

# WESTCHESTER JOINT WATER WORKS

*Serving the Member Municipalities of the*

VILLAGE OF MAMARONECK

TOWN OF MAMARONECK

TOWN/VILLAGE OF HARRISON

and portions of the

CITY OF NEW ROCHELLE

and the

CITY OF RYE

## **ANNUAL REPORT OF OPERATIONS - 2004**

### **TRUSTEES**

Philip Trifiletti	Chairperson
Valerie O'Keeffe	Vice-Chairperson
Stephen Malfitano	Treasurer - Clerk

\* \* \*

John G. Hock, P.E., Manager

Richard A. Ruge, General Superintendent

Donald S. Mazin, Attorney

Paul J. Noto, Attorney

## **MAMARONECK PLANT GARAGE BUILDING IN 2004**



**The Mamaroneck Plant Garage Building originally housed both low lift and high lift pumps to deliver Mamaroneck River water to the distribution system. This source of water supply was discontinued in 1973 and the plant was officially retired in 1977. The building currently houses the offices of the Distribution and Plant Departments, the stock room, vehicle garage and vehicle maintenance shop. The view of the plant is shown with the Xeriscape Garden in the foreground. The building was constructed ca. 1902.**

**THE WEATHER - EFFECT ON SALES**

For the third year in a row, precipitation recorded at the Larchmont Plant in the Town of Mamaroneck exceeded 55 inches for the year. In 2004, precipitation totaled 59.17 inches compared to 58.20 inches in 2003 and 56.36 inches in 2002. The last time that precipitation exceeded 55 inches in 3 consecutive years was in 1977 to 1979. Most significantly 41.32 inches of the year's rainfall occurred during the months of April to September, continuing to have an adverse effect on retail sales. Although such sales were nominally higher in 2004 than 2003 by 25 mg or 1.0%, they remained 14.1% or 416 mg below 2001 sales levels.

**HARRISON WATER DISTRICT NO. 1**

Harrison Water District No. 1 (HWD) has served that portion of the Town/Village of Harrison sometimes known as West Harrison or Silver Lake since 1910. Geographically, this includes the area west of I-684 and north of the Cross Westchester Expressway I-287. The Town of Harrison concluded an analysis in 2004 that determined it would be in the best interest of customers of HWD for that district to be merged into Harrison's Water District No. 2, that part of Harrison that has been supplied by the Westchester Joint Water Works since 1927.

The reasons for the merger included the need to deliver improved water quality that meets today's more rigorous standards to that area's customers. Its customers have been faced with quality and fire protection issues that can only be solved by significant and costly capital improvements such as installing new larger diameter water mains. The relatively small customer base of HWD has been insufficient to bear the financial impact that will result from making such much-needed improvements. The merger will permit the installation of six-inch and larger water mains to replace aged four-inch mains that are insufficient for proper levels of fire protection. The Town of Harrison recognized that the Water Works has the staffing and means to be able to undertake the major improvements that are needed in the HWD area.

After passing the necessary resolutions, HWD was abolished by the Town of Harrison, effective December 31, 2004, being merged into the rest of the Harrison water system.

In order to provide for a smoother transition on January 1, 2005, a number of efforts were undertaken by the Water Works in 2004 to accomplish that goal.

Hazen and Sawyer Engineers were engaged to conduct a study and issue a report on the condition of the HWD system and to develop alternate methods by which the Water Works could best supply that system. That report will be issued in 2005.

The Water Works also engaged Yale Software Solutions, a computer consultant to convert HWD customer and billing records to the Water Works system.

## **HARRISON WATER DISTRICT NO. 1 , continued**

The personnel requirements for the operation of the combined system - which will add over 1,800 customers to the Water Works' customer base - were a major consideration in the overall merger analysis. To assist in the transfer of those HWD employees that were deemed necessary to operate the combined system, the firm of Bond, Schoeneck & King was utilized to draft an agreement for all affected parties to sign. This was accomplished in December.

Field inspections were made by the Water Works to familiarize its staff with the operations of the HWD system, including participation in the final reading of all HWD meters in December. These inspections were conducted under the supervision of General Superintendent Richard A. Ruge in conjunction and with the cooperation of HWD Superintendent Robert Viscome. In addition the Engineering Department, under the direction of George Belsito, acquired and converted the HWD maps for use by the Water Works.

To apprise all HWD customers of the reasons for the merger and to acquaint them with the Water Works, a special color brochure was sent to each HWD customer together with the Rules and Regulations of the Water Works in late November.

### **MAJOR MAIN BREAKS - THE FRIDAY THE THIRTEENTH BREAKS**

At 6:44 A. M. on Friday, August 13, 2004, the 16" Intermediate Service transmission main near the intersection of Ridgeway and York Roads in the Town of Mamaroneck failed. It was a severe break, a blowout of a 6\_ foot long section of the pipe on the bottom portion of the main, which was located in and under the Sheldrake River. The main, which was installed in 1929, was situated in the middle of the stream. The break was fully isolated by 9:00 A.M.

Emergency connections to the Village of Scarsdale were opened to supplement supply to the Intermediate Service and to replenish the loss of water from the Winged Foot Tank. A contractor, Calcagni, Inc., was called in to make the repairs. Six pumps were used to divert the river while repairs were made. Fortunately, threatened heavy rains from the remnants of Hurricane Charley did not develop during the repair, although it did rain for a period of time. It was estimated that over 900,000 gallons were lost due to this main break. Service was fully restored by 5:30 P.M.

A second water main break occurred the same day at Century Trail and Rolling Hills Lane in the Town of Harrison on an 8-inch pipe that had a 7 foot long split. There is a high degree of probability that the operations related to the first break led to this second failure, although as with all breaks, it is almost always difficult to establish the exact cause.

This break was reported at 6:37 P.M. and was isolated by 7:00 P.M. It was repaired by Water Works forces and the main was restored to service by 7:00 A.M. the following day, Saturday, August 14.

## **CAPITAL IMPROVEMENTS - JOINT PROJECTS**

### **NEW CHLORINATION SYSTEM AT LARCHMONT PLANT**

The pilot study of the use of tablet chlorination instead of gaseous chlorine at the Larchmont Plant was completed in February. A final report on the pilot study was submitted to the Health Department on April 15. The Water Works received an approval of completed works on June 2, thereby concluding the pilot study which began on February 22, 2001. A second tablet chlorination unit was placed in service on December 9, and the chlorine gas equipment was removed.

### **VALVE REPLACEMENT PROGRAM**

Gate Valve No. 35 on Polly Park Road between Plymouth Road and Private Parkway (the entrance to the Westchester Country Club) in the Town of Harrison was replaced with a 16-inch butterfly valve.

## **CAPITAL IMPROVEMENTS - LOCAL PROJECTS**

### **WATER MAIN INSTALLATIONS**

#### **TOWN OF HARRISON**

In the rear of 104 Corporate Park a 12-inch main was laid in an easement in 1969. Due to regrading of the area excessive fill was placed over this main, resulting in numerous failures over the years. This main, consisting of 514 feet of 12-inch pipe, was relocated into a new easement.

A residential subdivision known as Knightsbridge Manor extending north from Westchester Avenue replaced the former Hitachi Building, and 1,307 feet of 8-inch ductile iron pipe was installed in the new street. In addition, 807 feet of 8-inch ductile iron pipe, formerly the service line to the Hitachi Building, was converted to and accepted as a water main, running in an easement from the road to 2500 and 2700 Westchester Avenue (Purchase Park) to Knightsbridge Manor.

## **MAPS AND RECORDS**

An additional 3 intersections were surveyed, plotted and drafted and 21 intersection sheets were revised, bringing the total surveyed and plotted to 1,779 out of a total of 1,787 in the system.

## **LEAK SURVEY AND UNACCOUNTED FOR WATER**

JBF, Inc. leak survey consultants, was utilized to survey 125.9 miles of pipe, and 46 leaks were reported of which 44 were confirmed and repaired. The loss of water from these leaks was estimated at 781 gallons per minute or over 1,100,000 gallons per day. The estimated annualized savings to the Water Works resulting from the repair of these leaks was over \$338,000.\*

Unaccounted for water for 2004 was 423 mg compared to 434 mg in 2003. See the graph of Unaccounted for Water by Year in the Appendix to this report. The water loss in the system was 5.307 gpd per mile of pipe in 2004 compared to 5.464 gpd per mile in 2003.

## **CROSS CONNECTION CONTROL PROGRAM**

Backflow prevention devices are in service on 304 premises, compared to 269 at the end of 2003. With minor exceptions, all such devices were tested in 2004.

Reduced Pressure Zone (RPZ) devices were in service on 235 premises. Double Check Valves were in service on 81 premises. Some customers have both types of devices, depending upon the hazard.

## **ELECTRONIC REMOTE METER CONVERSION PROGRAM**

The conversion of meters from generator register to electronic register remote units, begun in 1995, continued actively in 2004. Electronic remotes are now in place in 1,446 of the 1,498 meters located in pits.

In 2004, an additional 29 pit settings and 623 interior settings were equipped with electronic remotes, for a total of 5,666 electronic remote units in service, an increase of 652 from 2003. Of these devices, 117 pit and 91 interior meters were equipped with Sensus radio read meters and transmitters as part of a pilot project evaluating the effectiveness of a vehicle based (VXU) transceiver to receive meter readings as the vehicle drives by the premises. The VXU will increase productivity while reducing billing errors due to incorrect readings. These installations were made in Book 319 in the Purchase section of the Town of Harrison using an outside contractor, Meter and Backflow Services.

## **PERSONNEL**

Excluding Counsel, as of year end the Water Works had 30 full time and one part-time employee, the same as in 2003.

\*Based upon an average cost of water of \$823.37/mg, consisting of purchased water (including excess per capita charges), power and chemicals, and excluding all other cost components and overhead.

## **EDUCATION AND TRAINING**

On September 2, 2004 an Air Monitor Class on the Operation of Thermo Gas Tech equipment was given by its representative Peter Pepe. Present at the class were employees Tom Delco, Marty Viapiano, Ed Murray, Angela Pepe, George Wohlleber, Taranson Thomas and Safety Coordinator George Belsito. On December 6, 2004 George Belsito gave an additional class on the operation of that equipment to Lou Santoro, John Quadagno and Terry O'Neill.

## **STAFFING CHANGES IN 2004**

Turnover in staffing was greater than in any year since 1989.

Two changes of personnel took place in the ranks of management. Denis Brucianni, Office Manager Accountant, resigned on February 6 to accept the position of Treasurer for the Village of Mamaroneck. He was replaced on March 22 by Peter Cooper. Service Superintendent Lawrence Murphy left the employ of the Water Works on February 27. Angela Pepe, who had been hired earlier in the year as Intermediate Clerk, was promoted to fill the position of Customer Service Supervisor on October 14.

Cashier Grace Zambrano retired on June 30 after completing over 14 years of service with the Water Works. Regina Perry was hired on August 9 to fill that position

In the Office, Doreen Lavista resigned on January 2 and was replaced initially by Angela Pepe. After Angela was promoted to Customer Service Supervisor, Natasha Sackey was hired on October 25 to fill this Service Department clerical position.

In the Distribution Department David Hammond was hired as Laborer on February 12, but he resigned on April 16. Laborers Anthony Carelli and Thomas Falco resigned on January 16 and April 9, respectively. As a result of these resignations, Dan Coppola and Nick Ruggerio were hired as replacement Laborers on May 3 and 4, respectively.

## **SERVICE AWARDS**

Service awards were earned by the following employees in 2004:

John G. Hock	30 years	George Wohlleber	15 years
Ralph Faga	25 years	Ken Lindhjem	15 years
Dan Roeder	20 years		

## **FINANCIAL STATEMENTS**

The accounts of the Water Works were audited by the Bennett Kielson Storch DeSantis Division of O'Connor Davies Munns & Dobbins, LLP, Certified Public Accountants, and have been found in good order. The Appendix to this report includes a copy of the balance sheet and statement of income from their report.

**MAIN INSTALLATIONS**

During 2004 a total of 2,637 feet of water main was installed in the system ranging in size from 6 to 12 inches in diameter. The following table summarizes the installations by municipality and pipe diameter. Table I in the Appendix provides the details of each installation. Table IV in the Appendix provides a summary of the total footage of pipe in the system.

<u>Municipality</u>	<u>Length in Feet</u>			<u>Total</u>
	<u>6"</u>	<u>8"</u>	<u>12"</u>	
Village of Mamaroneck	-	-	-	-
Town of Mamaroneck	-	-	-	-
Town of Harrison	8	2,115	514	2,637
City of Rye	-	-	-	-
<u>City of New Rochelle</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	8	2,115	514	2,637

**MAIN RETIREMENTS**

A total of 470 feet of water main was retired during 2004. The following table summarizes the retirements by municipality. Table II in the Appendix provides the details of each retirement.

<u>Municipality</u>	<u>Length in Feet</u>				<u>Total</u>
	<u>6"</u>	<u>8"</u>	<u>10"</u>	<u>12"</u>	
Village of Mamaroneck	-	-	-	-	-
Town of Mamaroneck	-	-	-	-	-
Town of Harrison	-	-	10	460	470
City of Rye	-	-	-	-	-
<u>City of New Rochelle</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	-	-	10	460	470

**FIRE HYDRANTS**

Four (4) public fire hydrants were added to the system in conjunction with the installation of a water main in the Knightsbridge Development and one (1) private hydrant (P-51) was added in the Con Edison Sub Station on Union Avenue, all in the Town of Harrison, as detailed in Table III of the Appendix. Table V in the Appendix shows the total number of hydrants in service by municipality and fire district.

**PLANT DEPARTMENT**

**Richard Ruge  
General Superintendent**

**PRODUCTION AND SALES**

Total production or purchase of water increased by 2.6% or 109.6 million gallons and sales increased by 3.2% or 121.1 mg when compared to 2003. Unaccounted-for or non-revenue water decreased by 11.5 mg. Unaccounted-for water includes water used for municipal purposes, fire fighting, loss through leakage and breaks, unmetered sales, flushing and under-registration of meters.\*

The following table shows the quantity of water produced by source and the quantity of water sold for both 2003 and 2004.

<u>Source of Supply</u>	<u>PRODUCTION, mg</u>	
	<u>2004</u>	<u>2003</u>
Shaft 22 Delaware Aqueduct	2,609.4	2,484.4
Rye Lake	1,713.6	1,729.0
Aquarion Water Company of NY	-	-
<u>United Water New Rochelle</u>	<u>0.3</u>	<u>0.4</u>
Total Production	4,323.3	4,213.8

	<u>SALES, mg</u>	
	<u>2004</u>	<u>2003</u>
Retail	2,531.2	2,506.4
<u>Wholesale</u>	<u>1,369.5</u>	<u>1,273.2</u>
Total Sales	3,900.7	3,779.6

Average daily production was 11.8 mg including wholesale sales, or 8.07 mg excluding wholesale sales. The maximum daily demand of 20.90 mg (including wholesale sales) occurred on Wednesday, June 16, 2004.

**PRECIPITATION**

A total of 59.17 inches of rain fell on 103 days in 2004 compared to 58.20 inches on 114 days in 2003.

\* The Appendix includes a graph of unaccounted-for water for the years 1972 to 2004.

**DISTRIBUTION DEPARTMENT****Donald DeFalco  
Distribution Superintendent****Maintenance, Repairs and Replacements**

The following tabulation summarizes the major maintenance, repair and replacement projects performed by Distribution Department personnel in 2004 with comparison to 2003.

	<u>2004</u>	<u>2003</u>
Water Main Leaks and Breaks Repaired	33	41
Service Line Leaks and Breaks Repaired	81	81
Service Lines Replaced	31	29
Water Service Taps Made	34	11
Valves Inspected	214	212
Valves Repaired	8	14
Valves Replaced	7	4
Valve Boxes Raised or Repaired	25	65
Hydrants Inspected - Comprehensive	618	383
- Winter	694	741
Hydrants Flushed	1,471	1,455
Hydrants Replaced	17 <sup>(1)</sup>	27
Hydrants Painted	502 <sup>(2)</sup>	825
Hydrants Repaired	79	242
Curb Boxes Raised or Repaired	35	36

- (1) Excludes hydrants relocated or upgraded in lateral size from 4" to 6" and new installations.
- (2) Includes 464 hydrants in the Town of Harrison and 38 other hydrants throughout the system.

**CUSTOMER ACCOUNTS****Peter Cooper  
Office Manager**

In 2004 the net number of customer accounts increased by thirty-six (36) consisting of twenty-five (25) new domestic accounts, four (4) new seasonal accounts, six (6) new fire services and one (1) new private hydrant.

**CUSTOMER ACCOUNTS AS OF 12-31-04**

<b>Municipality</b>	<b>Domestic</b>	<b>Seasonal</b>	<b>Fire</b>	<b>Fire Hydrant <sup>(1)</sup></b>		<b>Total</b>
				<b>Service</b>	<b>Public</b>	
Village of Mamaroneck	4,332	59	147	1	9	4,548
Town of Mamaroneck	3,098	24	34	1	7	3,164
Town of Harrison	4,147	150	94	3	26	4,420
City of Rye	342	35	1	1	2	381
City of New Rochelle	71	0	0	0	0	71
Wholesale	11 <sup>(2)</sup>	0	0	0	0	11
<b>Total</b>	<b>12,001</b>	<b>268</b>	<b>276</b>	<b>6</b>	<b>44</b>	<b>12,595</b>

- (1) Public Hydrant customers consist of each municipality and fire district billed; each of these customers is billed for the actual number of public hydrants (ranging from 27 to 476) in the municipality or district. Each private hydrant is counted as a separate customer, even though more than one hydrant may be billed to the same customer name.
- (2) Consists of two (2) United Water New Rochelle accounts, four (4) Village of Larchmont accounts, three (3) Aquarion Water Company of New York accounts and two (2) Harrison Water District No. 1 accounts.

**SERVICE DEPARTMENT****Angela Pepe  
Water Service Supervisor**

Field testing of large meters was done by Toomey Water Services, Moore and Kling, Inc. and Cain Controls. Acceptance tests of new meters, check-testing and special tests continued to be made in-house.

The number of remote reading meters installed totalled 725 compared to 455 in 2003. A total of 12,231 meters have been equipped with remote reading devices, of which 4,220 are Electronic Communications Registers (ECRs) and 1,447 are TouchRead PitLids (TR/PLs).

A total of 33 backflow preventers were installed and approved at 28 customers' premises in 2004, of which 23 were RPZ's and 10 were DCV's .

<u>ACTIVITY</u>	<u>2004</u>	<u>2003</u>
Total Meters Set	837	563
Total Meters Removed	805	535
Seasonal Meters		
Set	10	9
Reassembled	232	222
Total Set and Assembled	242	231
Removed	3	3
Dismantled	239	228
Total Removed and Dismantled	242	231
Remote-Equipped Meter Installations		
New Customers	59	55
Conversions	666	400
Total Remote Installations	725	455
Meter Changes Made (Principal Reason Given*)		
Routine - Due to age	7	-
- Frozen	65	51

\*Meters changed for reasons other than Conversion to ECR and TR/PL Remotes were also remoted (if not previously remoted); generator register meters were converted to ECR remotes.

**SERVICE DEPARTMENT (continued)**

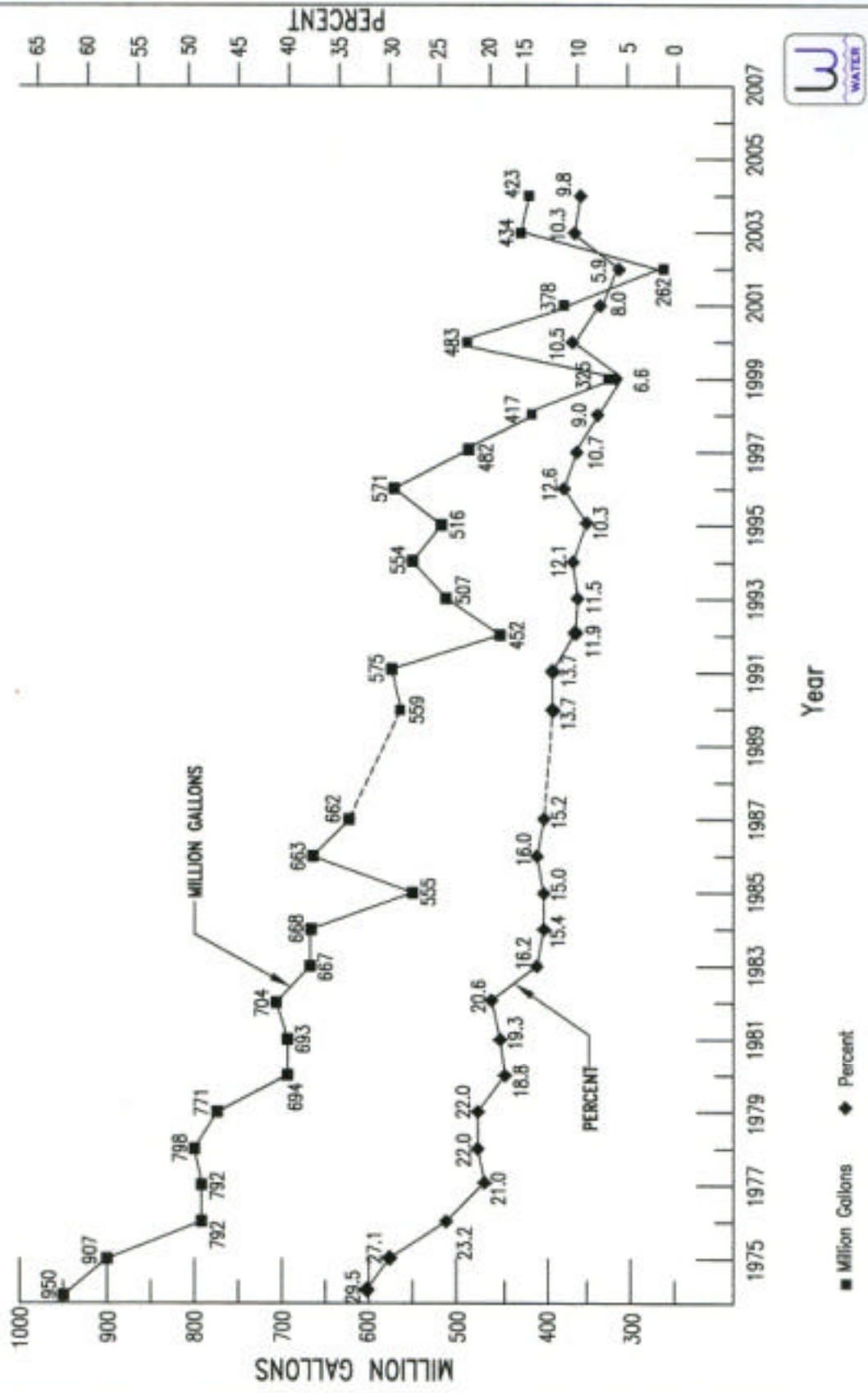
<u>ACTIVITY</u>	<u>2004</u>	<u>2003</u>
Meter Changes Made , continued		
Defective - Stuck	21	26
- Noisy	3	6
- Leaking	16	12
- Otherwise Damaged	65	3
Change of Size	2	8
Request for Special Test	6	2
<u>Conversion to Remote</u>	<u>666</u>	<u>400</u>
Total Changes Made	851	508
Meters Tested		
Westchester Joint Water Works <sup>(1)</sup>	215	37
<u>Outside Contractors</u>		
Toomey Water Services	23	22
Hydrotech Mechanical Services, Inc.	0	2
Moore and Kling, Inc. <sup>(2)</sup>	4	4
Connecticut Water Co. <sup>(2)</sup>	0	3
<u>Cain Controls<sup>(2)</sup></u>	<u>3</u>	<u>5</u>
Sub-Total, Outside Contractors	30	36
Total Tests	245	73
New Meters Purchased	1,436	434
Old Meters Scrapped	907	557
Year End Meter Inventory	980	404
Hydrant Use Permits Issued	14	12
Hydrants Called Out of Service	69	114

See Appendix, Table VI for the total number of meters in service by size, and Table VII for the number of remote-equipped meters in service as of year-end.

- (1) Of the 215 meters tested by the Westchester Joint Water Works in the shop, 201 were acceptance tests of new meters and 14 were special tests made at customers' and Manager's request.
- (2) Field testing of master meters owned by Westchester Joint Water Works and its wholesale customers.

## **APPENDIX**

# Unaccounted for Water by Year



**TABLE I**  
**WATER MAIN INSTALLATION PROJECTS**  
**2004**

<b>AUTH</b>	<b>MUNICIPALITY</b>	<b>LOCATION</b>	<b>LENGTH</b>		<b>DIAM.</b>	<b>TYPE</b>
			<b>Ft.</b>	<b>In.</b>		
1214 (L)	Town of Harrison	Corporate Park	514	12		DI
			8	6		DI
1222 (D)	Town of Harrison	Knightsbridge Manor	2,115	8		DI
Total Length Installed, All Sizes			2,637			

**NOTES:**

(D) Developer Project

(L) Local Project

(J) Joint Project

DI Class 52 Ductile Iron, Cement Lined

**TABLE II**

**WATER MAIN RETIREMENT PROJECTS**

**2004**

<b>AUTH</b>	<b>MUNICIPALITY</b>	<b>LOCATION</b>	<b>LENGTH ft.</b>	<b>DIAM. in.</b>	<b>TYPE PIPE</b>
1214 (L)	Town of Harrison	Corporate Park	460	12	CI
			10	10	CI
Total Length	Retired, All Sizes		470		

**NOTES:**

(L) - Local Project

(J) - Joint Project

(D) - Developer

CI - Cast Iron

DI - Ductile Iron

GI - Galvanized Iron

**TABLE III**

**FIRE HYDRANT INSTALLATIONS AND IMPROVEMENTS<sup>(1)</sup>**

**2004**

<b><u>AUTH.</u></b>	<b><u>HYDRANT NO</u></b> <sup>(2)</sup>	<b><u>FIRE DISTRICT</u></b>	<b><u>LOCATION</u></b>	<b><u>INSTALLATION</u></b> <sup>(3)</sup>
* (D)	P-51	2	Con Edison Sub Station	American
1222 (D)	3909	4	Knightsbridge	Mueller
1222 (D)	3910, 3911, 3912	4	Knightsbridge	American
1214	P-30	4	Corporate Park	Mueller

\*Private Hydrant Added

**NOTES:**

- (1) The above list includes those hydrants installed under authorizations which apply to relocations, improvements and new hydrants only. Hydrants replaced under routine maintenance procedures are not included. Hydrant P-30 was a relocation.
- (2) The 1000 series hydrants are in the Village of Mamaroneck. The 2000 series hydrants are in the Town of Mamaroneck. The 3000 series hydrants are in the Town of Harrison. The 4000 series hydrants are in the City of Rye. P- Hydrants are private hydrants.
- (3) All hydrants listed are new installations.

**NOTES:**

- (D) Developer Projects
- (L) Local Projects
- (J) Joint Project

**TABLE IV**

**SUMMARY OF PIPE IN SERVICE**

DIAMETER Inches	LENGTH Feet <u>12-31-03</u>	2004		LENGTH Feet <u>12-31-04</u>
		INSTALLATIONS <u>Feet</u>	RETIREMENTS <u>Feet</u>	
1	1,273	-	-	1,273
1	7,080	-	-	7,080
2	16,504	-	-	16,504
4	19,646	-	-	19,646
6	525,094	8	-	525,102
8	238,479	2,115	-	240,494
10	55,738	-	10	55,728
12	114,806	514	460	114,860
14	1,016	-	-	1,016
16	90,930	-	-	90,930
20	28,129	-	-	28,129
24	19,694	-	-	19,694
30	27,870	-	-	27,870
36	3,539	-	-	3,539
<b>TOTAL</b>	<b>1,149,798</b>	<b>2,637</b>	<b>470</b>	<b>1,152,905</b>

or  
218.6 miles

**TABLE V****SUMMARY OF HYDRANTS IN SERVICE**

<b><u>Municipality</u></b>	<b><u>As of 12-31-03</u></b>	<b><u>Additions</u></b>	<b><u>Removals</u></b>	<b><u>As of 12-31-04</u></b>
Village of Mamaroneck	398	-	-	398
Town of Mamaroneck	341	-	-	341
Town of Harrison:				
Fire District 2	476	-	-	476
Fire District 3	27	-	-	27
Fire District 4	231	4	-	235
City of Rye	49	-	-	49
Private	43	1	-	44
Water Works Hydrants	8	-	-	8
<b>TOTAL</b>	<b>1,573</b>	<b>5</b>	<b>-</b>	<b>1,578</b>

**TABLE VI**  
**METERS IN SERVICE BY SIZE**  
**AS OF 12-31-04\***

<u>Size</u>	<u>Number</u>
5/8"	9,510
3/4"	1,801
1"	635
1_"	184
2"	183
3"	15
4"	10
6"	2
8"	4
10"	1
TOTAL	12,345

\* This table includes all Water Works-owned meters in service at the end of the year including 181 5/8" meters installed on bypasses around fire line detector check valves.

**TABLE VII**  
**REMOTE READER EQUIPPED CUSTOMERS**

**As of 12-31-04**

<u>District</u>	<u>Number Of Accounts*</u>	<u>ECR Remotes In Service</u>	<u>TR/PL Remotes In Service</u>	<u>Total Remotes In Service</u>	
				<u>Number</u>	<u>%</u>
1	4,488	1,459	289	4,399	98.0
2	3,136	1,165	155	3,110	99.2
3	4,366	1,453	913	4,281	98.1
41	378	108	88	370	97.9
42	71	35	1	71	100.0
<b>TOTAL</b>	12,439	4,220	1,446	12,231	98.3

Of the 12,231 remoted accounts, 4,220 are equipped with electronic communication registers (ECR's) and 1,446 in pits are equipped with Touch Read Pit Lid (TR/PL) electronic registers. The total number of electronic registers is 5,666 or 46.3% of all remote devices installed, compared with 5,014 or 41.1% the prior year.

A pilot program was begun in 2004 consisting of the installation of radio-equipped meters in the Purchase section of Harrison. A total of 208 were installed; their total is included in the ECR or TR/PL columns, depending upon the setting.

\*Public and private hydrants, Class B fire lines and wholesale customers are excluded from the total number of accounts listed in this table. This column includes only domestic, seasonal and Class A fire line customers.