Transfer Stations located in White Plains, Mount Vernon, and Yonkers offer RDD municipalities reduced costs for delivering the solid waste they collect by significantly reducing their travel time. The County provides transport of the waste from the transfer stations to the Charles Point Facility in Peekskill. In 2019, RDD municipalities in the northern part of the County delivered 80,900 tons of solid waste directly to Charles Point, while District municipalities in the southern part of the County delivered 283,752 tons of solid waste to these three transfer stations.

[Household-Material Recovery Facility \(H-MRF\)](#)

The H-MRF located on the County's Grasslands Campus in Valhalla, opened in April 2012 to provide a geographically centralized location for residents to dispose of hard-to-get-rid-of household wastes, including hazardous chemicals, cleaning products, tires, rechargeable batteries, Freon-containing appliances, electronic waste, propane tanks and expired or unwanted medications. The H-MRF also offers confidential document shredding services. RDD residents are able to use the facility at no cost, while Westchester County residents that do not reside within the RDD are required to pay a small fee based on the type and amount of

materials they deliver. Whenever possible, materials collected at the facility are recycled, all other materials are disposed of in a safe and environmentally sound manner.

The H-MRF is open Tuesday-Saturday from 10am – 3pm.



In 2019, 8,915 households visited the H-MRF and delivered a total of 910,107 lbs. of household wastes including:

- 130,742 lbs. of flammables
- 44,189 lbs. of pesticides
- 8,983 lbs. of corrosive liquids
- 6,849 lbs. of fluorescent bulbs
- 5,686 lbs. of fire extinguishers
- 2,016 lbs. of cylinders
- 114,620 lbs. of bulk metals
- 252 lbs. of rechargeable batteries
- 217,190 lbs. of electronic waste
- 70,900 lbs. of non-recyclables
- 308,680 lbs. of confidential documents for shredding

The H-MRF also accepts chemicals and fluorescent light bulbs from Conditionally Exempt Small Quantity Generators (CESQGs). This enables local schools, municipal and county departments and small businesses to dispose of these items properly. In 2019, CESQGs delivered 1,380 lbs. of hazardous waste and 180 ft. of fluorescent bulbs for safe and environmentally sound disposal.

[Recycling Programs](#)

[Recycling Education](#)



The MRF Education and Conference Center allows visitors to observe the operation of a municipal solid waste and recyclables transfer station. MRF tours are free of charge, given on an appointment basis, and educate participants on the management of solid waste and recyclables management in Westchester. Groups are taken to an observation tower to view equipment that separates, sorts, and prepares materials for sale to third party recyclers. From an observation tower, visitors can see the tipping floor, where truckloads of recyclables are delivered. A brief presentation and educational video is shown to explain the benefits of recycling. Tours, given to

students and persons of all age groups (kindergarten and above), typically last between 45 minutes to one hour.

The Center's *Recycled Material Art Gallery* was recognized with a Bronze Excellence Award in the Education Program category by the Solid Waste Association of North America (SWANA) in 2015. The Gallery features installments created by Westchester County artists out of recycled and reused materials.

DEF staff also attended public events, including Yonkers Riverfest, as an environmental exhibitor. The festival was held in downtown Yonkers and included diverse music performances, family-oriented programming as well as a street food market, and environmental education displays and exhibits. DEF was able to distribute updated educational information to residents and answer their recycling and waste disposal questions.

[Medication Take Back Program](#)

Residents are able to drop off unwanted or expired medications at the H-MRF on the first Tuesday of every month. Following the close of business, Westchester County Department of Public Safety personnel supervise transportation of the collected medications to the Waste-to-Energy Facility in Peekskill for destruction.

In 2019, Westchester County collected 7,434 lbs. of medications at the H-MRF. A total of 139 households delivered 816 lbs. of medications directly to the H-MRF. In addition, 38 Westchester County Police Departments participated in the Medication Take-Back Program by hosting MedReturn Units at their stations. These MedReturn Units allow residents to drop off unwanted medications confidentially and conveniently, 24/7. The Police Department deliver the collected medications to the H-MRF. Of the 7,434 lbs. of medication collected in 2019, 6,618 lbs. were collected by Police Departments and brought to the H-MRF on the first Tuesday of each month



[Mobile Shredder Program](#)



In 2019, DEF continued to operate two Mobile Shredders, conducting shredding events at various locations throughout the County. Residents are permitted to bring up to four file-size boxes of personal papers to these events to be shredded and recycled. In 2019, over 20,000 households utilized the Mobile Shredder and over 682 tons of paper were shredded and sold to recyclers.

[Boat Wrap Recycling Program](#)

In 2019, Westchester County's Boat Wrap Recycling program collected about 92 tons of plastic used to protect boats during the winter from participating Long Island Sound and Hudson River marinas. An average boat can use as much as 14 lbs. of recyclable wrap (low-density polyethylene or LDPE), which would normally be thrown away in the Spring. The County sells the collected plastic to recyclers.

In 2019, 26 marinas and boat yards along the Long Island Sound and the Hudson River operated as designated collection points. DEF picks up and delivers the material to the MRF.



[Westchester County's Recycling HelpLine](#)

The County's Recycling HelpLine at (914) 813-5425 serves as an informational tool, assisting local residents and businesses by providing answers to questions regarding waste management and recycling. Residents can also call the HelpLine to book an appointment to deliver material to the H-MRF. The HelpLine is operated by staff from the United Way, trained to answer frequently asked recycling questions, and to transfer other questions to appropriate DEF staff. The Recycling HelpLine also provides residents with information on various County sponsored events such as residential shredding events featuring one of the Mobile Shredders. Additionally, the HelpLine assists residents with questions related specifically to their particular locale, since waste collection programs vary from one municipality to another. In 2019, the Recycling HelpLine handled 13,706 inquiries.

[Electronic Waste Recycling Program](#)

DEF provides electronic waste (e-waste) collection containers at 27 RDD municipal sites, where RDD residents can dispose of their unwanted electronics. In addition, residents can deliver e-waste to the H-MRF. In 2019, the County diverted about 2.14 million lbs. of e-waste from the solid waste stream through this program.

[Organic Yard Waste Transfer Station IMA Program](#)

Beginning in 1998, the Westchester County Board of Legislators authorized the County to enter into 5-year Inter-Municipal Agreements (IMAs) with RDD municipalities to operate the Organic Yard Waste Transfer Station Program. Participating municipalities collect yard waste at a municipal depot. The County arranges for collection from the depot and transport to commercial composting facilities. As an economic incentive to divert yard waste from the solid waste stream, RDD member municipalities pay less per ton for collected yard waste than for disposal of municipal solid waste. The program allows participating municipalities to increase local recycling rates and to save money by diverting yard waste from the waste stream. In 2019, the program collected 132,459 tons of material. Municipalities that currently host an Organic Yard Waste Transfer station include: Briarcliff Manor, Cortlandt, Croton, Eastchester, Greenburgh, Harrison, Irvington, Larchmont, Village and Town of Mamaroneck, Mt. Kisco, Mt. Vernon, New Rochelle, Ossining Village, Peekskill, Port Chester, Rye City, Scarsdale, Sleepy Hollow, Tarrytown, White Plains, and Yonkers. By hosting a site, these municipalities also agree to accept yard waste from neighboring municipalities.

[Recycling Equipment](#)

In 2019, DEF inspectors continued to inspect loads tipped at both private and municipal transfer stations located within Westchester, looking for improperly mixed loads of garbage and recyclables in violation of the Source Separation Law (SSL). They also continued to inspect businesses, schools, multi-tenant facilities, and other institutions throughout the County to ensure compliance with the SSL.



In 2018, DEF issued 61 Notices of Hearing to haulers and waste generators for recycling violations. Of the violations issued, 5 were issued to municipal haulers, 7 were issued to private haulers, and 23 were issued to waste generators.

[Household Recycling Days](#)

In 2019, Westchester County held three Household Recycling Days (HRDs) which were tremendously popular. Events held at the Material Recovery Facility (MRF) in Yonkers, Franklin D. Roosevelt State Park in Yorktown Heights, and at Rye Playland, attracted over 10,610 households who delivered over 342,864 pounds of hazardous waste, medications, and electronic waste for proper recycling/disposal. An additional 91,080 lbs. of documents were collected for shredding.

New Initiatives

Food Waste Study

DEF launched a Food Waste study of various food waste recycling technologies with the goal of formulating a food waste recycling plan for Westchester. It is anticipated the Study will inform future programs including new education and outreach programs that emphasize food waste reduction. DEF encourages residents to try on-site composting as a potential method for residents to manage food waste in an efficient and environmentally-sound manner.

REFUSE DISPOSAL DISTRICT #1

Refuse Disposal District Advisor Board

County law requires the Board to be composed of 14 volunteers and 2 *ex officio* members to advise the RDD on solid waste issues and policy. Six members are designated to represent the County's cities; five members are designated to represent the towns; and four to represent the villages.

The 2019 board members were:

George Mottarella	City of Rye	Chair
Thomas Meier	Yonkers	
Jeffery Coleman	Cortlandt	
Peter Liguori	Town of Greenburgh	
Benedict Salanitro	Town of Rye	
Peter Sciliano	Mt. Pleasant	
Stephen Altieri	Town of Mamaroneck	
Rocco Circosta	Village of Ossining	
Michael Gunther	Hastings-on-Hudson	
Scott Pickup	New Rochelle	
Jeff Econom	Pleasantville	
Rick Hope	White Plains	

Two (2) vacancies

Attachment 1: Westchester County Recycling Rate 2019

MUNICIPALLY COLLECTED WASTE & RECYCLING IN TONS	Total
Curbside Commingled Containers and Mixed Paper	81,100
Yard Waste Recycled	179,680
Bulk Metal Recycled	20,056
Construction & Demolition Debris and Sewage Sludge Recycled	115,779
Other Recyclables: Tires, Electronics, Anti-freeze, Motor Oil, Vehicle Batteries, Textiles, and Deposit Beverage Containers	18,592
TOTAL RECYCLED WASTE	415,206
TOTAL DISPOSED WASTE	388,895
TOTAL RECYCLED & DISPOSED*	804,101
MUNICIPAL RECYCLING RATE	52%

PRIVATELY COLLECTED WASTE & RECYCLING IN TONS	Total
Source Separated Recyclables & Scrap Metal	114,379
Yard Waste Recycled	67,718
Construction & Demolition Debris (C&D) Recycled	359,111
Construction & Demolition Debris Disposed	288,535
Garbage Disposed	262,573
TOTAL RECYCLED WASTE	541,208
TOTAL DISPOSED C&D AND GARBAGE	551,108
TOTAL RECYCLED & DISPOSED*	1,092,316
PRIVATE HAULER RECYCLING RATE	49.55%

WESTCHESTER COUNTY TOTAL COLLECTED WASTE & RECYCLING IN TONS	Total
TOTAL RECYCLED WASTE	956,414
TOTAL DISPOSED WASTE	940,00
TOTAL RECYCLED & DISPOSED*	1,896,417
PPPD Disposed**	3.9
WESTCHESTER COUNTY 2018 RECYCLING RATE	50%

Attachment 2: Municipally Collected Waste & Recyclables - 2019

Location	Recycled Waste	Disposed Waste	Total Solid Waste Generated (Recycled & Disposed)	Percent Recycled (Total)
ARDSLEY *	1,484	2,070	3,554	42%
BEDFORD	4,540	8,331	12,871	35%
BRIARCLIFF *	3,776	2,916	6,692	56%
BRONXVILLE	3,080	2,139	5,219	59%
BUCHANAN	685	1,411	2,096	33%
CORTLANDT *	12,716	15,057	27,773	46%
CROTON-ON-HUDSON *	2,551	3,434	5,985	43%
DOBBS FERRY *	1,764	4,930	6,694	26%
EASTCHESTER *	10,229	8,229	18,458	55%
ELMSFORD *	1,266	1,710	2,976	43%
GREENBURGH *	21,170	15,889	37,059	57%
HARRISON *	12,752	8,414	21,166	60%
HASTINGS-ON-HUDSON *	6,433	3,470	9,903	65%
IRVINGTON *	3,620	2,832	6,452	56%
LARCHMNT/M'MARNCK *	12,983	7,832	20,815	62%
LEWISBORO	4,610	7,955	12,565	37%
MAMARONECK- VILLAGE *	4,403	8,475	12,878	34%
MT. KISCO *	2,750	4,018	6,768	41%
MT. PLEASANT *	6,227	8,943	15,170	41%
MT. VERNON *	7,476	30,920	38,396	19%
NEW CASTLE	6,885	5,910	12,795	54%
NEW ROCHELLE *	42,580	29,043	71,623	59%
NORTH CASTLE	12,414	10,274	22,688	55%
NORTH SALEM	1,445	2,296	3,741	39%
OSSINING - TOWN *	1,207	2,077	3,284	37%
OSSINING - VILLAGE *	18,398	9,223	27,621	67%
PEEKSKILL *	33,717	8,510	42,227	80%
PELHAM *	7,450	3,156	10,606	70%
PELHAM MANOR *	4,285	2,156	6,441	67%
PLEASANTVILLE *	3,914	2,294	6,208	63%
PORT CHESTER *	10,123	12,858	22,981	44%
POUND RIDGE	1,576	2,093	3,669	43%
RYE BROOK *	8,151	3,116	11,267	72%
RYE CITY *	5,398	5,261	10,659	51%
SCARSDALE *	12,630	6,584	19,214	66%
SLEEPY HOLLOW *	1,951	4,337	6,288	31%
SOMERS (7)	2,982	6,087	9,069	33%
TARRYTOWN *	2,922	3,893	6,815	43%
TUCKAHOE *	5,883	2,612	8,495	69%
WESTCHESTER CO. PROGRAMS	15,700	4,087	19,787	N/A
WHITE PLAINS *	26,678	29,280	55,958	48%
YONKERS *	58,376	84,491	142,867	41%
YORKTOWN *	6,026	13,870	19,896	30%
TOTAL	415,206	388,895	804,101	52%

*Included are materials recycled in Westchester County but cannot be allocated between municipalities: 13,561 tons of metal from the WTE facility (extracted from the "Disposed Waste" column).