2005
DISTRIBUTION SAMPLING SITE PLAN

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New York City Department of Environmental Protection
Bureau of Water Supply
Division of Drinking Water Quality Control

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DISTRIBUTION SAMPLING SITE PLAN

Prepared by the
Division of Drinking Water Quality Control
Bureau of Water Supply

New York City Department of Environmental Protection
Emily Lloyd, Commissioner

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2005 DISTRIBUTION SAMPLING SITE PLAN

1. OVERVIEW

The **2005 Distribution Sampling Site Plan (2005 Plan)** provides a monitoring framework for the City's drinking water supply distribution system which is consistent with New York State and federal regulations. The aim of the sampling program is to effectively monitor the water quality throughout the NYC distribution system. The quality of the drinking water in the distribution system is being monitored as required under 10NYCRR, Subpart 5-1 (Part 5 of the New York State Sanitary Code, Public Water Systems). The **2005 Plan** issued in March reflected modification of the City's previous Distribution Sampling Site Plan and specifically: modified the distribution monitoring of copper and lead as specified in section 5-1.43, provided more detail on the Stage I DBP monitoring program, specified monitoring under the new radionuclide requirements, implemented a Fluoride Incident Plan in the event of an overfeed, and redefined the Croton entry point as site 38400. This **November 2005 Plan** contains further revisions to the March 2005 Plan and addresses: the change of microbiological analytical method to Colilert with Quanti-Tray™, the installation of new sample stations at the entry shafts to the three City Tunnels to replace the existing entry points, the change in nomenclature to describe all entry points including Croton site 38400, the change in nomenclature describing the four islands in New York Harbor (Governor's, Ward's Randall's and Riker's) and the addition of a sample station in the groundwater area specifically installed to monitor effluent from Well 50/50A.

2. TYPES OF WATER QUALITY SAMPLES

For the purpose of daily water quality monitoring, Distribution Operations classifies its sampling locations into three categories: compliance, surveillance, and pre-finished. The three classes of sites are defined as follows:

2.1. Compliance vs. Surveillance vs. Pre-finished Sites

Compliance sites, strategically positioned to meet the requirements of the Total Coliform Rule (TCR) as mandated by the New York State Sanitary Code, are located on distribution mains equal to or smaller than 20 inches in diameter with service connections. These sites represent the water directly servicing the public. Compliance sites are located throughout the distribution system and are sampled exclusively from fixed sample stations.

Surveillance sites are located at shafts, pumping stations, trunk mains, and post well treatment facilities within the distribution system. Trunk mains are generally greater than 20 inches in diameter, except in certain areas, *i.e.* Staten Island, which utilize 16 inch mains as trunk mains. Surveillance sites are located on trunk transmission mains that do not have direct service connections to consumers. Surveillance sites are not used for compliance purposes in regards to the Total Coliform Rule. For the most part, surveillance sites supplement the compliance sites and are used to collect additional information for assessing water quality, optimizing process control, facilitating water quality management, and determining the cause, source and extent of physical and/or biological quality changes, such as high turbidity, color or coliform occurrences.

Pre-finished sites are located prior to final treatment. These sites represent water entering, exiting and impounded within distribution reservoirs, in City Tunnels prior to booster chlorination, as well as from groundwater wells. Pre-finished water sites encompass limnological survey locations, autosamplers located at the feeds to City Tunnels, and untreated groundwater from wells prior to treatment, such as sequestering for iron and manganese, iron removal treatment and air-stripping for VOCs. Pre-finished sites are used to collect water quality information for ensuring proper treatment (optimizing process control) and assessing water quality.

2.2. Sample Stations, Substitute Sampling Locations, and Upstream and Downstream Sampling Locations

In the 2005 Plan, only sample stations are used for city-wide routine compliance sampling, including the groundwater area. Hydrants are solely used for coliform positive repeat sampling as the random location and as the substitute for surveillance sites if the regular sites are not accessible. At each compliance site, there are three (3) sample stations. The middle station (designated as **REG** in the Site List, Appendix A) is used as the regular sampling point. The other two stations, installed within five service connections from the regular point, are designated as upstream (**USS**) and

downstream (**DSS**). These sample stations are used for coliform positive repeat sampling. The regular sample station (**REG**) will be used exclusively under normal operating conditions. If a **REG** station is not accessible, either the **USS** or the **DSS** will be used as the substitute.

3. DISTRIBUTION SAMPLING SITES

3.1. Fixed Sample Stations

As part of DWQC's Water Quality Monitoring Program, DEP has installed 965 sample stations at 282 compliance locations and 119 surveillance locations as illustrated in Table 3.1. The installation of these specialized water sample stations in all areas of the City was finally completed at the end of 1998, with the installation of sample stations in the groundwater area. The 2005 Plan continues to support, for the seventh consecutive year, the exclusive utilization of sample stations for all compliance water quality monitoring. Sample stations provide a cleaner and more controlled sampling environment and are less prone to vandalism and contamination.

Table 3.1 also gives a breakdown in terms of types of sampling locations and the total number of compliance, surveillance and pre-finished sites used in the 2005 Plan.

3.2. Distribution of Sample Stations

In selecting representative locations for the installation of its fixed sample stations, several critical factors were originally considered by DEP's Division of Drinking Water Quality Control. Sample stations were strategically situated to ensure that each sampling site represented an equitable population. Table 3.2 details the total number of compliance sites in each borough broken down by community board, as well as the average population represented by each compliance site. Although the placement of these sample stations was originally based upon the 1990 census figures, Table 3.2 has been updated to reflect the 2000 census results. The equivalent population served by each compliance sampling site currently ranges from approximately 15,000 in Staten Island to just over 35,000 in Brooklyn, up from 13,000 and 33,000, respectively. Figure 3.1 shows the citywide distribution of the 2005 sampling sites overlaying population densities. Figures 3.2 to 3.6 present the sampling sites by the population density of each borough. Appendix B illustrates the distribution of sampling sites vs. community boards by borough.

Sampling sites are distributed on varying sized mains representing all source water systems comprising New York City's water supply. The three tunnels of the Catskill–Delaware system, as well as the Croton and groundwater systems, all contain vital sampling sites within their respective boundaries.

3.3. Groundwater Distribution Sampling Sites

The locations of sample stations in the groundwater distribution area are continuously being evaluated by Distribution Operations in order to most closely monitor drinking water of a groundwater source. In July of 2005, an additional sampling site was installed in this area bringing the total number of fixed sample stations currently used in the groundwater distribution area to 27. The City has been upgrading the water supply infrastructure in several areas formerly serviced by the Jamaica Water Supply Company. As new, larger water mains are put into service, and as more of the wells are placed on "reserve" status, an influx of surface water is being fed into areas previously supplied by groundwater sources which may necessitate sample station relocation. In addition, all drinking water holding tanks in the groundwater distribution service area have a designated sampling site. (Sampling sites are identified in Appendix A.)

3.4. Entry Points

During the last quarter of 2005, new sample stations have been installed just outside the entry shafts to the three City Tunnels and shall replace the current entry points for all distribution entry point monitoring. The nomenclature used to describe these three sites has been altered so to easily identify the shaft feeding the site. The new index number consists of up to five digits, the first digit representing the borough in which the shaft is situated, consistent with the current system of sample station identification. The second digit shall be "S" to designate the site as a shaft. For the Cat-Del system, the third, fourth and fifth digits shall represent the shaft number. As Tunnel No.1 shafts do not have a letter affixed to the shaft number, these sites shall be assigned a four digit index number. The fifth digit of the index number for shafts along Tunnels No. 2 and 3 have an "A" or "B" letter designation, respectively. Henceforth, site 1S07 shall replace site 10250 as the entry point for City Tunnel No. 1, site 1S03A shall replace site 12150 as the entry point for City Tunnel No. 2, and site 1S03B shall replace site 15450 as the entry point for City Tunnel No. 3.

In March 2005 Plan, site 38400 had replaced site 33450 as the entry point for the Croton system. Site 38400 is located at Shaft 26 on the New Croton Aqueduct, the first shaft in Manhattan, and is a representative sampling location after the last point of treatment but before the first consumer connection satisfying the definition of an entry point as stated in Part 5. In an effort to maintain the consistency of the new entry point index nomenclature, site 38400 has been renamed site 3SC26, the third digit "C" designated to represent Croton water source.

All wells have a sampling point that represents finished groundwater for each well (see Appendix A). Please refer to Table 3.3 for surface water system entry point locations. All entry points are sampled daily.

3.5. Distribution Reservoir Limnology

Water quality samples are collected from the two distribution system reservoirs: Hillview Reservoir for the Catskill-Delaware system and Jerome Park Reservoir for the Croton system. The limnological sampling sites are located within the reservoir basins and are classified as pre-finished water sites. Water contained within these reservoir basins represents a portion of the source water from upstate reservoirs before final treatment and City distribution. As such, the measurement of key water quality parameters is advantageous, and assists in determining treatment and operational changes for optimal water quality. Appendix C outlines the sample locations within each basin.

3.6. Consumer Complaint Sampling

Drinking water quality samples in response to consumer complaints are collected from hydrants and internal consumer tap locations.

3.7. Monthly "Islands" Sampling

Fixed sample stations are installed on Governor's, Ward's, Randall's and Riker's Islands for monthly drinking water quality monitoring. In order to better identify the source of water for these islands, the site index has been redefined. The first digit of the index shall indicate the borough from which the island's water is fed, thus the islands shall be renamed 2ISL1, 3ISL3, 3ISL4, and 4ISL5, respectively. Island site #2 on Roosevelt Island was converted to a compliance site in 1999. Monthly sampling at Governor's Island (2ISL1) has been suspended indefinitely and will commence once the island becomes re-inhabited.

Table 3.1 Breakdown of Sampling Sites by Type and Borough - 2005 Plan

Type	Bronx	Brooklyn	Manhattan	Queens	Staten Is	City Total
Compliance Sample Stations*	**46**	**70**	**57**	**80**	**29**	**282**
Surveillance						
Sample Stations	21	27	32	23	16	119
Distribution Entry Shafts	4	2	1	1		8
Finished Reservoir (chlorinated)	4					4
Pump Stations	1					1
Wells				35		35
Storage Tanks				25		25
Surveillance Total	**30**	**29**	**33**	**84**	**16**	**192**
Distribution Total	**76**	**99**	**90**	**164**	**45**	**474**
Pre-Finished						
Gatehouses/Shafts (pre-chlorination)	13		1		1	15
Distribution Reservoir Limnology						
Hillview Reservoir	9					9
Jerome Park Reservoir	11					11
Wells (untreated)				40		40
Pre-Finished Total	**33**	**0**	**1**	**40**	**1**	**75**
Total Sampling Sites	**109**	**99**	**91**	**204**	**46**	**549**

* Each compliance site has three sample stations identified as upstream (USS), downstream (DSS), and regular (REG). As such, there are a total of 965 actual sample stations installed citywide.

Table 3.2 Compliance Sampling Sites - 2005 Plan

By Community Board and Borough

Bronx			Brooklyn			Manhattan			Queens			Staten Island		
CB	**Population***	**2000**	**CB**	**Population***	**2000**	**CB**	**Population***	**2000**	**CB**	**Population***	**2000**	**CB**	**Population***	**2000**
1	82,159	3	1	160,338	6	1	34,420	4	1	211,220	6	1	162,609	12
2	46,824	2	2	98,620	3	2	93,119	4	2	109,920	3	2	127,071	5
3	68,574	2	3	143,867	5	3	164,407	6	3	169,083	4	3	152,908	12
4	139,563	4	4	104,358	1	4	87,479	3	4	167,005	3		**442,588**	**29**
5	128,313	4	5	173,198	5	5	44,028	4	5	165,911	5			
6	75,688	3	6	104,054	4	6	136,152	5	6	115,967	4			
7	141,411	5	7	120,063	4	7	207,699	6	7	242,952	7			
8	101,332	4	8	96,076	3	8	217,063	8	8	146,594	7			
9	167,859	5	9	104,014	3	9	111,724	3	9	141,608	4			
10	115,948	5	10	122,542	2	10	107,109	4	10	127,274	6			
11	110,706	4	11	172,129	3	11	117,743	3	11	116,404	4			
12	149,077	5	12	185,046	6	12	208,414	7	12	223,602	8			
	1,327,454	**46**	13	106,120	4		**1,529,357**	**57**	13	196,284	14			
			14	168,806	4				14	106,686	5			
			15	160,319	5					**2,240,510**	**80**			
			16	85,343	2									
			17	165,753	5									
			18	194,653	5									
				2,465,299	**70**									

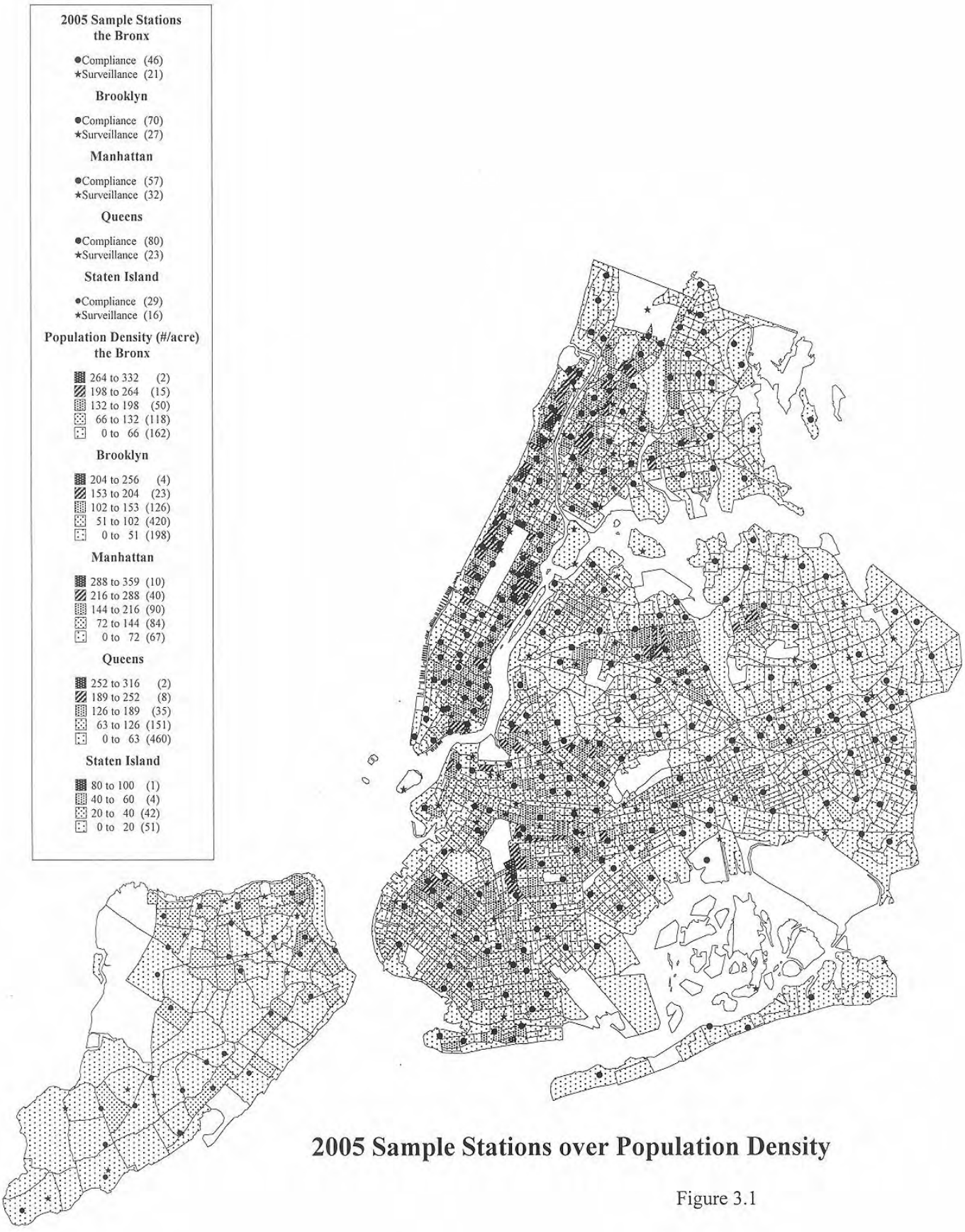
Average Population Served Per Compliance Sampling Site

Bx	28,858	Bk	35,219	Mn	26,831	Qu	28,006	SI	15,262	

* Population data are based on 2000 census results.

Table 3.3 2005 Surface Water System Entry Points

Index	Boro	System	Tunnel	Location
1S07	Bx	Catskill	Tun 1	Sample Station - Shaft 7 of City Tunnel No.1 - W/S Sedgwick Ave OPP W 167th St
1S03A	Bx	Delaware	Tun 2	Sample Station - Shaft 3A of City Tunnel No.2 - Bronxwood Ave & E 233rd St
1S03B	Bx	Cat/Del	Tun 3	Sample Station - Shaft 3B of City Tunnel No.3 - Mosholu Ave W/O Jerome Ave (w/i Van Cortlandt Park E/O Shaft 2)
3SC26	Mn	Croton		Shaft 26 of NCA at 179th St Pumping Station - Amsterdam Ave & W179th St (Croton tap)



2005 Sample Stations over Population Density

Figure 3.1

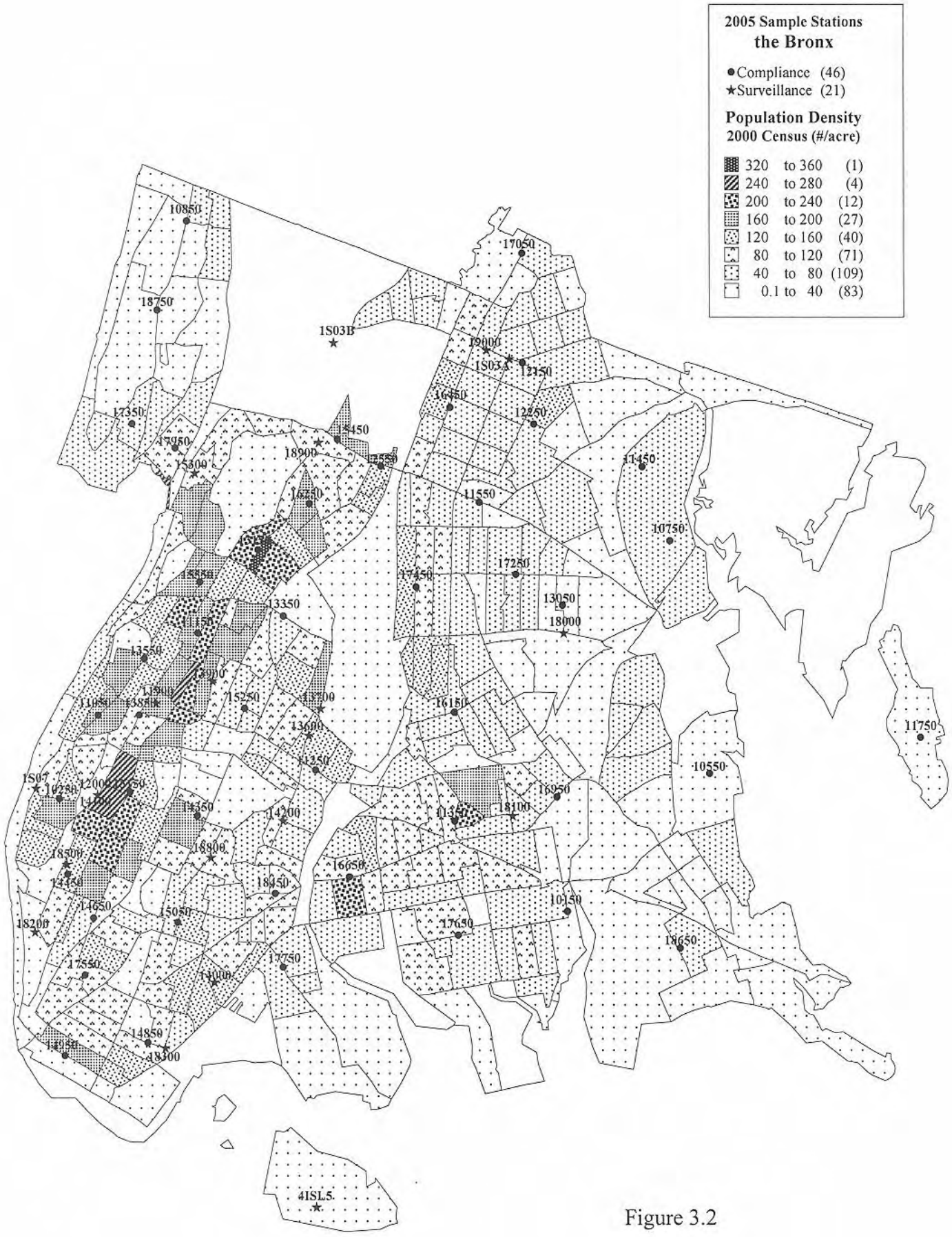

2005 Sample Stations
the Bronx
●Compliance (46)
★Surveillance (21)
Population Density
2000 Census (#/acre)
320 to 360 (1)
240 to 280 (4)
200 to 240 (12)
160 to 200 (27)
120 to 160 (40)
80 to 120 (71)
40 to 80 (109)
0.1 to 40 (83)
10850
17050
18750
1S03B
19000
1S03A
12150
16750
12850
17350
15450
17950
18900
15300
11450
16750
11550
10750
17250
17450
13350
13050
18000
13550
15250
13200
16150
11750
13600
11250
1S07
10550
16950
18100
14350
14200
18500
18800
16650
18450
10150
14650
15050
18200
17650
18650
17550
17750
14000
14850
18300
4ISL5

Figure 3.2

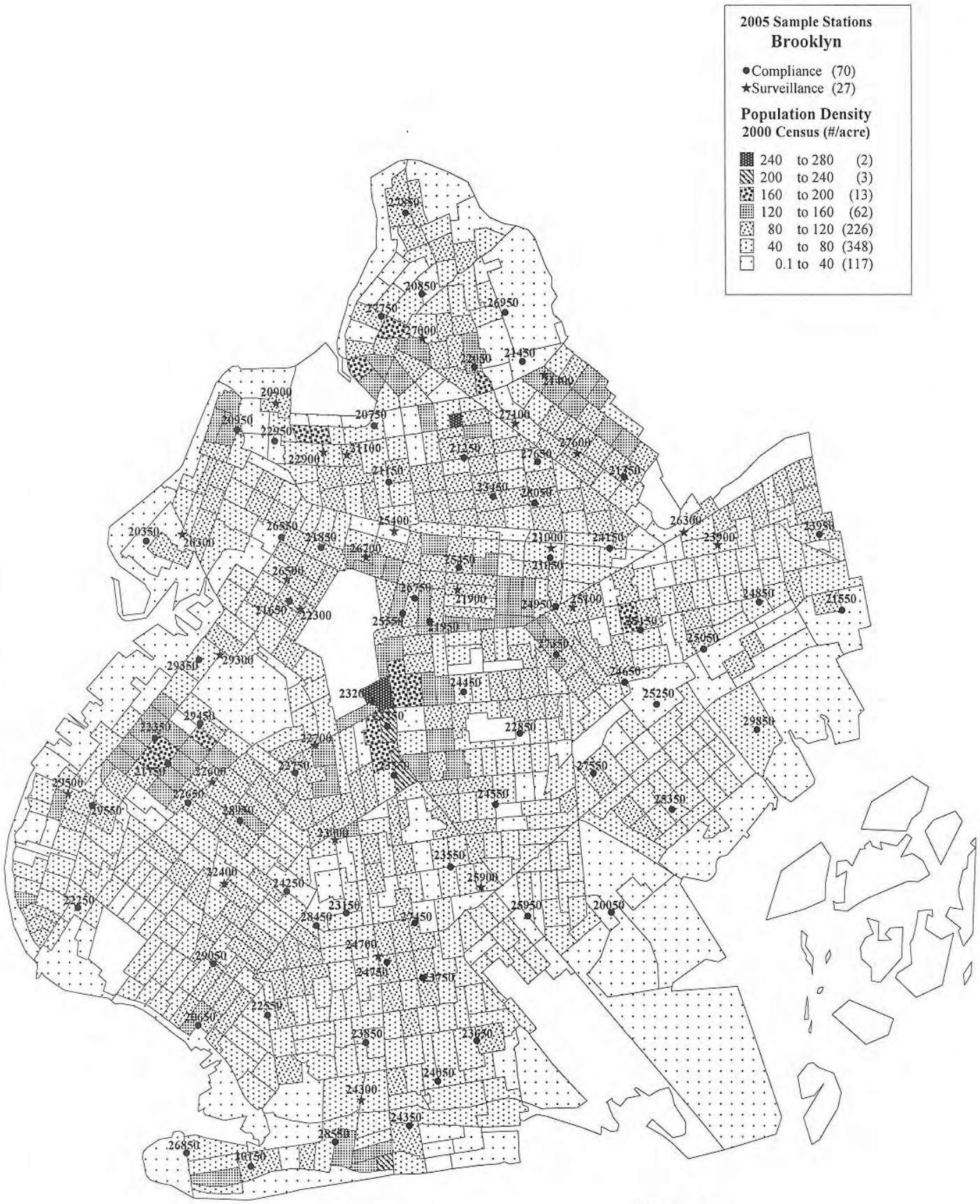

2005 Sample Stations
Brooklyn
●Compliance (70)
★Surveillance (27)
Population Density
2000 Census (#/acre)
240 to 280 (2)
200 to 240 (3)
160 to 200 (13)
120 to 160 (62)
80 to 120 (226)
40 to 80 (348)
0.1 to 40 (117)

Figure 3.3

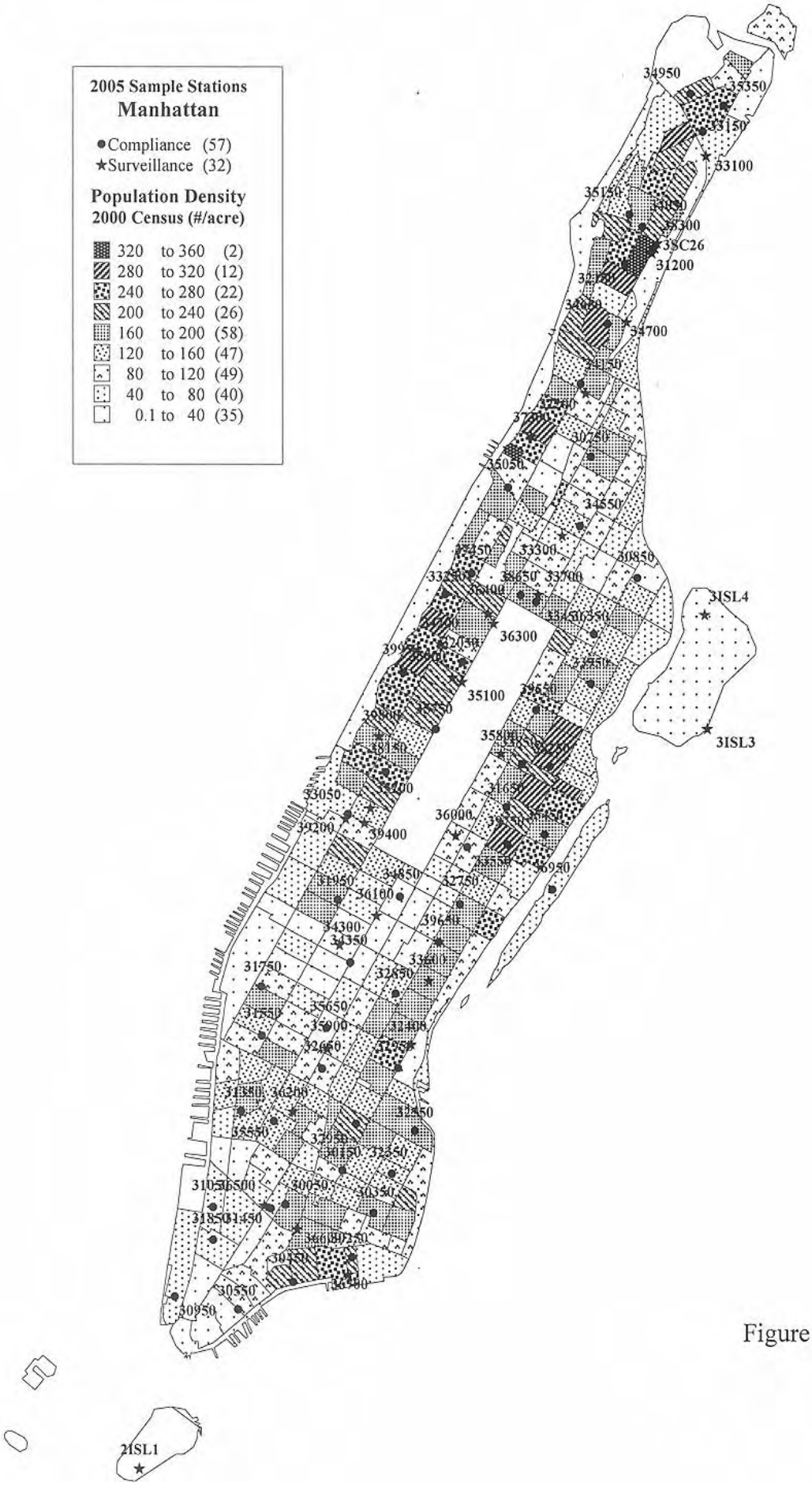

2005 Sample Stations
Manhattan
●Compliance (57)
★Surveillance (32)
Population Density
2000 Census (#/acre)
320 to 360 (2)
280 to 320 (12)
240 to 280 (22)
200 to 240 (26)
160 to 200 (58)
120 to 160 (47)
80 to 120 (49)
40 to 80 (40)
0.1 to 40 (35)
34950
35350
33150
33100
35150
31200
34700
30250
35050
34550
33300
30850
36300
35100
31ISL4
31ISL3
2ISL1

Figure 3.4

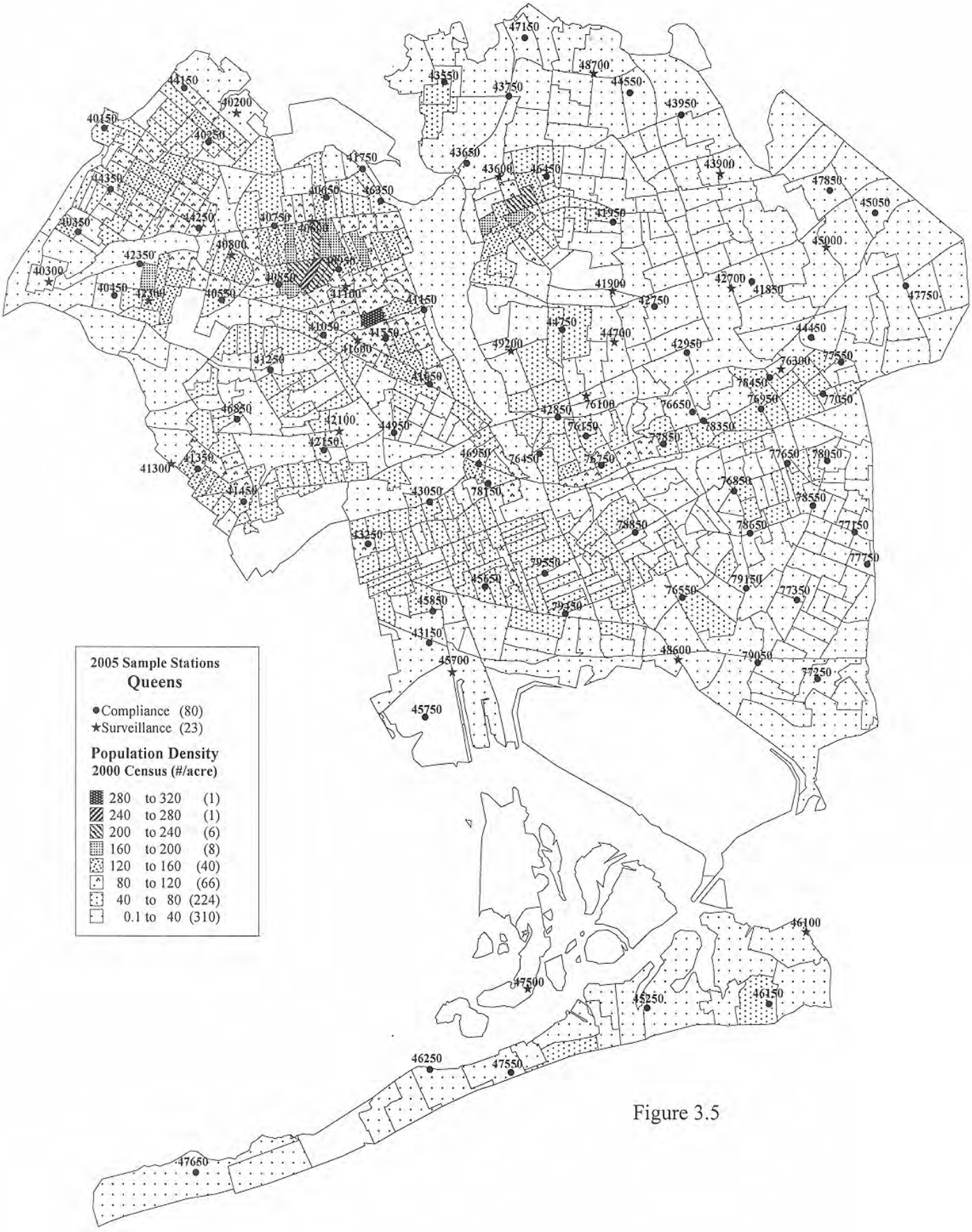

2005 Sample Stations
Queens
●Compliance (80)
★Surveillance (23)
Population Density
2000 Census (#/acre)
280 to 320 (1)
240 to 280 (1)
200 to 240 (6)
160 to 200 (8)
120 to 160 (40)
80 to 120 (66)
40 to 80 (224)
0.1 to 40 (310)

Figure 3.5

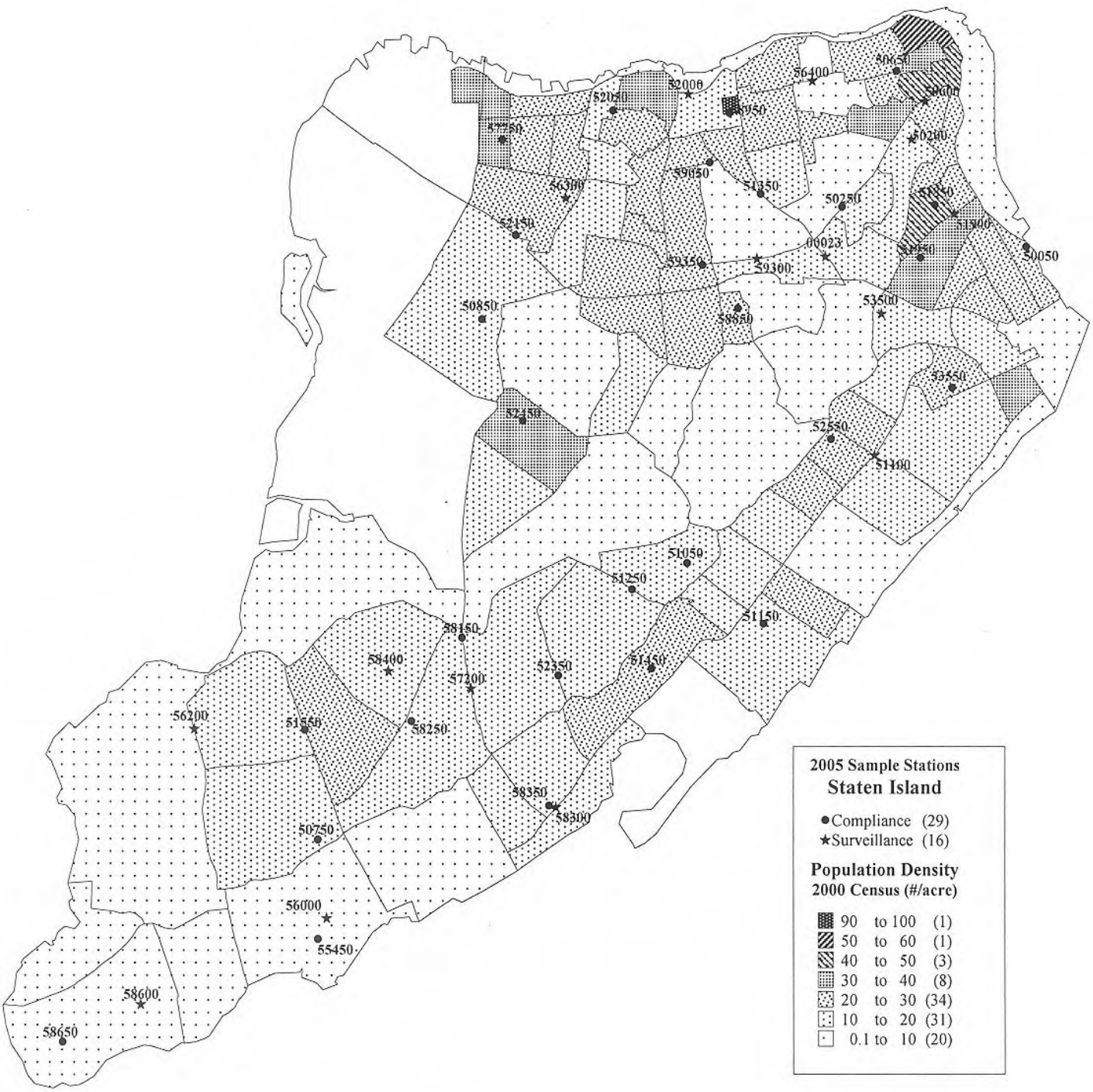

2005 Sample Stations
Staten Island
●Compliance (29)
★Surveillance (16)
Population Density
2000 Census (#/acre)
90 to 100 (1)
50 to 60 (1)
40 to 50 (3)
30 to 40 (8)
20 to 30 (34)
10 to 20 (31)
0.1 to 10 (20)
56400
52000
52050
59050
56300
51350
50250
52150
59350
59300
00023
53500
50850
58850
52450
52580
51490
51050
51250
51150
58150
58400
57200
52350
51450
56200
51550
58250
58350
58300
50750
56000
55450
58600
58650

Figure 3.6

4. SAMPLING FREQUENCIES

4.1. Surface Water Sampling Frequencies

The aim of this sampling program is to effectively monitor the water quality throughout the NYC distribution system, starting at Hillview and Jerome Park Reservoirs. All compliance sites and surveillance sites are scheduled to be sampled every 9 to 14 days. Samples are collected in all five boroughs on a daily basis using route schedules specific to individual boroughs. These routes are arranged to ensure that each sampling site is sampled uniformly throughout the month, and that sampling runs provide broad coverage of each borough. This overall monitoring scheme guarantees that each distribution system (City Tunnels No. 1, No. 2 and No. 3, Croton, and Groundwater) is sampled every day with wide geographic coverage. (See Appendix D for daily sampling routes and maps.) In addition to compliance and surveillance sampling, 8 to 26 pre-finished composite surface water samples are collected daily from autosamplers and 8 to 12 grab samples from pre-finished reservoir sites depending upon the season and the operating status of the distribution reservoirs.

4.2. Groundwater Well Sampling Frequencies

The sampling frequency of the groundwater wells, pre-finished and surveillance, is determined by the individual treatment that each well is afforded. At a minimum, all wells in operation are sampled weekly for basic chemistry. Sequestering wells and those wells without extra treatment processes are sampled quarterly for organics, whereas the airstripper wells are sampled on a monthly basis for organics. Sequestering wells are also sampled monthly for various process control parameters. (See Appendix E for individual well sampling frequencies.)

4.3. Autosamplers

Autosampling technology facilitates increased monitoring frequencies as compared to manual grab sampling. Autosamplers have been incorporated into the water quality monitoring program for enhanced process control and management purposes. The use of autosamplers augments pre-finished water quality monitoring. Three (3) ISCO autosamplers are currently deployed; the first unit is located at Downtake No.1 (00003) at Hillview Reservoir, the second unit is located at Downtake No.2 (00058) at Hillview Reservoir, and the third unit is located at Jerome Park Reservoir Site 00032 or Site 00036, depending upon operating conditions. Each autosampler is

programmed to collect composite samples. Each composite sample is composed of six (6) grab samples with a sample volume of about 100 mL per grab. Sampling frequency is dependent upon water temperature, consumption rate, and time of day. Please refer to the Distribution Sample Collection Standard Operating Procedures (SOPs) - Appendix F, Instruction A for the detailed schedules of each autosampler.

4.4. Sample Collection and Site Investigation Procedures

Compliance and surveillance samples are collected from fixed sample stations in accordance with sampling schedules utilizing the SOPs as described in Appendix F. Compliance and surveillance samples are always collected from the designated location unless: 1) the site is inaccessible, 2) the sample station or hydrant is broken or inoperable, 3) the sample station or hydrant itself is clearly contaminated, or 4) the main servicing the site is out of service. It is the responsibility of the water quality inspector to provide full documentation when a sample is not collected. If a sampling location cannot be sampled, the inspector shall collect a sample from the designated substitute sampling point, *i.e.*, upstream sample station (USS), downstream sample station (DSS) or substitute site (SUB).

Should the water quality inspector observe unusual conditions such as discolored water, pronounced odor, high turbidity, high water temperature or low chlorine residual, a water sample shall be collected at the regular site. The inspector will conduct an investigation of the area to determine the extent of the problem. As part of this inspection, the water quality at the upstream and the downstream sample stations, and the substitute site (if applicable) will be observed and recorded. It is the responsibility of the water quality inspector to document these findings, and immediately notify the supervisor at DWQC Distribution Field Operations office, either by radio or telephone. The supervisor, utilizing the information transmitted from the field, will make a determination as to what further investigations should be conducted or what supplemental samples should be collected. In addition, the supervisor will immediately contact the DEP Water and Sewer Operations borough maintenance or repair yard and advise them of the identified problem(s) so that remediation can commence expeditiously. Should it be determined that supplemental investigative sampling is necessary, such samples will be designated as "Special".

Appendix G contains important information regarding the use of City-owned vehicles. Retained in each vehicle is a listing of all authorized Gas-Card gas stations located throughout the

City. In order to maximize productivity, refueling of City vehicles shall be performed during the course of the sampling run. Please refer to Tables G.1 through G.5 and Figures G.1 through G.5 for a complete listing of Gas-Card stations with respect to sample stations. All vehicles used for sample collection shall be equipped with all items indicated in Table G.6, the Vehicle and Equipment checklist. In the event of a vehicular accident, the procedures described in Table G.7, Accident Report Information, shall be strictly adhered to. Vehicle breakdowns shall also be reported to the supervisor at DWQC Distribution Field Operations office, either by radio or telephone. These instructions shall also be retained on a clipboard in each vehicle for future reference. Table G.8 illustrates the Bureau of Water Supply's Incident Report which is to be completed for incidents such as employee injuries, HazMat spills, and security threats.

4.5. Chain of Custody Procedures

To assure proper chain of custody, appropriate entries for compliance and surveillance samples will be made in three places: 1) white field dispatch cards (Appendix F, Instruction B), 2) blue sample cards (Appendix F, Instruction C), green sample cards for complaint samples (Appendix F, Instruction D), and 3) barcode scanners (Appendix H). For each designated route, a white field dispatch card will specify the sampling sites to be visited. If a sample cannot be collected at any scheduled sampling site, the reasons for that shall be clearly written on the white field dispatch card and blue sample card. A blue sample card, which contains sampling information and field test results for each sampling location will be completed and initialed by a water quality inspector when the sample is collected.

All field data shall also be recorded in the Symbol Palm barcode scanner. Please refer to Appendix H – Symbol Palm Scanner SOPs for more detailed information on the barcode scanner. Upon arrival at Distribution Laboratory, the custody of the samples will be transferred to lab personnel in the receiving room. The barcode scanner data shall be uploaded into the Laboratory Information Management System (LIMS) located in the receiving room exclusively for this purpose. Once the field data has been uploaded into LIMS, receiving room personnel shall then scan the barcode label on each sample bottle into the database and provide a printout of all the associated samples along with their respective field data for field / lab signatures, thus effectively transferring the custody of the samples.

5. COLIFORM BACTERIA MONITORING

The Total Coliform Rule (TCR) sets criteria on which the compliance sample stations in this plan were established. The number of samples, the frequency of sampling, the microbial analytical methods and sampling procedures all address the requirements of the TCR.

5.1. Number of Coliform Samples

The TCR specifies that New York City collect a minimum of 480 compliance samples per month. Each month, New York City collects over 900 samples. In addition, several hundred surveillance and pre-finished samples are collected monthly.

5.2. Residual Chlorine Monitoring

As specified in the TCR, when chlorine is used as a disinfectant, a free chlorine residual determination shall be made at the same time and location that any sample is collected for total coliform analysis. Monitoring for heterotrophic bacteria (HPC) may be substituted for free chlorine residuals.

In New York City's distribution system, HPC analysis is currently performed daily on samples from each system entry point as outlined in Table 3.3, as well as on pre-finished downtake grab samples from site 00003. In addition, when the free chlorine residual at any compliance or surveillance site is not detected (<0.02 mg/L), HPC analysis is performed and is reported in the monthly water quality report, as is any value in excess of the Maximum Residual Disinfectant Level (MRDL) of 4.0 mg/L.

Effective July 1, 2005, HPC analysis will be performed on all distribution compliance and surveillance sites with a free residual chlorine of <0.20 mg/L and on pre-finished grab samples from site 00058.

5.3. Microbiological Analytical Method

Effective July 1, 2005, all bacterial analyses for distribution samples (compliance, surveillance, pre-finished, repeat and replacement) will be performed using the Colilert (SM9223) with Quanti-Tray™ method replacing the use of the membrane filtration method with m-Endo media (SM9222A,B,C). Quanti-Tray™ uses a presence/absence method and adds a most probable number

(MPN) component. The advantages of using Quanti-Tray™ are the elimination of atypical growths and the confirmation of both total coliform and E.coli results within 24 hours. The membrane filtration procedure with m-Endo media and lactose fermentation using lauryl tryptose broth (LTB), brilliant green lactose broth (BGB), and EC-MUG broth will continue to be run on autosampler samples on weekdays.

5.4. Notification and Repeat Sampling Procedures for Coliform Positive Compliance Samples

Should a compliance sample test positive for coliform bacteria, the DOHMH, the NYSDOH, and the USEPA, Region II, New York City team will be notified immediately. NYCDEP will collect a set of repeat compliance samples within 24 hours of notification of the positive results. Repeat samples will be collected from the original positive site, the upstream and downstream sample stations, and a random hydrant within the immediate vicinity, in accordance with the requirements of the New York State Sanitary Code (10NYCRR Part 5-1). The DOHMH, the NYSDOH, and the USEPA, Region II, New York City team will also be notified immediately of repeat compliance sample results.

5.5. Notification and Resample Procedures for Coliform Positive Surveillance Samples

If a surveillance sample tests positive for coliform bacteria, NYCDEP will resample the original surveillance site within 24 hours of notification of result. Notification to DOHMH, NYSDOH and the USEPA, Region II, New York City team of coliform positive results for surveillance samples or resamples will be made via the monthly report. Immediate notification to DOHMH, NYSDOH and the USEPA, Region II, New York City team will be made only if the surveillance or resample confirms positive for *E. coli*.

5.6. Notification for Coliform Positive Pre-finished Samples

Notification of coliform positive or *E. coli* positive results for pre-finished samples will be made to DOHMH, NYSDOH and the USEPA, Region II, New York City team via the monthly report.

6. ORGANIC CONTAMINANT MONITORING

6.1. Disinfection By-Products Monitoring

Historically, monitoring for trihalomethanes (THM) has been conducted on a monthly basis on at least 4 sites per tunnel/system. With the start of the Stage 1 Disinfection By-Product Rule (Stage 1 DBPR) in January 2002, DEP continued with its enhanced THM monitoring on a monthly basis. However, as per the requirements of the Stage 1 DBPR, the DBP compliance monitoring sites were changed to ensure that, in addition to 25 percent of the sampling sites reflecting maximum residence time, the remainder reflected at least average distribution system conditions. The entry point for each system as specified in Table 3.3 was replaced with an alternate site representative of at least average distribution system residence time. The specific sites for each tunnel/system are listed in Table F.1. Table F.2 specifies the analytical methods used for DBP monitoring.

The Stage 1 DBPR also requires the monitoring of five haloacetic acids (HAA5) on a quarterly basis at the same locations as THM monitoring is performed. DEP conducts HAA monitoring at the sites specified in Table F.1 on a quarterly basis. DBP compliance monitoring routinely is scheduled for the first Tuesday of the second month of each quarter. If a holiday occurs during the first week of that month, monitoring is then scheduled for the second week. Monitoring of the designated DBP compliance sites for all systems (Table F.1) is conducted on the second month of each quarter, regardless of whether or not the normally expected source of water is found at each site.

Also presented in the 2005 Plan are some additional monitoring site changes for both monthly THM and quarterly DBP requirements that have been accepted by NYSDOH. For the Croton distribution system, site 3SC26 has replaced site 33450 as the Croton entry point. Site 33450 will continue to be sampled monthly for THM's and quarterly for Stage 1 DBP requirements, but as a distribution site. Site 3SC26 will no longer be monitored as a DBP compliance site, but site 31750 has been added for monthly THM's and quarterly DBP's compliance monitoring in the Croton distribution area.

In order to optimize sampling sites with a groundwater source, sites 76450, 77850, and 79150 were replaced with sites 78150, 78350, and 79550 commencing with the February 2005 monthly sampling event. Further, site 76150 was installed in June 2005 in order to monitor groundwater discharged from the airstripper plant at Well 50. This site replaces site 78350 starting with the July 2005 monthly sampling event. These changes reflect ongoing water main replacement

projects in the groundwater area which have allowed surface water to be introduced into areas formerly serviced exclusively by groundwater. These sites will be sampled monthly for THM's and quarterly for Stage 1 DBP requirements.

In anticipation of the Stage 2 DBPR, on the first and third months of each quarter, DEP conducts monitoring for HAA at other sites throughout the system, which are representative of at least average residence times but are not the specified quarterly DBP compliance sites. All DBP monitoring data are submitted to DOHMH and NYSDOH via the Water Quality Monthly Report. The required quarterly DBP compliance data will be reported in the format presented in Table 6.1. In the 2005 Plan, site 32350 has replaced site 33450 during March, June, September, and December's DBP non-compliance quarterly sampling.

Table 6.1 DBP Quarterly Report

REPORT

NYC DEPT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351

SUMMARY OF DISINFECTION BY-PRODUCTS ANALYSES (µg/L)

FIRST QUARTER, 2005

CATSKILL-DELAWARE DISTRIBUTION AREA								
					TOTAL THM (µg/L)		HAA5 (µg/L)	
	LOCATION	INDEX NUMBER	SPEC. COND.	COLL. DATE	ANAL. DATE	RESULT	ANAL. DATE	RESULT
TUNNEL 1	SS - IFO 313 N/S W 47th St, 2nd SS W/O 8th Ave, 12"	31950						
	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12"	39650						
	SS - IFO 325 N/S E 12th Street, 2nd SS E/O 2nd Ave, 12"	37950						
	SS - E/S Water St, 1st SS S/O Maiden La (IFO Wall St Plaza), 20 inch	30550						
TUNNEL 2	SS - N/S Bartow Ave, 2nd SS W/O Co-op City Blvd, 20 inch	10750						
	SS - N/S Jefferson Avenue, 2nd SS W/O Lewis Avenue, 20 inch	23450						
	SS - W/S Brighton 11th Street, 2nd SS S/O Cass Place, 12 inch	24350						
	SS - IFO 223-03 N/S Manor Rd, 2nd SS W/O 229th St, 12"	44450						
	SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Drive, 12"	45250						
	SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20"	50250						
	SS - IFO 510 W/S Main St, 2nd SS S/O Hylan Blvd, 12"	58650						
TUNNEL 3	SS - IFO 1420 E/S Grand Concourse, 2nd SS S/O E 171st St, 12 inch	15150						
	SS - IFO 526 N/S W 111st St, 2nd SS W/O Amsterdam Ave, 12"	37450						
	SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12"	38250						
	SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12"	44350						
		QUARTERLY MINIMUM						
		QUARTERLY MAXIMUM						
		QUARTERLY AVERAGE						
		SYSTEM RUNNING ANNUAL AVERAGE *						

* *The System Running Annual Average is calculated by taking the average of the Quarterly Average of this quarter and the three previous consecutive quarters.*

Table 6.1 DBP Quarterly Report

REPORT

NYC DEPT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351

SUMMARY OF DISINFECTION BY-PRODUCTS ANALYSES (µg/L)

FIRST QUARTER, 2005

CROTON DISTRIBUTION AREA

LOCATION	INDEX NUMBER	SPEC. COND.	COLL. DATE	TOTAL THM (µg/L) ANAL. DATE	TOTAL THM (µg/L) RESULT	HAA5 (µg/L) ANAL. DATE	HAA5 (µg/L) RESULT
SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12 inch	33450						
SS - N/S E 104th St, 2nd SS E/O 3rd Ave, 12 inch	33950						
SS - S/S W 18th St, 2nd SS E/O 9th Ave (opposite 329), 12 inch	31550						
SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12 inch	31750						
	QUARTERLY MINIMUM						
	QUARTERLY MAXIMUM						
	QUARTERLY AVERAGE						
	SYSTEM RUNNING ANNUAL AVERAGE *						

GROUNDWATER DISTRIBUTION AREA

LOCATION	INDEX NUMBER	SPEC. COND.	COLL. DATE	TOTAL THM (µg/L) ANAL. DATE	TOTAL THM (µg/L) RESULT	HAA5 (µg/L) ANAL. DATE	HAA5 (µg/L) RESULT
SS - W/S 207th St, Across 110-52 207th St	77650						
SS - IFO 85-31 E/S 120th St, 2nd SS N/O Hillside Ave	78150						
SS - IFO 160-20 S/S 85th Ave, betw 160th & 161st Sts	76150						
SS - W/S 127th St, 1st SS S/O 109th Ave, across 109-21 127th St	79550						
SS - W/S 237th St, across 120-11 237th St, between 120th and 121st Ave	77750						
	QUARTERLY MINIMUM						
	QUARTERLY MAXIMUM						
	QUARTERLY AVERAGE						
	SYSTEM RUNNING ANNUAL AVERAGE *						

ANALYST (TTHM) _____ DATE _____

ANALYST (HAA5) _____ DATE _____

DIRECTOR _____ DATE _____

* *The System Running Annual Average is calculated by taking the average of the Quarterly Average of this quarter and the three previous consecutive quarters.*

6.2. Principal, Specified and Unspecified Organic Contaminants

Surface water entry points (Table 3.3) are sampled monthly or quarterly, as specified for compounds defined in Table F.2 and annually for organic compounds as specified in Table F.3. The results are summarized in the Annual Report.

Treated taps from groundwater wells supplying the distribution grid are sampled quarterly for volatile organic contaminants with the exception of those wells utilizing air stripping technologies. Both treated and raw taps from air stripped wells are sampled on a monthly basis for volatile organics in order to assess the effectiveness of contaminant removal. All wells in operation are sampled annually for the organic compounds as specified in Table F.3. These results are also summarized in the Annual Report.

7. INORGANIC CHEMICAL MONITORING

7.1. Routine Inorganic Chemical Monitoring

Routine monitoring for inorganic chemicals as specified in Table F.4 is performed on a monthly basis at four entry points (Table 3.3), and 24 Special Chemistry sites (Table F.1). All data generated from these samples is presented in the Annual Report.

7.2. Lead and Copper Monitoring

New York City's DEP Distribution Lab has conducted monitoring for water quality parameters to insure optimal corrosion control for lead and copper since the implementation of the Lead and Copper Rule in 1991. As per Part 5, Subpart 5-1, Section 5-1.43, Standard Monitoring for water systems with a population >100,000 requires that only two samples from 25 distribution sites be monitored for pH, alkalinity, calcium, specific conductance, temperature, and orthophosphate during each monitoring period. In previous Site Plans, DEP monitored an average of 30 sites monthly and an additional 13 sites every other month. In addition, surface water entry points were monitored daily for pH, specific conductance, temperature, and orthophosphate; and monthly for alkalinity, calcium, lead, and copper.

As this component of DWQC's distribution water quality monitoring program exceeded requirements set forth in Part 5, New York State Department of Health has agreed to allow DWQC to reduce the number of samples currently collected as part of the annual Standard Monitoring plan

as described in section 5-1.43 of Subpart 5-1. Distribution Operations has made the following revisions in its 2005 Distribution Sampling Site Plan. The number of monthly distribution sampling sites will remain at 24 as indicated in Table F.1. Sampling of an additional twenty compliance sites previously sampled monthly or bi-monthly will be eliminated. Surface water entry points shall continue to be sampled on a daily basis for pH, specific conductance, temperature, and orthophosphate in order to guarantee optimal corrosion control treatment. The reduced number of distribution sites visited annually will be 24, but on a monthly basis, thus the total number is still well above and beyond the required 25 samples to be collected twice during a monitoring period.

Surface water entry points will continue to be monitored daily but only sampled monthly for alkalinity, calcium, copper and lead. Groundwater entry points, i.e. well taps, when operating to distribution, will continue to be sampled monthly or quarterly for alkalinity, calcium, lead and copper, depending upon treatment, however each well will be monitored weekly for pH, specific conductance, temperature, and orthophosphate.

Table 7.1 presents the Water Quality Monitoring for Corrosion Control in more detail (i.e., sites, parameters and frequencies) that DWQC will be conducting under the 2005 Plan.

Concurrent to the distribution monitoring, a selected number of internal consumer taps are monitored bi-annually for lead and copper. These results are compiled into the Lead and Copper Rule Compliance Monitoring Reports submitted to DOHMH and NYSDOH.

Table 7.1 Monitoring for Corrosion Control – 2005 Plan

	Site	Daily	Weekly	Monthly	Quarterly
Entry points	1S07 1S03A 1S03B 3SC26	Specific conductance Orthophosphate pH Temperature		Alkalinity Calcium Lead and Copper	
Well Effluents	Sequestered (T)		Specific conductance Orthophosphate pH Temperature	Alkalinity Calcium Lead and Copper	
	Finished (F) or Air-Stripped (E)				Alkalinity Calcium Lead and Copper
Distribution Sites	31950 39650 37950 30550 10750 23450 24350 44450 45250 50250 58650 15150 37450 38250 44350 33450 33950 31550 31750 76150 77650 77750 78150 79550			Alkalinity Calcium Specific conductance Lead and Copper Orthophosphate pH Temperature	

7.3. Fluoride Monitoring

Fluoride, in the form of hydrofluorosilicic acid, is added to the water supply for the purpose of promoting dental hygiene. Monitoring for fluoride is performed on all surface water entry points on a daily basis: sites 1S07, 1S03A, 1S03B, and 3SC26. Fluoride analysis is also conducted daily on pre-finished reservoir samples from sites 00003, 00032, and 00058 and monthly on the 24 distribution sampling sites as specified in Table F.1. Fluoride analysis is also performed daily on samples in Queens which may be affected by groundwater as indicated by specific conductance values >100 μS/cm. Finally, fluoride analysis is instrumental in determining the source of any leak sample delivered to the laboratory by the borough yards. Distribution fluoride results are presented in the monthly water quality report.

In the event of a fluoride overfeed at the Catskill Lower Effluent Chamber or Shaft 18, at Kensico Reservoir for the Catskill and Delaware systems, respectively, or Shaft 18 Dunwoodie for the Croton supply, DEP personnel will follow the actions defined in the Fluoride Incident Plan which is presented in Appendix I.

7.4. Radionuclide Monitoring

In accordance with the old federal Radionuclide Rule (pre 12/8/03) DWQC monitored for gross alpha every four years at five source water reservoir effluents (two Kensico Reservoir effluents [CATLEFF and DEL 18], New Croton Reservoir effluent [CROGH], Ashokan Reservoir effluent [EarCM], and Rondout Reservoir effluent [RdRr]), three distribution reservoir sites prior to chlorination (00003, 00032, 00058), three distribution surveillance sites representing entry shafts (18900, 19000, 3SC26), and two additional sites in the distribution grid (30550, 76950). As per regulations presented in the new Radionuclide Rule, water suppliers may use past monitoring data from the compliance period between June 2000 and December 8, 2003 in lieu of the initial monitoring. Hence, grandfathered gross alpha results from the 2001 sampling event have been used to determine the monitoring frequency for combined radium.

As the results for all samples collected in 2001 were less than their respective detection limits, the monitoring period for the revised Radionuclide Rule was determined by DOHMH to be every nine years. Under the revised Radionuclide Rule, samples shall be collected from each entry point to the distribution system: (1S07, 1S03A, 1S03B, and 3SC26) for gross alpha and radium 228 in the year 2010. Analysis of radium 226 and uranium will be performed if the gross alpha results are greater than or equal to 5 and 15 pCi/L, respectively. As per DOHMH, although monitoring for gross beta / photon activity is not required, DEP will collect one sample per distribution entry point for this parameter.

In the groundwater area, one treated well tap sample collected from each of the two aquifers in service (Magothy and Lloyd), or an airstripper combined effluent sample constituting both aquifers shall also be collected during the year 2010 for the same parameters. In addition to the distribution monitoring, DWQC Watershed Operations will collect samples from the five source water reservoir effluents (CATLEFF, DEL 18, CROGH, EArCM, and RdRr) during the year 2010 for the same parameters. All distribution compliance results are reported in the Annual Report.

APPENDIX A

NEW YORK CITY DISTRIBUTION SAMPLING SITE LIST
LOCATIONS BY BOROUGH

KEY
2005 DISTRIBUTION SAMPLING SITE PLAN

INDEX NUMBERS	DESCRIPTION
00001 - 00099	Key Pre-finished and Surveillance Sampling Points: (Reservoirs Chambers and Tunnel Shafts)
HV01- HV09	Hillview Reservoir Basin Limnological Survey Sites
JP01 - JP11	Jerome Park Reservoir Basin Limnological Survey Sites
W##, W##A-D,I,S	Groundwater Wells sampling points prior to final treatment
W##F	Finished Groundwater Effluent from Wells without any special treatment
W##T	Treated Groundwater Effluent from Sequestering/Fe Treatment Wells
W##E	Effluent Finished Groundwater from Wells with Air-Stripping
T1 - T34	Distribution Groundwater Tank
10000 – 19950	Bronx Distribution
20000 - 29950	Brooklyn Distribution
30000 – 39950	Manhattan Distribution
40000 – 49950	Queens Distribution
50000 - 59950	Staten Island Distribution
70000 - 79950	Groundwater Distribution

NOTES

(1) Index Number Key: Index ending with "00" indicates surveillance
Index ending with "50" indicates compliance

(2) Blank **Class** columns (see Heading Definitions below) indicate Compliance locations. Only surveillance (**surv**), pre-finished (**pref**), or inactive (**int**) sites are specified.

Abbreviations

SS:	Sampling station	N/S:	North Side
REG:	Regular Point	S/S:	South Side
USS:	Upstream Sampling Station	E/S:	East Side
DSS:	Downstream Sampling Sta.	W/S:	West Side
UH:	Upstream Hydrant	DH:	Downstream Hydrant
IFO:	In Front Of	NE/S:	Northeast Side
BTW:	Between	NW/S:	Northwest Side
OPP:	Opposite	SE/S:	Southeast Side
SUB:	Substitute Location	SW/S:	Southwest Side

Heading Definitions

Index:	Site Location Numerical Index Number
Class:	Sample Class, (surveillance, pre-finished, inactive, or compliance - if not indicated)
Sub:	Substitute Point, Upstream, Downstream
System:	Source of Water
Pipe Size:	Diameter of Water Main
CB:	Community Board
Coord:	Coordinates on Hagstrom map

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
1	**pref**	**REG**	**2**	**09/10/00**	Hillview Reservoir Uptake No.1 - Feed from Catskill Aqueduct	Tun 1			5	D2
2	**pref**	**REG**	**2**	**09/10/00**	Hillview Reservoir Uptake No.2 - Feed from Delaware Aqueduct	Tun 2			5	D2
3	**pref**	**REG**	**2**	**09/10/00**	Hillview Reservoir Downtake No.1 - Feed to City Tunnel No.1 (prior to chlorination)	Tun 1			5	D2
3ATS	**pref**	**REG**	**1**	**03/07/03**	Hillview Reservoir Downtake No.1 - Feed to City Tunnel No.1 (Autosampler)	Tun 1			5	D2
4	**surv**	**REG**			Shaft 2 of City Tunnel No.1 - Van Cortlandt Park - E 233rd St & Jerome Ave (BX)	Tun 1			5	D2
4	**surv**	**SUB**			SS - IFO 3453 W/S Jerome Ave, BTW W Gun Hill Rd & E 208th St (36" main)	Tun 1			5	D4
5	**surv**	**REG**			Shaft 3A - Bronxwood Ave & E 233rd St (BX)	Tun 2			5	F3
6	**surv**	**REG**			Shaft 9A of City Tunnel No.2 - 18-02 Steinway St (Astoria, QN)	Tun 2			8	G8
6	**surv**	**SUB**			SS - S/S 19th Ave, BTW 41st & Steinway Sts (60" main)	Tun 2			8	G8
7	**surv**	**REG**			Shaft 15A of City Tunnel No.2 - Fort Greene Park, Myrtle Ave & Cumberland St	Tun 2			20	E13
7	**surv**	**SUB**			72" Hydrant - S/S Lafayette Ave, BTW Clermont & Vanderbilt Aves	Tun 2			20	D13
8	**pref**	**REG**	**2**	**09/10/00**	Tunnel No.3 Control Chamber - Hillview Reservoir feed to Shaft 1B (prior to rechlorination)	Tun 3			5	D2
9	**surv**	**REG**	**1**	**09/10/99**	Shaft 7 of City Tunnel No.1 - W/S Sedgwick Ave & W 167th St	Tun 1			4	C9
10	**surv**	**REG**	**1**	**09/10/99**	Shaft 3B of City Tunnel No.3 - Van Cortlandt Park - E 233rd St & Jerome Ave, E/O Shaft 2 Building (BX)	Tun 3			5	D2
22	**pref**	**REG**	**1**	**09/10/99**	Chlorination House - 1 Murray Hulbert Ave, Operation Room (Prechlorination Tap)	Tun 2				
23	**surv**	**REG**		**11/24/03**	SS - N/E/S Clove Rd, N/W of Sunnyside Terrace, SI (tapped into the 66" hydt)	Tun 2	66	1	27	M3
23	**surv**	**SUB**			66" Hydrant - N/S Clove Rd, 4th hydrant S/O Howard Ave (SI)	Tun 2	66	1	27	M3
25	**pref**	**REG**	**1**	**01/04/05**	*Shaft 25 of New Croton Aqueduct, Harlem River Drive southbound, BTW Washington Bridge and Alexander Hamilton Bridge*	Croton	48	12	3	C8
26	**pref**	**REG**	**2**	**09/10/00**	Shaft 18 of New Croton Aqueduct	Croton				
27	**pref**	**REG**	**3**	**01/07/04**	Shaft 18 1/4 of New Croton Aqueduct	Croton				
27	**pref**	**SUB**	**2**	**09/10/00**	Dunwoodie Fluoridation Facility, Croton Water Sample Tap	Croton				
29	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #2 Tap in Gatehouse #5	Croton			5	D5
30	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #3 Tap in Gatehouse #5	Croton			5	D5
31	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Dropwell Tap in Gatehouse #5	Croton			5	D5
32	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #5 (Aqueduct from Croton Late Reservoir)	Croton			5	D5
32ATS	**pref**	**REG**	**1**	**03/07/03**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #5 (Autosampler)	Croton			5	D5
33	**surv**	**REG**			Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #5 (Chlorinated)	Croton			5	D5
34	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #6 (South Basin)	Croton			5	D5
35	**surv**	**REG**			Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #6 (Chlorinated)	Croton			5	D5
36	**pref**	**REG**	**2**	**09/10/00**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #7 (North Basin)	Croton			5	D5
36ATS	**pref**	**REG**	**1**	**03/07/03**	Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #7 (Autosampler)	Croton			5	D5
37	**surv**	**REG**			Jerome Park Reservoir (W205th St & Goulden Ave, Bx) - Gatehouse #7 - Mosholu Pump Station (Chlorinated)	Croton			5	D5
38	**surv**	**REG**	**1**	**04/01/04**	SS - W/S Convent Ave, 1st SS S/O W135th St (MN)	Croton			2	C11
38	**surv**	**SUB**	**1**	**04/01/04**	Shaft 33 of New Croton Aqueduct - W135th St Gatehouse (MN)	Croton			2	C11
39	**surv**	**REG**	**1**	**06/03/05**	*Jerome Pump Station, 3201 W/S Jerome Ave, N/O W205th St, 1st bldg on right, sample tap is downstairs in pump room (chlorinated discharge to 48" main)*	Croton			5	D5

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
54	**surv**	**REG**			66" Hydrant - Van Duzer St BTW Clinton & Grant St (SI)	Tun 2			27	O2
54	**surv**	**SUB**			Chlorination House - 1 Murray Hulbert Ave, Operation Room (SI) (Sampling sink)	Tun 2			27	O2
58	**pref**	**REG**	**2**	**09/10/00**	Hillview Reservoir Downtake No.2 - Feed to City Tunnel No.2 (prior to chlorination)	Tun 2			5	D2
58ATS	**pref**	**REG**	**1**	**03/07/03**	Hillview Reservoir Downtake No.2 - Feed to City Tunnel No.2 (Autosampler)	Tun 2			5	D2
65	**surv**	**REG**			84" Red Hydrant - Austin Place, BTW Victory Blvd & Ward Ave (SI)	Tun 2			27	N2
65	**surv**	**SUB**			84" Red Hydrant - Nixon Ave off Ward Ave (SI)	Tun 2			27	N2
74	**surv**	**REG**			Shaft 24 of City Tunnel No.1 - Fort Greene Park - Myrtle Ave & Cumberland St (BK)	Tun 1			19	C12
74	**surv**	**SUB**			72" Hydrant - N/S Myrtle Ave, 1st hydrant W/O North Portland Ave	Tun 1			20	D13
80	**pref**	**REG**	**1**	**03/23/01**	Shaft 8B of Tunnel No.3 (prior to chlorination) - below 179th St & Amsterdam Ave (MN)	Tun 3			3	C8
91	**surv**	**REG**			Jerome Pumping Station - Jerome Yard (BX)	Croton			5	D5
HV01T	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Downtake #1, 1m below surface	HVR			5	D2
HV01M	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Downtake #1, mid-depth	HVR			5	D2
HV01B	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Downtake #1, 1m above bottom	HVR			5	D2
HV01M	**pref**	**SUB**	**3**	**04/21/03**	Hillview West Basin, from dividing wall, 40' from Downtake #1, mid-depth	HVR			5	D2
HV02T	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 100' from west peripheral @ Midpoint, 1m below surface	HVR			5	D2
HV02M	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 100' from west peripheral @ Midpoint, mid-depth	HVR			5	D2
HV02B	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 100' from west peripheral @ Midpoint, 1m above bottom	HVR			5	D2
HV03T	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 30' from dividing wall @ Midpoint, 1m below surface	HVR			5	D2
HV03M	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 30' from dividing wall @ Midpoint, mid-depth	HVR			5	D2
HV03B	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 30' from dividing wall @ Midpoint, 1m above bottom	HVR			5	D2
HV03M	**pref**	**SUB**	**3**	**04/21/03**	Hillview West Basin, from dividing wall @ Midpoint, mid-depth	HVR			5	D2
HV04T	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Uptake #1 Influent Chamber, 1m below surface	HVR			5	D2
HV04M	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Uptake #1 Influent Chamber, mid-depth	HVR			5	D2
HV04B	**pref**	**REG**	**2**	**04/21/03**	Hillview West Basin, 40' from Uptake #1 Influent Chamber1m above bottom	HVR			5	D2
HV04M	**pref**	**SUB**	**3**	**04/21/03**	Hillview West Basin, from dividing wall, 40' from Uptake #1 Influent Chamber, mid-depth	HVR			5	D2
HV05T	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Uptake #1 Influent Chamber, 1m below surface	HVR			5	D2
HV05M	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Uptake #1 Influent Chamber, mid-depth	HVR			5	D2
HV05B	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Uptake #1 Influent Chamber, 1m above bottom	HVR			5	D2
HV05M	**pref**	**SUB**	**3**	**04/21/03**	Hillview East Basin, from dividing wall, 40' from Uptake #1 Influent Chamber, mid-depth	HVR			5	D2
HV06T	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 1500' from UT #1 Influent Chamber, 300' from dividing wall, 1m below surface	HVR			5	D2
HV06M	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 1500' from UT #1 Influent Chamber, 300' from dividing wall, mid-depth	HVR			5	D2
HV06B	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 1500' from UT #1 Influent Chamber, 300' from dividing wall, 1m above bottom	HVR			5	D2
HV06M	**pref**	**SUB**	**3**	**04/21/03**	Hillview East Basin, from dividing wall @ Midpoint, mid-depth	HVR			5	D2
HV07T	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 700' from Downtake #1 Eff. Chamber along div. wall 500' east, 1m below surface	HVR			5	D2
HV07M	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 700' from Downtake #1 Eff. Chamber along div. wall 500' east, mid-depth	HVR			5	D2
HV07B	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 700' from Downtake #1 Eff. Chamber along div. wall 500' east, 1m above bottom	HVR			5	D2
HV08T	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Downtake #1 , 1m below surface	HVR			5	D2
HV08M	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Downtake #1 , mid-depth	HVR			5	D2
HV08B	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from Downtake #1 , 1m above bottom	HVR			5	D2
HV08M	**pref**	**SUB**	**3**	**04/21/03**	Hillview East Basin, from dividing wall, 40' from Downtake #1, mid-depth	HVR			5	D2
HV09T	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from southern most shore, center, 1m below surface	HVR			5	D2
HV09M	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from southern most shore, center, mid-depth	HVR			5	D2
HV09B	**pref**	**REG**	**2**	**04/21/03**	Hillview East Basin, 40' from southern most shore, center, 1m above bottom	HVR			5	D2
JP01T	**pref**	**REG**	**2**	**04/21/03**	Jerome Park North Basin, 50' from catwalk outside Gatehouse #7, 1m below surface	JPR			5	C5

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JP01M	pref	REG	2	04/21/03	Jerome Park North Basin, 50' from catwalk outside Gatehouse #7, mid-depth	JPR			5	C5
JP01B	pref	REG	2	04/21/03	Jerome Park North Basin, 50' from catwalk outside Gatehouse #7, 1m above bottom	JPR			5	C5
JP01M	pref	SUB	3	04/21/03	Jerome Park North Basin, from catwalk outside Gatehouse #7, mid-depth	JPR			5	C5
JP02T	pref	REG	2	04/21/03	Jerome Park North Basin, 50' from Gatehouse #2 Effluent chamber, 1m below surface	JPR			5	C5
JP02M	pref	REG	2	04/21/03	Jerome Park North Basin, 50' from Gatehouse #2 Effluent chamber, mid-depth	JPR			5	C5
JP02B	pref	REG	2	04/21/03	Jerome Park North Basin, 50' from Gatehouse #2 Effluent chamber, 1m above bottom	JPR			5	C5
JP03T	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from dividing wall in front of sluice gates, 1m below surface	JPR			5	C5
JP03M	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from dividing wall in front of sluice gates, mid-depth	JPR			5	C5
JP03B	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from dividing wall in front of sluice gates, 1m above bottom	JPR			5	C5
JP03M	pref	SUB	3	04/21/03	Jerome Park North Basin, from dividing wall in front of sluice gates, mid-depth	JPR			5	C5
JP04T	pref	REG	2	04/21/03	Jerome Park North Basin, 20' from dividing wall @ Midpoint, 1m below surface	JPR			5	C5
JP04M	pref	REG	2	04/21/03	Jerome Park North Basin, 20' from dividing wall @ Midpoint, mid-depth	JPR			5	C5
JP04B	pref	REG	2	04/21/03	Jerome Park North Basin, 20' from dividing wall @ Midpoint, 1m above bottom	JPR			5	C5
JP04M	pref	SUB	3	04/21/03	Jerome Park North Basin, from dividing wall @ Midpoint, mid-depth	JPR			5	C5
JP05T	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from Gatehouse #5 dropwell effluent, 1m below surface	JPR			5	C5
JP05M	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from Gatehouse #5 dropwell effluent, mid-depth	JPR			5	C5
JP05B	pref	REG	2	04/21/03	Jerome Park North Basin, 30' from Gatehouse #5 dropwell effluent, 1m above bottom	JPR			5	C5
JP05M	pref	SUB	3	04/21/03	Jerome Park North Basin, from dividing wall, Gatehouse #5 dropwell effluent, mid-depth	JPR			5	C5
JP06T	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from catwalk outside Gatehouse #6, 1m below surface	JPR			5	C5
JP06M	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from catwalk outside Gatehouse #6, mid-depth	JPR			5	C5
JP06B	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from catwalk outside Gatehouse #6, 1m above bottom	JPR			5	C5
JP06M	pref	SUB	3	04/21/03	Jerome Park South Basin, from catwalk outside Gatehouse #7, mid-depth	JPR			5	C5
JP07T	pref	REG	2	04/21/03	Jerome Park South Basin, 150' from east peripheral @ Midpoint, 1m below surface	JPR			5	C5
JP07M	pref	REG	2	04/21/03	Jerome Park South Basin, 150' from east peripheral @ Midpoint, mid-depth	JPR			5	C5
JP07B	pref	REG	2	04/21/03	Jerome Park South Basin, 150' from east peripheral @ Midpoint, 1m above bottom	JPR			5	C5
JP08T	pref	REG	2	04/21/03	Jerome Park South Basin, 30' from Gatehouse #5 dropwell effluent, 1m below surface	JPR			5	C5
JP08M	pref	REG	2	04/21/03	Jerome Park South Basin, 30' from Gatehouse #5 dropwell effluent, mid-depth	JPR			5	C5
JP08B	pref	REG	2	04/21/03	Jerome Park South Basin, 30' from Gatehouse #5 dropwell effluent, 1m above bottom	JPR			5	C5
JP08M	pref	SUB	3	04/21/03	Jerome Park South Basin, from dividing wall, Gatehouse #5 dropwell effluent, mid-depth	JPR			5	C5
JP09T	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from dividing wall @ Midpoint: 50' from sluice gates, 1m below surface	JPR			5	C5
JP09M	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from dividing wall @ Midpoint: 50' from sluice gates, mid-depth	JPR			5	C5
JP09B	pref	REG	2	04/21/03	Jerome Park South Basin, 75' from dividing wall @ Midpoint: 50' from sluice gates, 1m above bottom	JPR			5	C5
JP09M	pref	SUB	3	04/21/03	Jerome Park South Basin, from dividing wall @ Midpoint, mid-depth	JPR			5	C5
JP10T	pref	REG	2	04/21/03	Jerome Park South Basin, 50' from Gatehouse #3 effluent chamber, 1m below surface	JPR			5	C5
JP10M	pref	REG	2	04/21/03	Jerome Park South Basin, 50' from Gatehouse #3 effluent chamber, mid-depth	JPR			5	C5
JP10B	pref	REG	2	04/21/03	Jerome Park South Basin, 50' from Gatehouse #3 effluent chamber, 1m above bottom	JPR			5	C5

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JP11T	pref	REG	2	04/21/03	Jerome Park center South Basin, 1m below surface	JPR			5	C5
JP11M	pref	REG	2	04/21/03	Jerome Park center South Basin, mid-depth	JPR			5	C5
JP11B	pref	REG	2	04/21/03	Jerome Park center South Basin, 1m above bottom	JPR			5	C5
W01	int	REG	4	03/05/03	127-16 S/S Metropolitan Av betw 127 & 129 Sts. Grnd lvl bldg - taps are mid room 10' from door.	Well			12	K12
W03	int	REG	4	03/05/03	109-25 E/S 120 St. Ground level bldg rear- room to right- sample taps on far wall.	Well			14	L13
W03A	pref	REG	4	03/05/03	109-25 E/S 120 St. Ground level bldg rear - sample taps are on far wall.	Well			14	L13
W03AF	surv	REG	4	03/05/03	Finished Effluent W03A 109-25 E/S 120 St. Ground level bldg rear- sample taps are on far wall.	Well			14	L13
W05	pref	REG	4	03/05/03	S/S 93 Av betw 199 St & Jamaica Av. Grnd lvl bldg left of tank-back room. Raw tap on rt wall.	Well			13	N11
W05A	pref	REG	4	03/05/03	S/S 93 Av betw 199 St & Jamaica Av. Grnd lvl bldg left of tank-1st rm-raw tap ctr of flr to rt.	Well			14	N12
W05E	surv	REG	4	03/05/03	Comb eff W05/05A aft clearwll. Grnd lvl airstrippr plnt rt of tank. 2 taps on discharge pipe.	Well			16	N14
W06	int	REG	4	03/05/03	GW well, 110 Ave, 108 Dr & 109 Dr & 167 St	Well			13	M12
W06A	int	REG	4	03/05/03	GW well, 110 Ave, 108 Dr & 109 Dr & 167 St	Well			13	M12
W06B	int	REG	4	03/05/03	GW well, 110 Ave, 108 Dr & 109 Dr & 167 St	Well			13	M12
W06C	int	REG	4	03/05/03	GW well, 110 Ave, 108 Dr & 109 Dr & 167 St	Well			13	M12
W06D	int	REG	4	03/05/03	GW well, 110 Ave, 108 Dr & 109 Dr & 167 St	Well			13	M12
W07	pref	REG	4	03/05/03	N/S 93 Av E/O 209 St. Grnd level bldg, door on left. Raw tap center of room opp front door.	Well			13	N11
W07F	surv	REG	4	03/05/03	Finshd eff W07 N/S 93 Av E/O 209 St. Grnd level bldg, door on left. Treatd tap ctr rm opp door.	Well			13	N11
W07B	pref	REG	4	03/05/03	N/S 93 Av E/O 209 St. Grnd lvl bldg center door-tap on right side of rear wall opp front door.	Well			13	N11
W07BF	surv	REG	4	03/05/03	N/S 93 Av E/O 209 St. Grnd level bldg center door- taps on right rear wall opp front door.	Well			13	N11
W08A	pref	REG	4	03/05/03	131-02 S/S 88 Av. Grnd level bldg right. Raw tap near blue treated discharge pipe near motor.	Well			12	L12
W08AT	surv	REG	4	03/05/03	Treatd eff W08A w Fe trtmnt-131-02 S/S 88 Av. Grnd lvl bldg right-treated tap-left rm-left wall	Well			12	L12
W10	pref	REG	4	03/05/03	116-32 W/S 224 St. Ground level bldg right. Raw sample tap in far right corner of room.	Well			15	O13
W10F	surv	REG	4	03/05/03	Finished effluent W10 116-32 W/S 224 St. Treated sample tap in far right corner of room.	Well			15	O13
W10A	pref	REG	4	03/05/03	116-32 W/S 224 St. Ground level bldg right. Raw sample tap in center of room.	Well			15	O13
W10AF	surv	REG	4	03/05/03	Finished effluent W10A 116-32 W/S 224 St. Treated sample tap in center of room.	Well			15	O13
W11	int	REG	4	03/05/03	111-14 143 St.	Well			15	L13
W13	pref	REG	4	03/05/03	214-01 89 Av. Grnd level bldg-first door-south well. Raw tap on west wall over drainage basin.	Well			13	N11
W13F	surv	REG	4	03/05/03	Finshd eff W13 214-01 89 Av Grnd lvl bldg-1st door-south well. Treatd tap west wall over basin.	Well			13	N11
W13A	pref	REG	4	03/05/03	214-01 89 Av. Ground level bldg 2nd door- north well. Raw tap on west wall over drainage basin.	Well			13	N11
W13AF	surv	REG	4	03/05/03	Finshd eff W13A 214-01 89 Av Grnd lvl bldg-2nd door-north well. Treatd tap on west wall @ basin	Well			13	N11
W14	pref	REG	4	03/05/03	w/ sequestering trtmnt- W/S 144 St S/O 116 Av. Grnd lvl bldg- taps on back wall opp front door.	Well			15	M13
W14T	surv	REG	4	03/05/03	Treatd eff W14 W/S 144 St S/O 116 Av Grnd lvl bldg. Treatd tap on back wall opp front door.	Well			15	M13
W17	pref	REG	4	03/05/03	w/ Fe trtmnt 87-75 123 St Grnd lvl bldg left of drive-right side. Raw tap on far wall-opp door.	Well			12	K12
W17T	surv	REG	4	03/05/03	Treatd eff W17 87-75 123 St Grnd lvl bldg left of drive-on right. Treatd tap far wall-opp door	Well			12	K12
W17A	pref	REG	4	03/05/03	w/ Fe trtmnt 87-75 123 St. Grnd lvl bldg left of drive-on left. Raw tap on far wall- opp door.	Well			12	K12

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W17AT	surv	REG	4	03/05/03	Treatd eff W17A 87-75 123 St Grnd lvl bldg left of drive-on left. Treatd tap far wall-opp door	Well			12	K12
W18	int	REG	4	03/05/03	w/ Fe trtmnt 84-02 W/S 164 St. 1st grnd lvl bldg on left. Raw tap on far wall under window.	Well			13	L11
W18A	pref	REG	4	03/05/03	w/ Fe trtmnt 84-02 W/S 164 St Grnd level bldg on left-right door 2nd rm. Raw tap-far wall windw	Well			13	L11
W18AT	surv	REG	4	03/05/03	Treated effluent W18A 84-02 W/S 164 St. 1st ground level bldg on left- right door 2nd room.	Well			13	L11
W19	int	REG	4	03/05/03	Cedarcroft Rd E/O Home Lawn St.	Well			13	M12
W21	pref	REG	4	03/05/03	N/S Sawyer Av W/O Springfield Blvd. 1st grnd lvl bldg. Sample taps in bathroom opp front door.	Well			13	O10
W21F	surv	REG	4	03/05/03	Finishd eff W21 N/S Sawyer Av W/O Springfld Blvd 1st grnd lvl bldg-tap in bathrm opp door.	Well			13	O10
W21A	pref	REG	4	03/05/03	N/S Sawyer Av W/O Springfld Blvd Bldg @ top of hill-downstairs-tap on rear wall opp front door	Well			13	O10
W21AF	surv	REG	4	03/05/03	Finshd eff W21A N/S Sawyer Av W/O Sprngfld Blvd Bldg top of hill-dwnstrs-tap rear wall opp door	Well			13	O10
W22	int	REG	4	03/05/03	84-70 127 Street	Well			12	K12
W23	pref	REG	4	03/05/03	114-36 224 St. Ground level bldg- door on street. Raw sample tap on right wall.	Well			13	O12
W23F	surv	REG	4	03/05/03	Finishd eff W23 114-36 224 St. Grnd lvl bldg-door on street. Treated tap on right wall.	Well			13	O12
W23A	pref	REG	4	03/05/03	w/ sequestering trtmnt 114-36 W/S 224 St Grnd lvl bldg-door on st. Raw tap ctr rm left of motor	Well			13	O12
W23AT	surv	REG	4	03/05/03	Treatd eff W23A 114-36 W/S 224 St. Grnd lvl bldg-door on st. Treatd tap ctr rm-left of motor.	Well			13	O12
W26	int	REG	4	03/05/03	113-30 Francis Lewis Blvd. Grnd lvl bldg-north well-tap in ctr of rm over drainage basin.	Well			13	O12
W26A	int	REG	4	03/05/03	113-30 Francis Lewis Blvd. Grnd lvl bldg-south well-tap in ctr of rm over drainage basin.	Well			13	O12
W27	pref	REG	4	03/05/03	86-83 Dunton St. Grnd lvl bldg left. Raw sample tap in center of room over drainage basin.	Well			13	N11
W27F	surv	REG	4	03/05/03	Finishd eff W27 86-83 Dunton Av. Grnd lvl bldg left. Treatd tap in ctr of rm over basin.	Well			13	N11
W29	int	REG	4	03/05/03	216-15 102 Av.	Well			13	O11
W29A	int	REG	4	03/05/03	216-15 102 Av. Grnd lvl bldg 1st door-west well. Raw & treatd taps on left over basin.	Well			13	O11
W31	int	REG	4	03/05/03	w/ Fe trtmnt 125-15 N/S 92 Av E/O 127 St. St gate-left bldg-dwnstrs-tap in-center of floor.	Well			12	L12
W32	pref	REG	4	03/05/03	126-15 111 Av. Downstairs- sample tap in far right corner.	Well			14	L13
W32F	surv	REG	4	03/05/03	Finishd eff W32 126-15 111 Av. Downstairs- sample tap in far right corner.	Well			14	L13
W33	pref	REG	4	03/05/03	w/ sequestering trtmnt W/S Union Hall St N/O 108 Av Dwnstrs- taps on right near back wall.	Well			13	M12
W33T	surv	REG	4	03/05/03	Treatd eff W33 W/S Union Hall St N/O 108 Av. Dwnstrs- taps on right near back wall.	Well			13	M12
W36	pref	REG	4	03/05/03	w/ seq trtmnt N/S 129 Av E/O Brkville Blvd-grnd lvl bldg-door opp tank-raw tap-wall rt of door	Well			15	P13
W36T	surv	REG	4	03/05/03	Treatd eff W36 N/S 129 Av E/O Brkville Blvd-grnd lvl bldg-door opp tank-tap on rt wall ctr rm	Well			15	P13
W37	int	REG	4	03/05/03	87-74 Chevy Chase St.	Well			13	M11
W38	pref	REG	4	03/05/03	90-35 E/S 193 St. Downstairs, 1st room. Raw sample tap in far left corner of room.	Well			13	N11
W38A	pref	REG	4	03/05/03	90-35 E/S 193 St. Downstairs- room to the left. Raw sample tap on far wall- center of room.	Well			13	N11
W38I	pref	REG	4	03/05/03	Combined influent of W38/W38A	Well			13	N11
W38S	pref	REG	4	03/05/03	Combined air-stripping effluent of Well 38/38A,	Well			13	N11
W38E	surv	REG	4	03/05/03	Comb eff W38/W38A aft clearwll-grnd lvl airstrippr plnt-on right. Treatd tap-rt of door on wall	Well			13	N11
W39	int	REG	4	03/05/03	90-42 Springfield Blvd.	Well			13	O11

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W39A	pref	REG	4	03/05/03	GW well, 90-42 Springfield Blvd. Raw sample tap against south wall over drainage basin.	Well			13	O11
W39AF	surv	REG	4	03/05/03	Finishd eff W39A 90-42 Springfld Blvd Dwnstrs-treatd tap in W39 bldg agnst south wall @ basin.	Well			13	O11
W41	int	REG	4	03/05/03	87 Av W/O 135th St.	Well			12	L12
W42	pref	REG	4	03/05/03	S/S Murdock Av E/O 197 St. Downstairs- sample taps on left wall in rear.	Well			13	N12
W42F	surv	REG	4	03/05/03	Finished effluent W42 S/S Murdock Av. E/O 197th St- downstairs.	Well			13	N12
W42A	int	REG	4	03/05/03	S/S Murdock Av E/O 197 St. Downstairs- raw sample tap on right wall in rear.	Well			13	N12
W43	int	REG	4	03/05/03	W/S 118 St N/O Hillside Av. Downstairs- left of drive. Raw tap on far wall to right.	Well			12	K12
W43A	pref	REG	4	03/05/03	W/S 118 St N/O Hillside Av Dwnstrs-rt of drive-raw tap ctr rm-far left-betw raw & treatd lines	Well			12	K12
W43AT	surv	REG	4	03/05/03	Treatd eff W43A W/S 118 St N/O Hllsde Av dwnstrs-treatd tap far left-betw raw & treatd lines	Well			12	K12
W45	pref	REG	4	03/05/03	OPP 101-22 E/S 120 St S/O 101 Av Dwnstrs- tap ctr rm far left-betw raw & treated lines.	Well			14	K13
W45F	surv	REG	4	03/05/03	Finshd eff W45 OPP 101-22 E/S 120 St S/O 101Av Dwnstrs-tap ctr rm far left-betw raw & treatd	Well			14	K13
W46	int	REG	4	03/05/03	193 St S/O 120 Av.	Well			15	N13
W47	pref	REG	4	03/05/03	N/S 112 Rd E/O Springfield Blvd. Downstairs- raw sample tap in far left corner.	Well			13	O12
W47F	surv	REG	4	03/05/03	Finished effluent W47, N/S 112 Rd E/O Springfield Blvd. Treated tap in far left corner of room.	Well			13	O12
W47A	pref	REG	4	03/05/03	N/S 112 Rd E/O Springfield Blvd. Downstairs- raw tap in far right corner of room.	Well			13	O12
W47AF	surv	REG	4	03/05/03	Finishd eff W47A N/S 112 Rd E/O Springfld Blvd Treate tap far right corner of room.	Well			13	O12
W48	pref	REG	4	03/05/03	Francis Lewis Blvd S/O Hollis Av Dwnstrs- raw tap in far left corner of room.	Well			13	N12
W48A	pref	REG	4	03/05/03	Francis Lewis Blvd S/O Hollis Ave. Downstairs, raw sample tap in far right corner of room.	Well			13	N12
W48E	surv	REG	4	03/05/03	Comb eff W48/W48A aft clearwll-grnd lvl airstrippr plnt. Treatd tap on discharge pipe.	Well			13	N12
W49	pref	REG	4	03/05/03	219 St S/O Hempstead Av. Downstairs- north well. Raw tap on right wall of rm over basin.	Well			13	O11
W49F	surv	REG	4	03/05/03	Finishd eff W49 219 St S/O Hempstead Av. Dwnstrs-north well. Treatd tap right wall over basin.	Well			13	O11
W49A	int	REG	4	03/05/03	219 St S/O Hempstead Av. Downstairs-south well. Raw & treatd taps on left wall over basin.	Well			13	O11
W50	pref	REG	4	03/05/03	E/S Parsons Blvd N/O 77 Rd. Downstairs- raw sample tap in far right corner of room.	Well			12	L11
W50A	pref	REG	4	03/05/03	E/S Parsons Blvd N/O 77 Rd. Downstairs- raw sample tap in far right corner of room.	Well			12	L11
W50E	surv	REG	4	03/05/03	Comb eff W50/W50A aft clearwll. Grnd lvl airstrippr plnt. Treatd tap on discharge pipe.	Well			12	L11
W51	int	REG	4	03/05/03	E/S 164 St @ 78 Av N/O Union TPK. Downstairs-sample tap in far left corner.	Well			12	L11
W52	int	REG	4	03/05/03	161 St N/O 72 Av.	Well			12	L11
W53	pref	REG	4	03/05/03	OPP 160-26 N/S 76 Rd W/O 162 St. Downstairs-raw sample tap in far right corner.	Well			12	L11
W53A	pref	REG	4	03/05/03	OPP 160-26 N/S 76 Rd W/O 162 St. Downstairs-raw sample tap in far left corner of room.	Well			12	L11
W53E	surv	REG	4	03/05/03	Comb eff W53/W53A aft clearwll. Grnd lvl airstrippr plnt. 2 taps on discharge pipe.	Well			12	L11
W54	pref	REG	4	03/05/03	W/S 228 St N/O Linden Blvd. Downstairs- raw sample tap on left wall center.	Well			15	O13
W54F	surv	REG	4	03/05/03	Finishd eff W54 W/S 228 St N/O Linden Blvd. Downstairs, treated tap on left wall-center.	Well			15	O13
W54A	int	REG	4	03/05/03	W/S 228 St N/O Linden Blvd. Downstairs- raw & treated sample taps on right wall-center.	Well			15	O13
W55	pref	REG	4	03/05/03	99 Av & 194 St. Downstairs- raw sample tap in far right corner of room.	Well			13	N12
W55F	surv	REG	4	03/05/03	Finishd eff W55 99 Av & 194 St. Downstairs- treate sample tap in far right corner of room.	Well			13	N12

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
W56	pref	REG	4	03/05/03	w/ sequestering trtmnt 222 St N/O 134 Rd. Grnd lvl bldg-raw sample tap on far wall opp door.	Well			15	O13
W56T	surv	REG	4	03/05/03	Treatd eff W56 222 St N/O 134 Rd. Grd lvl bldg- treatd tap on far wall opp door.	Well			15	O13
W58	pref	REG	4	03/05/03	S Serv.Rd.GC Pkwy E/O Radnor Rd. Downstairs-raw tap in far left corner of room.	Well			13	M11
W58E	surv	REG	4	03/05/03	Comb eff W58 aft clearwll-grnd lvl airstrppr plnt-right bldg-1st door-treatd tap-dschrge pipe.	Well			13	M11
W59	pref	REG	4	03/05/03	Springfield Blvd & Lucas St. Downstairs- raw sample tap on far wall opp door.	Well			15	N13
W59F	surv	REG	4	03/05/03	Finishd effluent W59 Springfield Blvd & Lucas St. Downstairs- treatd tap on far wall opp door.	Well			15	N13
W60	int	REG	4	03/05/03	231-19 128 Dr.	Well			15	O13
T1	int	REG			Groundwater Tank - Audley St & Abingdon Rd	Tank			12	K12
T2	int	REG			Groundwater Tank - Dunton St & Keno Ave	Tank			13	N11
T3	int	REG			Groundwater Tank - Highland Ave & Home Lawn Street	Tank			12	M12
T4	int	REG			Groundwater Tank - Dunton St & Keno Ave	Tank			13	N11
T6	int	REG			Groundwater Tank - 107th Ave & Ruscoe Street	Tank			13	M12
T8	int	REG			Groundwater Tank - 84-02 164th Street	Tank			12	L11
T9	int	REG			Groundwater Tank - 93rd Ave & 199th Street	Tank			13	N11
T12	int	REG			Groundwater Tank - Sawyer Ave & Springfield Blvd	Tank			13	O10
T13	int	REG			Groundwater Tank - 127th Street & 92nd Ave	Tank			12	L12
T14	int	REG			Groundwater Tank - 127th Street & Metropolitan Ave	Tank			12	K12
T15	int	REG			Groundwater Tank - 106-20 180th Street	Tank			13	M12
T16	int	REG			Groundwater Tank - 108th Drive & 167th Street	Tank			12	M12
T17	int	REG			Groundwater Tank - 108th Drive & 167th Street	Tank			12	M12
T18	int	REG			Groundwater Tank - 224th St & 115th Ave	Tank			13	O12
T21	int	REG			Groundwater Tank - Dunton St & Keno Ave	Tank			13	N11
T22	int	REG			Groundwater Tank - 216-15 102nd Ave	Tank			13	O11
T25	int	REG			Groundwater Tank - Hook Creek Blvd & 129th Ave	Tank			15	P13
T26	int	REG			Groundwater Tank - 178th Street & 108th Ave	Tank			13	M12
T27	int	REG			Groundwater Tank - 109th Ave & 167th Street	Tank			13	M12
T28	int	REG			Groundwater Tank - 128th Street & Gotham RD	Tank			14	L14
T29	int	REG			Groundwater Tank - 134-15 222nd Street	Tank			15	O13
T31	int	REG			Groundwater Tank - 130th Ave &144th Street	Tank			15	M14
T32	int	REG			Groundwater Tank - 227th Street & 145th Ave	Tank			15	O14
T33	int	REG			Groundwater Tank - Guy R Brewer Blvd & 132nd Ave	Tank			15	M14
T34	int	REG			Groundwater Tank - 144th Street & Foch Blvd	Tank			15	M13
1S03A	surv	REG	1	06/22/05	*SS - Shaft 3A of City Tunnel No.2 - Bronxwood Ave & E 233rd St*	Tun 2			5	F3
1S07	surv	REG	2	06/22/05	*SS - Shaft 7 of City Tunnel No.1 - W/S Sedgwick Ave OPP W 167th St*	Tun 1			4	C9
1S03B	surv	REG	2	06/22/05	*SS - Shaft 3B of City Tunnel No.3 - Mosholu Ave W/O Jerome Ave (w/i Van Cortlandt Park E/O Shaft 2)*	Tun 3			5	D4
10150		REG	1	05/01/01	SS - W/S Zerega Ave, 2nd SS S/O Hermany Ave, 12 inch	Croton	12	9	7	K7
		USS	1	05/01/01	SS - W/S Zerega Ave, 2nd SS S/O Hermany Ave	Croton	12	9	7	K7
		DSS			SS - W/S Zerega Ave, 1st SS S/O Story Ave	Croton	12	9	7	K7
10250		REG			SS - W/S Nelson Ave, 1st SS N/O W 168th St (OPP school), 12 inch	Tun 1	12	4	3	C9
		USS			SS - W/S Nelson Ave, 1st SS S/O W 168th St	Tun 1	12	4	3	C9
		DSS			SS - E/S Nelson Ave, 1st SS S/O W 169th St	Tun 1	12	4	3	C9
10550		REG			SS - W/S Stadium Ave, 1St SS N/O Randolph Pl, 12 inch	Croton	12	10	6	K5
		USS			SS - W/S Stadium Ave, BTW Randolph Pl & Country Club Rd	Croton	12	10	6	K5
		DSS			SS - W/S Stadium Ave, 1st SS S/O Spencer Dr	Croton	12	10	6	K5

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Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
10750		REG			SS - N/S Bartow Ave, 2nd SS W/O Co-op City Blvd, 20 inch	Tun 2	20	10	6	H4
		USS			SS - N/S Bartow Ave, 1st SS E/O Asch Loop	Tun 2	20	10	6	H4
		DSS			SS - N/S Bartow Ave, 1st SS W/O Co-op City Blvd	Tun 2	20	10	6	H4
10850		REG			SS - E/S Riverdale Ave, 1st SS S/O W 260th St (IFO church), 12 inch	Tun 3	12	8	5	A3
		USS			SS - E/S Riverdale Ave, 1st SS N/O W 259th St	Tun 3	12	8	5	A3
		DSS			SS - E/S Riverdale Ave, 1st SS N/O W 260th St	Tun 3	12	8	5	A3
11050		REG			SS - IFO 1675 W/S University Ave, 2nd SS S/O W 176th St, 12 inch	Tun 3	12	5	4	C8
		USS			SS - W/S University Ave, 1st SS S/O W 176th St	Tun 3	12	5	4	C8
		DSS			SS - W/S University Ave, 1st SS N/O W 175th St	Tun 3	12	5	4	C8
11150		REG			SS - IFO 71E N/S E 183rd St, 1st SS W/O Morris Ave, 12 inch	Tun 3	12	5	4	D7
		USS			SS - N/S E 183rd St, BTW Morris & Creston Aves	Tun 3	12	5	4	D7
		DSS			SS - N/S E 183rd St, 1st SS E/O Walton Ave	Tun 3	12	5	4	D7
11250		REG			SS - IFO 925 N/S E Tremont Ave, 1st SS E/O Daly Ave, 20 inch	Tun 2	20	6	4	F7
		USS			SS - N/S E Tremont Ave, BTW Honeywell & Daly Aves	Tun 2	20	6	4	F7
		DSS			SS - N/S E Tremont Ave, 1st SS W/O Vyse Ave	Tun 2	20	6	4	F7
11350		REG			SS - W/S Metropolitan Ave, 2nd SS N/O Parkchester Rd (IFO Macy's), 20 inch	Croton	20	9	7	H7
		USS			SS - W/S Metropolitan Ave, BTW Wood Rd & Yankee Mall	Croton	20	9	7	H7
		DSS			SS - W/S Metropolitan Ave, 1st SS N/O Parkchester Rd	Croton	20	9	7	H7
11450		REG			SS - IFO 920 S/S Co - op City Blvd, 2nd SS W/O Dreiser Loop, 20 inch	Tun 2	20	10	6	H3
		USS			SS - S/S Co-op City Blvd, 1st SS E/O Tillotson Ave	Tun 2	20	10	6	H3
		DSS			SS - S/S Co-op City Blvd, 1st SS W/O Dreiser Loop	Tun 2	20	10	6	H3
11550		REG			SS - IFO 1058 S/S E Gun Hill Rd, 1st SS E/O Hone Ave, 12 inch	Tun 2	12	12	5	F4
		USS			SS - S/S E Gun Hill Rd, BTW Paulding & Hone Aves	Tun 2	12	12	5	F4
		DSS			SS - S/S E Gun Hill Rd, 1st SS W/O Lurting Ave	Tun 2	12	12	5	F4
11750		REG			SS - IFO 250 E/S City Island Ave, BTW Carroll & Schofield Sts, 20 inch	Croton	20	10	6	M4
		USS			SS - E/S City Island Ave, BTW Carroll & Hawkins Sts	Croton	20	10	6	M4
		DSS			SS - E/S City Island Ave, BTW Center & Schofield Sts	Croton	20	10	6	M4
11900	**surv**	REG	**1**	**11/02/99**	SS - S/S E 177th St, BTW Walton & Morris Aves, 36 inch	Tun 3	36	5	4	D8
		SUB			36" Hydrant - S/S E 177th St, 1st hydt W/O Morris Ave	Tun 3	36	5	4	D8
12000	**surv**	REG			SS - IFO 1335 W/S Jerome Ave, 1st SS S/O Goble Pl, 48 inch	Croton	48	4	3	D8
		SUB			48" Hydrant - IFO 1921 W/S Jerome Ave, 2nd hydt N/O W 177th St	Croton	48	4	3	D8
12150		REG			SS - IFO 963 N/S E 233rd St, 2nd SS W/O Gunther Ave, 12 inch	Tun 2	12	12	5	F3
		USS	**1**	**03/23/01**	SS - IFO 955 N/S E 233rd St, 1st SS SE/O Edenwald Ave	Tun 2	12	12	5	F3
		DSS	**1**	**03/23/01**	SS - IFO 981 N/S E 233rd St, BTW 1st SS W/O Gunther Ave	Tun 2	12	12	5	F3
12250		REG			SS - OPP 1134 N/S E 225th St, 2nd SS W/O Schieffelin Ave, 12 inch	Tun 2	12	12	5	G3
		USS			SS - N/S E 225th St, 1st SS E/O Laconia Ave	Tun 2	12	12	5	G3
		DSS			SS - N/S E 225th St, 1st SS W/O Schieffelin Ave	Tun 2	12	12	5	G3
12550		REG	**1**	**11/02/99**	SS - IFO 352 S/S E Gun Hill Rd, 1st SS W/O Decatur Ave, 20 inch	*Tun 2/Tun 3*	20	7	5	E4
		USS			SS - S/S E Gun Hill Rd, 1st SS E/O Hull Ave	*Tun 2/Tun 3*	20	7	5	E4
		DSS			SS - S/S E Gun Hill Rd, BTW Decatur & Webster Aves	*Tun 2/Tun 3*	20	7	5	E4
13050		REG			SS - IFO 2431 W/S Eastchester Rd, 2nd SS S/O Mace Ave, 12 inch	Tun 2	12	11	6	H5
		USS			SS - W/S Eastchester Rd, 1st SS S/O Mace Ave	Tun 2	12	11	6	H5
		DSS			SS - W/S Eastchester Rd, 1st SS N/O Waring Ave	Tun 2	12	11	6	H5
13150		REG			SS - IFO 2805 W/S Grand Concourse, 2nd SS S/O E 197th St, 20 inch	Tun 3	20	7	4	D6
		USS			SS - W/S Grand Concourse, 1st SS S/O E 197th St	Tun 3	20	7	4	D6
		DSS			SS - W/S Grand Concourse, 1st SS N/O E 196th St	Tun 3	20	7	4	D6

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13350		REG	1	11/02/99	SS - N/S E Fordham Rd, 1st SS E/O Washington Ave, 20 inch	*Tun 3 /Croton*	20	7	4	E6
		USS			SS - N/S E Fordham Rd, 1st SS E/S Webster Ave	*Tun 3 /Croton*	20	7	4	E6
		DSS			SS - N/S E Fordham Rd, 1st SS W/S Bathgate Ave	*Tun 3 /Croton*	20	7	4	E6
13550		REG			SS - IFO 2015 W/S University Ave, 1st SS S/O W 180th St, 12 inch	Tun 3	12	5	5	C7
		USS			SS - W/S University Ave, 1st SS N/O W 180th St	Tun 3	12	5	5	C7
		DSS			SS - W/S University Ave, 1st SS N/O W 179th St	Tun 3	12	5	5	C7
13600	surv	REG			SS - E/S Southern Blvd, BTW E 180th & E 181st Sts, 36 inch	Tun 2	36	6	4	F7
		SUB			36" Hydrant - E/S Southern Blvd, BTW E 179th & E 180th Sts	Tun 2	36	6	4	F7
13700	surv	REG			SS - W/S Southern Blvd, BTW Garden & E 182nd Sts, 48 inch	Croton	48	6	4	F7
		SUB			48" Hydrant - W/S Southern Blvd, 1st hydt S/O Garden St	Croton	48	6	4	F7
13850		REG	1	11/02/99	SS - IFO 1778 E/S Jerome Ave, 1st SS S/O E 176th St, 12 inch	*Tun 3/Croton*	12	5	4	D8
		USS			SS - E/S Jerome Ave, BTW Mt Hope Pl & E 176 St	*Tun 3/Croton*	12	5	4	D8
		DSS			SS - E/S Jerome Ave, 1st SS N/O E 175th St	*Tun 3/Croton*	12	5	4	D8
13900	surv	REG	1	11/02/99	SS - S/S E 180th St, BTW Webster & Valentine Aves, 48 inch	*Tun 3/Tun 2*	48	6	4	D7
		SUB			48" Hydrant - N/S E 180th St, BTW Webster Ave & Park Ave West	*Tun 3/Tun 2*	48	6	4	D7
14000	surv	REG			SS - IFO 960 S/S E 156th St, BTW Kelly & Beck Sts, 48 inch	Tun 2	48	2	3	F10
		SUB			48" Hydrant - S/S E 156th St, BTW Dawson & Kelly Sts	Tun 2	48	2	3	F10
14100	surv	REG	1	11/02/99	SS - IFO 1540 W/S Jerome Ave, 2nd SS S/O Goble Pl, 48 inch	*Tun3/Croton*	48	4	4	D8
		SUB			48" Hydrant - E/S Jerome Ave, 1st hydt N/O E 170th St	*Tun3/Croton*	48	4	4	D8
14200	surv	REG			SS - E/S Southern Blvd, BTW E 172nd & E 173rd Sts, 36 inch	Tun 2	36	3	4	F8
		SUB			36" Hydrant - E/S Southern Blvd, 1st hydt S/O E 174th St	Tun 2	36	3	4	F8
14350		REG	1	11/02/99	SS - OPP 3748 W/S Third Ave, 1st SS N/O St Paul's Pl, 20 inch	*Tun 2/Croton*	20	3	4	E8
		USS			SS - W/S Third Ave, 1st SS S/O St Paul's Pl	*Tun 2/Croton*	20	3	4	E8
		DSS			SS - W/S Third Ave, 1st SS N/O E 170th St	*Tun 2/Croton*	20	3	4	E8
14450		REG			SS - OPP 958 W/S Gerard Ave, 2nd SS S/O E 164th St, 12 inch	Tun 3	12	4	3	D10
		USS			SS - W/S Gerard Ave, 1st SS S/O E 164th St	Tun 3	12	4	3	D10
		DSS			SS - W/S Gerard Ave, 1st SS N/O E 161st St	Tun 3	12	4	3	D10
14650		REG			SS - E/S Concourse Village East, 1st SS N/O E 158th St, 12 inch	Tun 3	12	4	3	E10
		USS			SS - E/S Concourse Village East, 1st SS S/O E 161st St	Tun 3	12	4	3	E10
		DSS			SS - E/S Concourse Village East, 1st SS S/O E 158th St	Tun 3	12	4	3	E10
14850		REG			SS - W/S Jackson Ave, 1st SS S/O St Mary's St, 20 inch	Tun 2	20	1	3	F11
		USS			SS - W/S Jackson Ave, BTW St Mary's & E 144th Sts	Tun 2	20	1	3	F11
		DSS			SS - W/S Jackson Ave, 1st SS N/O E 142nd St	Tun 2	20	1	3	F11
14950		REG			SS - N/S E 135th St, 2nd SS W/O Willis Ave, 12 inch	Croton	12	1	3	E11
		USS			SS - N/S E 135th St, 1st SS E/O Alexander Ave	Croton	12	1	3	E11
		DSS			SS - N/S E 135th St, 1st SS W/O Willis Ave	Croton	12	1	3	E11

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15050		REG			SS - W/S Trinity Ave, 2nd SS S/O E 163rd St (IFO school), 16 inch	Tun 3	16	3	3	F10
		USS			SS - W/S Trinity Ave, 1st SS S/O E 163rd St	Tun 3	16	3	3	F10
		DSS			SS - W/S Trinity Ave, 1st SS N/O E 161st St	Tun 3	16	3	3	F10
15150		REG			SS - IFO 1420 E/S Grand Concourse, 1st SS S/O E 171st St, 12 inch	Tun 3	12	4	3	D8
		USS			SS - E/S Grand Concourse, 1st SS N/O E 170th St	Tun 3	12	4	3	D8
		DSS			SS - E/S Grand Concourse, 2nd SS S/O E 171st St	Tun 3	12	4	3	D8
15250		REG	1	11/02/99	SS - IFO 4315 W/S Third Ave, 1st SS N/O E 179th St, 20 inch	*Tun 1 & Tun 2*	20	6	4	E7
		USS			SS - W/S Third Ave, 1st SS S/O E 180th St	*Tun 1 & Tun 2*	20	6	4	E7
		DSS			SS - W/S Third Ave, BTW E 178th & E 179th Sts	*Tun 1 & Tun 2*	20	6	4	E7
15300	surv	REG			SS - W/S Bailey Ave, BTW W 231st & W 233rd Sts, 48 inch	Croton	48	8	4	C5
		SUB			48" Hydrant - E/S Bailey Ave, BTW W 231st & W 233rd Sts	Croton	48	8	4	C5
15450		REG			SS - IFO 79E N/S East Gun Hill Rd, 1st SS W/O Rochambeau Ave, 20 inch	Tun 3	20	7	5	D4
		USS			SS - N/S E Gun Hill Rd, 1st SS E/O De Kalb Ave	Tun 3	20	7	5	D4
		DSS			SS - N/S E Gun Hill Rd, BTW Rochambeau & Bainbridge Aves	Tun 3	20	7	5	D4
15550		REG			SS - IFO 2499 W/S Grand Ave, 1st SS S/O W 190th St, 12 inch	Tun 3	12	7	4	C6
		USS			SS - W/S Grand Ave, 1st SS N/O W 190th St	Tun 3	12	7	4	C6
		DSS			SS - W/S Grand Ave, 1st SS N/O W 188th St	Tun 3	12	7	4	C6
16150		REG			SS - W/S Bronxdale Ave, 2nd SS S/O Rhinelander Ave, 12 inch	Tun 2	12	11	7	G6
		USS			SS - W/S Bronxdale Ave, 1st SS Morris Park Ave	Tun 2	12	11	7	G6
		DSS			SS - W/S Bronxdale Ave, 1st SS S/O Rhinelander Ave	Tun 2	12	11	7	G6
16250		REG			SS - IFO 251 N/S E 204th St, 1st SS E/O Valentine Ave, 12 inch	Tun 3	12	7	5	D5
		USS			SS - N/S E 204th St, 1st SS W/O Valentine Ave	Tun 3	12	7	5	D5
		DSS			SS - N/S E 204th St, 1st SS W/O E Mosholu Pkwy South	Tun 3	12	7	5	D5
16450		REG			SS - IFO 3902 E/S White Plains Rd, 1st SS N/O E 222nd St, 20 inch	Tun 2	20	12	5	F3
		USS			SS - E/S White Plains Rd, BTW E 221st & E 222nd Sts	Tun 2	20	12	5	F3
		DSS			SS - E/S White Plains Rd, 1st SS S/O E 223rd St	Tun 2	20	12	5	F3
16650		REG			SS - IFO 1541 N/S Westchester Ave, BTW Boynton & Ward Aves, 20 inch	Tun 2	20	9	7	G8
		USS			SS - N/S Westchester Ave, BTW Elder & Boynton Aves	Tun 2	20	9	7	G8
		DSS			SS - N/S Westchester Ave, BTW Ward & Manor Aves	Tun 2	20	9	7	G8
16950		REG			SS - W/S Westchester Ave, 1st SS N/O St Peters Ave, 20 inch	Croton	20	9	7	J6
		USS			SS - W/S Westchester Ave, 1st SS S/O Overing St	Croton	20	9	7	J6
		DSS			SS - W/S Westchester Ave, BTW Rowland St & St Peters Ave	Croton	20	9	7	J6
17050		REG			SS - IFO 4740 E/S White Plains Rd, 1st SS N/O St Ouen St, 20 inch	Tun 2	20	12	5	E2
		USS			SS - E/S White Plains Rd, BTW St Ouen St & Cranford Ave	Tun 2	20	12	5	E2
		DSS			SS - E/S White Plains Rd, 1st SS S/O Penfield St	Tun 2	20	12	5	E2
17250		REG			SS - N/S Allerton Ave, 1st SS E/O Throop Ave, 12 inch	Tun 2	12	11	5	G4
		USS			SS - N/S Allerton Ave, 1st SS W/O Bouck Ave	Tun 2	12	11	5	G4
		DSS			SS - N/S Allerton Ave, BTW Pearsall & Throop Aves	Tun 2	12	11	5	G4
17350		REG			SS - N/S W 232nd St, 1st SS E/O Arlington Ave, 12 inch	Tun 3	12	8	4	B5
		USS			SS - N/S W 232nd St, BTW Arlington & Fairfield Aves	Tun 3	12	8	4	B5
		DSS			SS - N/S W 232nd St, 1st SS W/O Netherland Ave	Tun 3	12	8	4	B5
17450		REG			SS - IFO 2548 E/S White Plains Rd, 2nd SS N/O Mace Ave, 20 inch	Tun 2	20	11	5	F5
		USS			SS - E/S White Plains Rd, 1st SS N/O Mace Ave	Tun 2	20	11	5	F5
		DSS			SS - E/S White Plains Rd, 1st SS S/O Allerton Ave	Tun 2	20	11	5	F5
17550		REG			SS - IFO 309 N/S E 149th St, 2nd SS W/O Courtlandt Ave, 12 inch	Croton	12	1	3	E11
		USS			SS - N/S E 149th St, 1st SS E/O Morris Ave	Croton	12	1	3	E11
		DSS			SS - N/S E 149th St, 1st SS W/O Courtlandt Ave	Croton	12	1	3	E11

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Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
17650		REG			SS - IFO 1871 N/S Lafayette Ave, 1st SS W/O Underhill Ave, 12 inch	Croton	12	9	7	J8
		USS			SS - N/S Lafayette Ave, BTW Underhill & Bolton Aves	Croton	12	9	7	J8
		DSS			SS - N/S Lafayette Ave, 1st SS E/O Leland Ave	Croton	12	9	7	J8
17750		REG			SS - IFO 835 W/S Hunts Point Ave, 1st SS S/O Gilbert Pl, 12 inch	Tun 2	12	2	3	G9
		USS			SS - W/S Hunts Point Ave, 1st SS N/O Gilbert Pl	Tun 2	12	2	3	G9
		DSS			SS - W/S Hunts Point Ave, 1st SS N/O Lafayette Ave	Tun 2	12	2	3	G9
17950		REG	1	11/02/99	SS - W/S Kingsbridge Ave, 1st SS N/O W 232nd St, 12 inch	*Tun 3*	12	8	5	C5
		USS			SS - W/S Kingsbridge Ave, BTW W 231st & W 232nd Sts	*Tun 3*	12	8	5	C5
		DSS			SS - W/S Kingsbridge Ave, 1st SS S/O W 234th St	*Tun 3*	12	8	5	C5
18000	surv	REG			SS - Pelham Pkwy North (westbound sevice Rd), betw Eastchester Rd and Fenton Ave (on median), 36 inch	Croton	36	11	6	H5
		SUB			36" Hydrant - Pelham Pkwy North (westbound sevice Rd), 1st W/O Eastchester Rd	Croton	36	11	6	H5
18100	surv	REG			SS - IFO 2208 S/S Starling Ave, BTW Castle Hill & Glebe Aves, 48 inch	Tun 2	48	9	7	J7
		SUB			48" Hydrant - S/S Starling Ave, BTW Castle Hill & Glebe Aves	Tun 2	48	9	7	J7
18200	surv	REG			SS - IFO 653 E/S River Ave, BTW E 150th & E 151st Sts, 36 inch	Croton	36	4	3	D10
		SUB			36" Hydrant - E/S River Ave, 1st hydt S/O E 151st St	Croton	36	4	3	D10
18300	surv	REG			SS - E/S Southern Blvd, BTW St Mary's & E 142nd Sts, 36 inch	Croton	36	1	3	F11
		SUB			36" Hydrant - E/S Southern Blvd, 1st hydt S/O St Mary's St (1st N/O SS)	Croton	36	1	3	F11
18450		REG			SS - W/S West Farms Rd, 2nd SS S/O E 167th St, 12 inch	Tun 2	12	3	4	F9
		USS			SS - W/S West Farms Rd, 1st SS N/O Westchester Ave	Tun 2	12	3	4	F9
		DSS			SS - W/S West Farms Rd, 1st SS S/O E 167th St	Tun 2	12	3	4	F9
18500	surv	REG	1	11/02/99	SS - S/S E 164th St, BTW River & Gerard Aves, 48 inch	*Tun 1/Tun 3*	48	4	3	D10
		SUB			48" Hydrant - S/S E 164th St, BTW River & Gerard Aves	*Tun 1/Tun 3*	48	4	3	D10
18650		REG	1	04/05/01	SS - N/S Dewey Ave, BTW Quincy & Swinton Aves, 12 inch	Croton	12	10	7	L7
		USS			SS - N/S Dewey Ave, BTW Calhoun & Quincy Aves	Croton	12	10	7	L7
		DSS			SS - N/S Dewey Ave, 1st SS W/O Swinton Ave	Croton	12	10	7	L7
18750		REG			SS - IFO 4977 W/S Henry Hudson Pkwy, 2nd SS S/O W 252nd St, 20 inch	Tun 3	20	8	5	B4
		USS			SS - W/S Henry Hudson Pkwy, 1st SS N/O W 249th St	Tun 3	20	8	5	B4
		DSS			SS - W/S Henry Hudson Pkwy, 1st SS S/O W 252nd St	Tun 3	20	8	5	B4
18800	surv	REG	1	11/02/99	SS - IFO 750 S/S E 169th St, BTW Boston Rd & Tinton Ave, 36 inch	*Tun 1/Tun 2*	36	3	3	F9
		SUB			36" Hydrant - S/S E 169th St, BTW Boston Rd & Tinton Ave	*Tun 1/Tun 2*	36	3	3	F9
18900	surv	REG			SS - IFO 3453 W/S Jerome Ave, BTW W Gun Hill Rd & E 208th St, 36 inch	Tun 3	36	12	5	D4
		SUB			36" Hydrant - W/S Jerome Ave, 1st hydt S/O W Gun Hill Rd	Tun 3	36	12	5	D4
19000	surv	REG			SS - IFO 758 S/S E 233rd St, BTW Barnes & Byron Aves, 48 inch	Tun 2	48	12	5	F3
		SUB			48" Hydrant - S/S E 233rd St, 1st hydt W/O Barnes Ave (next to SS)	Tun 2	48	12	5	F3
2ISL1	surv		2	10/26/05	SS - Governors Island (island unoccupied)	Tun 2			20	B13
20050		REG			SS - N/S Ave U, 1st SS W/O E 65th St, 12 inch	Tun 2	12	18	25	G17
		USS			SS - N/S Ave U, 1st SS E/O E 64th St	Tun 2	12	18	25	G17
		DSS			SS - N/S Ave U, BTW E 65th & E 66th Sts	Tun 2	12	18	25	G17
20150		REG			SS - E/S W 23rd St, 1st SS N/O Mermaid Ave, 12 inch	Tun 2	12	13	24	C19
		USS			SS - E/S W 23rd St, 1st SS S/O Neptune Ave	Tun 2	12	13	24	C19
		DSS			SS - E/S W 23rd St, 1st SS S/O Mermaid Ave	Tun 2	12	13	24	C19
20300	surv	REG			SS - N/S Luquer St, BTW Columbia & Hicks Sts, 20 inch	Tun 1	20	6	20	B13
		SUB			20" Hydrant - S/S Luquer St, 1st hydt W/O Hicks St	Tun 1	20	6	20	B13

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

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20350		REG			SS - OPP 74 S/S Sullivan St, 2nd SS E/O Van Brunt St, 20 inch	Tun 1	20	6	20	B14
		USS			SS - S/S Sullivan St, 1st SS W/O Van Brunt St	Tun 1	20	6	20	B14
		DSS			SS - S/S Sullivan St, 1st SS E/O Conover & Van Brunt St	Tun 1	20	6	20	B14
20650		REG			SS - W/S 21st Ave, 2nd SS S/O Cropsey Ave, 12 inch	Tun 2	12	11	24	C18
		USS			SS - W/S 21st Ave, 1st SS S/O Cropsey Ave	Tun 2	12	11	24	C18
		DSS			SS - W/S 21st Ave, 1st SS N/O Shore Pkwy	Tun 2	12	11	24	C18
20750		REG			SS - S/S Park Ave, BTW Emerson Pl & Steuben St, 16 inch	Tun 2	16	2	19	D13
		USS			SS - S/S Park Ave, BTW Grand Ave & Steuben St	Tun 2	16	2	19	D13
		DSS			SS - S/S Park Ave, BTW Emerson Pl & Classon Ave	Tun 2	16	2	19	D13
20850		REG			SS - E/S Union Ave, 1st SS N/O Frost St, 20 inch	Tun 2	20	1	19	E11
		USS			SS - E/S Union Ave, 1st SS S/O Richardson St	Tun 2	20	1	19	E11
		DSS			SS - E/S Union Ave, BTW Withers & Frost Sts	Tun 2	20	1	19	E11
20900	surv	REG			SS - IFO 177 S/S Sands St, BTW Gold & Bridge Sts, 30 inch	Tun 1	30	2	19	C12
		SUB			30" Hydrant - S/S Sands St, 1st hydt W/O Gold St	Tun 1	30	2	19	C12
20950		REG			SS - IFO 40 E/S Clinton St, 2nd SS N/O Pierrepont St, 20 inch	Tun 2	20	2	19	C13
		USS			SS - E/S Clinton St, 1st SS N/O Pierrepont St	Tun 2	20	2	19	C13
		DSS			SS - E/S Clinton St, 1st SS S/O Tillary St	Tun 2	20	2	19	C13
21000	surv	REG			SS - N/S Pacific St, BTW Buffalo & Rochester Aves, 48 inch	Tun 2	48	8	21	F14
		SUB			48" Hydrant - N/S Pacific St, 1st hydt W/O Buffalo Ave	Tun 2	48	8	21	F14
21050		REG			SS - N/S Bergen St, 2nd SS E/O Buffalo Ave, 12 inch	Tun 2	12	8	21	F14
		USS			SS - N/S Bergen St, 1st SS E/O Buffalo Ave	Tun 2	12	8	21	F14
		DSS			SS - N/S Bergen St, 1st SS W/O Ralph Ave	Tun 2	12	8	21	F14
21100	surv	REG			SS - S/S Willoughby Ave, BTW Clinton & Vanderbilt Aves, 66 inch	Tun 1 & Tun 2	66	2	19	D13
		SUB			66" Hydrant - S/S Willoughby Ave, 1st hydt E/O Clinton Ave	Tun 1 & Tun 2	66	2	19	D13
21150		REG			SS - IFO 409 E/S Classon Ave, BTW Greene & Lexington Aves, 20 inch	Tun 2	20	3	19	D13
		USS			SS - E/S Classon Ave, BTW Greene & Clifton Aves	Tun 2	20	3	19	D13
		DSS			SS - E/S Classon Ave, BTW Quincy St & Lexington Ave	Tun 2	20	3	19	D13
21250		REG			SS - IFO 747 N/S Lafayette Ave, 2nd SS W/O Throop Ave, 12 inch	Tun 2	12	3	19	E12
		USS			SS - N/S Lafayette Ave, 1st SS E/O Tompkins Ave	Tun 2	12	3	19	E12
		DSS			SS - N/S Lafayette Ave,1st SS W/O Throop Ave	Tun 2	12	3	19	E12
21350		REG			SS - IFO 1135 W/S Decatur St, 2nd SS N/O Evergreen Ave, 12 inch	Tun 2	12	4	19	G13
		USS			SS - W/S Decatur St, 1st SS S/O Central Ave	Tun 2	12	4	19	G13
		DSS			SS - W/S Decatur St, 1st SS N/O Evergreen Ave	Tun 2	12	4	19	G13
21400	surv	REG			SS - IFO 312 E/S Jefferson St, BTW Irving & Knickerbocker Aves, 60 inch	Tun 1 & Tun 2	60	4	19	F12
		SUB			60" Hydrant - E/S Jefferson St, BTW Irving & Knickerbocker Aves	Tun 1 & Tun 2	60	4	19	F12
21450		REG			SS - IFO 53 E/S Knickerbocker Ave, 1st SS N/O Grattan St, 20 inch	Tun 2	20	1	19	F12
		USS			SS - E/S Knickerbocker Ave, BTW Grattan & Thames Sts	Tun 2	20	1	19	F12
		DSS			SS - E/S Knickerbocker Ave, 1st SS S/O Harrison PL	Tun 2	20	1	19	F12
21550		REG			SS - E/S Eldert La, 2nd SS N/O Stanley Ave, 12 inch	Tun 2	12	5	21	J14
		USS			SS - E/S Eldert La, 1st SS S/O Loring Ave	Tun 2	12	5	21	J14
		DSS			SS - E/S Eldert La, 1st SS N/O Stanley Ave	Tun 2	12	5	21	J14
21650		REG			SS - IFO 307 E/S 7th Ave, 1st SS N/O 8th St, 12 inch	Tun 2	12	6	20	C14
		USS			SS - E/S 7th Ave, BTW 8th & 9th Sts	Tun 2	12	6	20	C14
		DSS			SS - E/S 7th Ave, 1st SS S/O 7th St	Tun 2	12	6	20	C14
21750		REG			SS - E/S 7th Ave, 1st SS N/O 52nd St, 12 inch	Tun 2	12	7	22	B16
		USS			SS - E/S 7th Ave, BTW 52nd & 53rd Sts	Tun 2	12	7	22	B16
		DSS			SS - E/S 7th Ave, 1st SS S/O 51st St	Tun 2	12	7	22	B16
21850		REG			SS - IFO 37 E/S 7th Ave, 1st SS S/O St Johns Pl, 12 inch	Tun 2	12	6	20	D13
		USS			SS - E/S 7th Ave, BTW Sterling & St Johns Pls	Tun 2	12	6	20	D13
		DSS			SS - E/S 7th Ave, 1st SS N/O Lincoln Pl	Tun 2	12	6	20	D13

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21900	surv	REG			SS - N/S Eastern Pkwy, BTW New York & Brooklyn Aves, 48 inch	Tun 2	48	8	21	E14
		SUB			48" Hydrant - N/S Eastern Pkwy, 1st hydt E/O Brooklyn Ave	Tun 2	48	8	21	E14
21950		REG			SS - IFO 992 W/S Nostrand Ave, 2nd SS S/O Sullivan Pl, 12 inch	Tun 2	12	9	21	E14
		USS			SS - IFO 986 W/S Nostrand Ave, BTW Empire Blvd & Sullivan Pl	Tun 2	12	9	21	E14
		DSS			SS - IFO 1000 W/S Nostrand Ave, 1st SS N/O Empire Blvd	Tun 2	12	9	21	E14
22050		REG			SS - IFO 130 E/S Humboldt St, 2nd SS S/O Boerum St, 20 inch	Tun 2	20	1	19	E12
		USS			SS - E/S Humboldt St, 1st SS S/O Boerum St	Tun 2	20	1	19	E12
		DSS			SS - E/S Humboldt St, 1st SS N/O Seigel St	Tun 2	20	1	19	E12
22250		REG			SS - IFO 9004 W/S Ft Hamilton Pkwy, 1st SS S/O 90th St, 12 inch	Tun 2	12	11	22	B17
		USS			SS - IFO 8834 W/S Ft Hamilton Pkwy, 1st SS S/O 88th St	Tun 2	12	11	22	B17
		DSS			SS - IFO 9040 W/S Ft Hamilton Pkwy, 2nd SS S/O 90th Sts	Tun 2	12	11	22	B17
22300	surv	REG			SS - E/S 8th Ave, BTW 8th & 9th Sts, 72 inch	Tun 1 & Tun 2	72	6	20	D14
		SUB			72" Hydrant - E/S 8th Ave, BTW 8th & 9th Sts	Tun 1 & Tun 2	72	6	20	D14
22350		REG			SS - E/S 5th Ave, BTW 49th St & 50th Sts, 12 inch	Tun 1 & Tun 2	12	7	22	B15
		USS			SS - E/S 5th Ave, BTW 48th St & 49th Sts	Tun 1 & Tun 2	12	7	22	B15
		DSS			SS - E/S 5th Ave, BTW 50th St & 51st Sts	Tun 1 & Tun 2	12	7	22	B15
22400	surv	REG			SS - N/S 65 St, BTW 16th & 17th Aves, 60 inch	Tun 2	60	11	22	C17
		SUB			60" Hydrant - N/S 65 St, 1st hydt E/O 15th Ave	Tun 2	60	11	22	C17
22550		REG			SS - E/S Stillwell Ave, 1st SS N/O Ave S, 20 inch	Tun 2	20	11	24	C18
		USS			SS - E/S Stillwell Ave, 1st SS S/O Highlawn Ave	Tun 2	20	11	24	C18
		DSS			SS - E/S Stillwell Ave, 1st SS S/O Ave S	Tun 2	20	11	24	C18
22600	surv	REG			SS - E/S Ft Hamilton Pkwy, BTW 49th & 50th Sts, 72 inch	Tun 2	72	12	22	C16
		SUB			72" Hydrant - E/S Ft Hamilton Pkwy, BTW 49th & 50th Sts	Tun 2	72	12	22	C16
22650		REG			SS - IFO 5601 E/S Ft Hamilton Pkwy, 1st SS S/O E 56th St, 20 inch	Tun 2	20	12	22	C16
		USS			SS - E/S Ft Hamilton Pkwy, BTW 55th & 56th Sts	Tun 2	20	12	22	C16
		DSS			SS - E/S Ft Hamilton Pkwy, 1st SS N/O E 57th St	Tun 2	20	12	22	C16
22700	surv	REG			SS - N/S Church Ave, BTW Ocean Pkwy & E 5th St, 48 inch	Tun 2	48	12	20	C15
		SUB			48" Hydrant - N/S Church Ave, 1st hydt W/O Ocean Pkwy	Tun 2	48	12	20	C15
22750		REG			SS - W/S Dahill Rd, 2nd SS S/O 15th Ave, 12 inch	Tun 2	12	12	22	D16
		USS			SS - W/S Dahill Rd, 1st SS S/O 15th Ave	Tun 2	12	12	22	D16
		DSS			SS - W/S Dahill Rd, 1st SS N/O 16th Ave	Tun 2	12	12	22	D16
22850		REG			SS - N/S Beverly Rd, 1st SS E/O E 48th St, 16 inch	Tun 2	16	17	21	F15
		USS			SS - N/S Beverly Rd, BTW E 48th St & Schenectady Ave	Tun 2	16	17	21	F15
		DSS			SS - N/S Beverly Rd, 1st SS W/O E 49th St	Tun 2	16	17	21	F15
22900	surv	REG			SS - IFO 175 E/S Washington Park, BTW Willoughby & Myrtle Aves, 66 inch	Mixed	66	2	19	D13
		SUB			66" Hydrant - E/S Washington Park, 1st hydt N/O Willoughby Ave	Mixed	66	2	19	D13
22950		REG			SS - IFO 132 S/S Myrtle Ave, 2nd SS E/O N Portland Ave, 20 inch	Mixed	20	2	19	C13
		USS			SS - S/S Myrtle Ave, 1st SS W/O Carlton Ave	Mixed	20	2	19	C13
		DSS			SS - S/S Myrtle Ave, 1st SS E/O N Portland Ave	Mixed	20	2	19	C13
23000	surv	REG			SS - E/S Ocean Pkwy, BTW Ave H & Elmwood Ave, 60 inch	Tun 2	60	14	22	D16
		SUB			60" Hydrant - E/S Ocean Pkwy, BTW Forest Ave & Ave H	Tun 2	60	14	22	D16
23150		REG			SS - E/S Ocean Pkwy, 2nd SS N/O Ave M, 12 inch	Tun 2	12	12	22	D17
		USS			SS - E/S Ocean Pkwy, 1st SS S/O Ave L	Tun 2	12	12	22	D17
		DSS			SS - E/S Ocean Pkwy, 1st SS N/O Ave M	Tun 2	12	12	22	D17
23200	surv	REG			SS - N/S Caton Ave, BTW E 18th St & St Pauls Pl, 48 inch	Tun 2	48	14	22	D15
		SUB			48" Hydrant - N/S Caton Ave, 1st hydt W/O St Pauls Pl	Tun 2	48	14	22	D15

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23250		REG			SS - E/S Ocean Ave, 2nd SS S/O Albemarle Rd, 20 inch	Tun 2	20	14	22	D15
		USS			SS - E/S Ocean Ave, 1st SS S/O Albemarle Rd	Tun 2	20	14	22	D15
		DSS			SS - E/S Ocean Ave, 1st SS N/O Regent Pl	Tun 2	20	14	22	D15
23350		REG			SS - W/S Ocean Ave, 2nd SS S/O Ditmas Ave, 12 inch	Tun 2	12	14	22	D16
		USS			SS - W/S Ocean Ave, 1st SS S/O Ditmas Ave	Tun 2	12	14	22	D16
		DSS			SS - W/S Ocean Ave, 1st SS N/O Newkirk Ave	Tun 2	12	14	22	D16
23450		REG			SS - N/S Jefferson Ave, 2nd SS W/O Lewis Ave, 20 inch	Tun 1 & Tun 2	20	3	21	E13
		USS			SS - N/S Jefferson Ave, 1st SS E/O Marcus Garvey Blvd	Tun 1 & Tun 2	20	3	21	E13
		DSS			SS - N/S Jefferson Ave, 1st SS W/O Lewis Ave	Tun 1 & Tun 2	20	3	21	E13
23550		REG			SS - E/S Nostrand Ave, 2nd SS N/O Ave K, 20 inch	Tun 2	20	18	22	E16
		USS			SS - E/S Nostrand Ave, 1st SS N/O Ave K	Tun 2	20	18	22	E16
		DSS			SS - E/S Nostrand Ave, 1st SS S/O Ave J	Tun 2	20	18	22	E16
23650		REG			SS - E/S Nostrand Ave, 2nd SS N/O Ave W, 20 inch	Tun 2	20	15	24	E18
		USS			SS - E/S Nostrand Ave, 1st SS S/O Ave V	Tun 2	20	15	24	E18
		DSS			SS - E/S Nostrand Ave, 1st SS N/O Ave W	Tun 2	20	15	24	E18
23750		REG			SS - E/S Ocean Ave, 2nd SS N/O Ave R, 20 inch	Tun 2	20	15	24	E17
		USS			SS - E/S Ocean Ave, 1st SS S/O Quentin Rd	Tun 2	20	15	24	E17
		DSS			SS - E/S Ocean Ave, 1st SS N/O Ave R	Tun 2	20	15	24	E17
23850		REG			SS - W/S Ocean Pkwy, 2nd SS S/O Ave V, 20 inch	Tun 2	20	15	24	D18
		USS			SS - W/S Ocean Pkwy, 1st SS S/O Ave V	Tun 2	20	15	24	D18
		DSS			SS - W/S Ocean Pkwy, 1st SS N/O Ave W	Tun 2	20	15	24	D18
23900	surv	REG			SS - S/S Atlantic Ave, BTW Schenck Ave & Barbey St, 48 inch	Tun 2	48	5	21	G13
		SUB			48" Hydrant - S/S Atlantic Ave, 1st hydt E/O Wyona St	Tun 2	48	5	21	G13
23950		REG			SS - S/S Liberty Ave, 1st SS E/O Sheridan Ave, 12 inch	Tun 2	12	5	21	H13
		USS			SS - S/S Liberty Ave, BTW Lincoln & Sheridan Aves	Tun 2	12	5	21	H13
		DSS			SS - S/S Liberty Ave, 1st SS W/O Grant Ave	Tun 2	12	5	21	H13
24050		REG			SS - IFO 2940 W/S Ocean Ave, 2nd SS S/O Ave Y, 16 inch	Tun 2	16	15	25	E18
		USS			SS - W/S Ocean Ave, 1st SS S/O Ave Y	Tun 2	16	15	25	E18
		DSS			SS - W/S Ocean Ave, 1st SS N/O Ave Z	Tun 2	16	15	25	E18
24150		REG			SS - IFP 2220 S/S Atlantic Ave, 2nd SS E/O Hopkinson Ave, 20 inch	Tun 2	20	16	21	F14
		USS			SS - S/S Atlantic Ave, 1st SS E/O Hopkinson Ave	Tun 2	20	16	21	F14
		DSS			SS - S/S Atlantic Ave, 1st SS W/O Rockaway Ave	Tun 2	20	16	21	F14
24250		REG			SS - W/S 20th Ave, 1st SS N/O 58th St, 12 inch	Tun 2	12	12	22	C17
		USS			SS - W/S 20th Ave, BTW 58th & 59th Sts	Tun 2	12	12	22	C17
		DSS			SS - W/S 20th Ave, 1st SS S/O 57th St	Tun 2	12	12	22	C17
24300	surv	REG			SS - E/S Ocean Pkwy, BTW Ave Z & Belt Pkwy, 30 inch	Tun 2	30	13	24	D19
		SUB			30" Hydrant - E/S Ocean Pkwy, 1st hydt S/O Ave Z	Tun 2	30	13	24	D19
24350		REG			SS - W/S Brighton 11th St, 2nd SS S/O Cass Pl, 12 inch	Tun 1 & Tun 2	12	13	24	E19
		USS			SS - W/S Brighton 11th St, 1st SS S/O Cass Pl	Tun 1 & Tun 2	12	13	24	E19
		DSS			SS - W/S Brighton 11th St, 1st SS N/O Ocean View Ave	Tun 1 & Tun 2	12	13	24	E19
24450		REG			SS - E/S Brooklyn Ave, 2nd SS S/O Linden Blvd, 20 inch	Tun 2	20	17	23	E15
		USS			SS - E/S Brooklyn Ave, 1st SS S/O Linden Blvd	Tun 2	20	17	23	E15
		DSS			SS - E/S Brooklyn Ave, 1st SS N/O Church Ave	Tun 2	20	17	23	E15
24550		REG			SS - OPP 4106 N/S Glenwood Rd, 1st SS W/O E 42nd St, 12 inch	Tun 2	12	17	23	E16
		USS			SS - N/S Glenwood Rd, 1st SS E/O Albany Ave	Tun 2	12	17	23	E16
		DSS			SS - N/S Glenwood Rd, BTW E 43rd St & Troy Ave	Tun 2	12	17	23	E16

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24650		REG			SS - N/S Linden Blvd, 1st SS E/O Bristol St, 12 inch	Tun 2	12	16	23	G15
		USS			SS - N/S Linden Blvd, 1st SS W/O Rockaway Ave	Tun 2	12	16	23	G15
		DSS			SS - N/S Linden Blvd, BTW Thomas Boyland & Bristol Sts	Tun 2	12	16	23	G15
24700	surv	REG			SS - S/S Ave P, BTW Coney Island Ave & E 12th St, 60 inch	Tun 2	60	15	22	D17
		SUB			60" Hydrant - S/S Ave P, BTW Coney Island Ave & E 12th St	Tun 2	60	15	22	D17
24750		REG	2	03/28/01	SS - IFO 1660 W/S E 13th St, 2nd SS N/O Quentin Rd, 20 inch	Tun 2	20	15	24	D17
		USS	1	12/26/97	SS - IFO 1625 E/S E 13th St, 1st SS S/O Ave P	Tun 2	20	15	24	D17
		DSS	2	03/28/01	SS - IFO 1682 W/S E 13th St, 1st SS N/O Quentin Rd	Tun 2	20	15	24	D17
24850		REG			SS - N/S New Lots Ave, 1st SS W/O Shepherd Ave, 16 inch	Tun 2	16	5	21	H14
		USS			SS - N/S New Lots Ave, 1st SS E/O Essex St	Tun 2	16	5	21	H14
		DSS			SS - N/S New Lots Ave, BTW Shepherd Ave & Berriman St	Tun 2	16	5	21	H14
24950		REG			SS - IFO 1169 N/S East New York Ave, 2nd SS W/O Ralph Ave, 12 inch	Tun 2	12	8	21	F14
		USS			SS - N/S East New York Ave, 1st SS W/O Ralph Ave	Tun 2	12	8	21	F14
		DSS			SS - N/S East New York Ave, 1st SS E/O Portal St	Tun 2	12	8	21	F14
25050		REG			SS - W/S Pennsylvania Ave, 1st SS N/O Hegeman Ave, 20 inch	Tun 2	20	5	14	G15
		USS			SS - W/S Pennsylvania Ave, 1st SS S/O New Lots Ave	Tun 2	20	5	14	G15
		DSS			SS - W/S Pennsylvania Ave, BTW Hegeman Ave & Linden Blvd	Tun 2	20	5	14	G15
25100	surv	REG			SS - IFO 630 W/S Howard Ave, BTW Sutter & East New York Aves, 60 inch	Tun 2	60	16	21	F14
		SUB			60" Hydrant - W/S Howard Ave, 1st hydt N/O Sutter Ave	Tun 2	60	16	21	F14
25150		REG			SS - E/O Mother Gaston Blvd, 2nd SS N/O Livonia Ave, 12 inch	Tun 2	12	16	21	G14
		USS			SS - E/O Mother Gaston Blvd, 1st SS N/O Livonia Ave	Tun 2	12	16	21	G14
		DSS			SS - E/O Mother Gaston Blvd, 1st SS S/O Dumont Ave	Tun 2	12	16	21	G14
25250		REG			SS - S/S Foster Ave, BTW E 102nd & E 103rd Sts, 20 inch	Tun 2	20	18	23	G15
		USS			SS - S/S Foster Ave, BTW E 101St & E 102nd Sts	Tun 2	20	18	23	G15
		DSS			SS - S/S Foster Ave, BTW E 103rd & E 104th Sts	Tun 2	20	18	23	G15
25350		REG			SS - W/S Remsen Ave, 1st SS N/O Ave M, 20 inch	Tun 2	20	18	23	G16
		USS			SS - IFO 1506 W/S Remsen Ave, BTW Ave L & Ave M	Tun 2	20	18	23	G16
		DSS			SS - IFO 1548 W/S Remsen Ave, 1st SS S/O Ave M	Tun 2	20	18	23	G16
25400	surv	REG			SS - S/S Pacific St, BTW Franklin & Classon Aves, 48 inch	Tun 2	48	8	20	D14
		SUB			48" Hydrant - N/S Pacific St, 1st hydt W/O Grand Ave	Tun 2	48	8	20	D14
25450		REG			SS - IFO 1030 S/S Park Pl, 2nd SS E/O Brooklyn Ave, 12 inch	Tun 2	12	8	21	E14
		USS			SS - S/S Park Pl, 1st SS E/O Brooklyn Ave	Tun 2	12	8	21	E14
		DSS			SS - S/S Park Pl, 1st SS W/O Kingston Ave	Tun 2	12	8	21	E14
25550		REG			SS - E/S Bedford Ave, 2nd SS S/O Montgomery St, 20 inch	Tun 2	20	9	21	E14
		USS			SS - E/S Bedford Ave, 1st SS S/O Montgomery St	Tun 2	20	9	21	E14
		DSS			SS - E/S Bedford Ave, 1st SS N/O Sullivan Pl	Tun 2	20	9	21	E14
25900	surv	REG			SS - S/S Kings Highway, BTW E 35th & E 36th Sts, 60 inch	Tun 2	60	18	23	F16
		SUB			60" Hydrant - S/S Kings Highway, BTW E 35th & E 36th Sts	Tun 2	60	18	23	F16
25950		REG			SS - E/S Flatbush Ave, 2nd SS N/O Ave R, 16 inch	Tun 2	16	18	25	F17
		USS			SS - E/S Flatbush Ave, 1st SS S/O Quentin Rd	Tun 2	16	18	25	F17
		DSS			SS - E/S Flatbush Ave, 1st SS N/O Ave R	Tun 2	16	18	25	F17
26300	surv	REG			SS - W/S Vermont St, BTW Jamaica & Sunnyside Aves, 48 inch	Tun 2	48	5	21	G13
		SUB			48" Hydrant - W/S Vermont St, 1st hydt N/O Jamaica Ave	Tun 2	48	5	21	G13
26500	surv	REG			SS - IFO 336 W/S 6th Ave, BTW 3rd & 4th Sts, 66 inch	Tun 1 & Tun 2	66	6	20	C14
		SUB			66" Hydrant - W/S 6th Ave, 1st hydt N/O 4th St	Tun 1 & Tun 2	66	6	20	C14
26550		REG			SS - E/S 4th Ave, 1st SS S/O Sackett St, 20 inch	Tun 1 & Tun 2	20	6	20	C14
		USS			SS - E/S 4th Ave, BTW Sackett & Degraw Sts	Tun 1 & Tun 2	20	6	20	C14
		DSS			SS - E/S 4th Ave, 1st SS N/O Union St	Tun 1 & Tun 2	20	6	20	C14

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26700	**surv**	**REG**			SS - IFO 420 S/S Sterling Pl, BTW Underhill & Washington Aves, 72 inch	Tun 1 & Tun 2	72	8	20	D14
		SUB			72" Hydrant - S/S Sterling Pl, BTW Underhill & Washington Aves	Tun 1 & Tun 2	72	8	20	D14
26750		**REG**			SS - IFO 1110 N/S President St, 2nd SS E/O Bedford Ave, 12 inch	Tun 2	12	9	21	E14
		USS			SS - N/S President St, 1st SS E/O Bedford Ave	Tun 2	12	9	21	E14
		DSS			SS - N/S President St, 1st SS W/O Rogers Ave	Tun 2	12	9	21	E14
26850		**REG**			SS - W/S W 37th St, 1st SS N/O Laurel Ave, 12 inch	Tun 2	12	13	24	C19
		USS			SS - W/S W 37th St, BTW Laurel & Lyme Aves	Tun 2	12	13	24	C19
		DSS			SS - W/S W 37th St, 1st SS S/O Cypress Ave	Tun 2	12	13	24	C19
26950		**REG**			SS - IFO 1058 N/S Metropolitan Ave, 2nd SS W/O Vandervoort Ave, 20 inch	Tun 2	20	1	19	E11
		USS			SS - N/S Metropolitan Ave, 1st SS E/O Morgan Ave	Tun 2	20	1	19	E11
		DSS			SS - N/S Metropolitan Ave, 1st SS W/O Vandervoort Ave	Tun 2	20	1	19	E11
27000	**surv**	**REG**			SS - IFO 383 W/S Hooper St, BTW S 1st & S 2nd Sts, 72 inch	Tun 2	72	1	19	E12
		SUB			72" Hydrant - W/S Hooper St, BTW S 1st & S 2nd Sts	Tun 2	72	1	19	E12
27100	**surv**	**REG**			SS - IFO 912 E/S Willoughby Ave, BTW Bushwick Ave & Broadway, 48 inch	Tun 1 & Tun 2	48	4	21	F13
		SUB			48" Hydrant - E/S Willoughby Ave, BTW Bushwick Ave & Broadway	Tun 1 & Tun 2	48	4	21	F13
27350		**REG**			SS - OPP 1035 S/S Clarkson Ave, 1st SS W/O E 93rd St, 12 inch	Tun 2	12	17	21	F15
		USS			SS - OPP 1051 S/S Clarkson Ave, BTW E 93rd and E 94th St	Tun 2	12	17	21	F15
		DSS			SS - S/S Clarkson Ave, 1st SS E/O E 92nd St	Tun 2	12	17	21	F15
27450		**REG**			SS - IFO 1903 E/S Ocean Ave, 2nd SS N/O Ave O, 20 inch	Tun 2	20	15	22	D17
		USS			SS - E/S Ocean Ave, 1st SS N/O Ave O	Tun 2	20	15	22	D17
		DSS			SS - E/S Ocean Ave, 1st SS S/O Ave N	Tun 2	20	15	22	D17
27550		**REG**			SS - SE/S Farragut Rd, BTW E 81st & E 82nd Sts, 12 inch	Tun 2	12	18	23	F16
		USS			SS - SE/S Farragut Rd, BTW E 82nd & E 83rd Sts	Tun 2	12	18	23	F16
		DSS			SS - SE/S Farragut Rd, BTW E 80th & E 81st Sts	Tun 2	12	18	23	F16
27600	**surv**	**REG**			SS - E/S Palmetto St, BTW Bushwick & Evergreen Aves, 60 inch	Tun 2	60	4	19	F13
		SUB			60" Hydrant - E/S Palmetto St, 1st hydt N/O Bushwick Ave (S/O SS)	Tun 2	60	4	19	F13
27650		**REG**			SS - IFO 59 E/S Patchen Ave, 1st SS S/O Lexington Ave, 20 inch	Tun 2	20	3	19	F13
		USS			SS - E/S Patchen Ave, BTW Lexington & Greene Aves	Tun 2	20	3	19	F13
		DSS			SS - E/S Patchen Ave, 1st SS N/O Quincy St	Tun 2	20	3	19	F13
27750		**REG**			SS - IFO 165 N/S S 1st St, 2nd SS W/O Driggs Ave, 20 inch	Tun 2	20	1	19	D12
		USS			SS - N/S S 1st St, 1st SS W/O Driggs Ave	Tun 2	20	1	19	D12
		DSS			SS - N/S S 1st St, 1st SS E/O Bedford Ave	Tun 2	20	1	19	D12
27850		**REG**			SS - IFO 136 S/S Kent St, 2nd SS E/O Franklin St, 20 inch	Tun 2	20	1	19	E11
		USS			SS - S/S Kent St, 1st SS E/O Franklin St	Tun 2	20	1	19	E11
		DSS			SS - S/S Kent St, 1st SS W/O Manhattan Ave	Tun 2	20	1	19	E11
28050		**REG**			SS - IFO 579 N/S Macon St, 2nd SS W/O Patchen Ave, 20 inch	Tun 2	20	3	21	F13
		USS			SS - N/S Macon St, 1st SS W/O Patchen Ave	Tun 2	20	3	21	F13
		DSS			SS - N/S Macon St, 1st SS E/O Malcom X Blvd	Tun 2	20	3	21	F13
28450		**REG**			SS - IFO 2323 NE/S 60th St, 2nd SS W/O McDonald Ave, 16 inch	Tun 2	16	12	24	D17
		USS			SS - NE/S 60th St, 1st SS W/O McDonald Ave	Tun 2	16	12	24	D17
		DSS			SS - NE/S 60th St, 1st SS E/O 23rd Ave	Tun 2	16	12	24	D17
28550		**REG**			SS - E/S W 5th St, 2nd SS S/O Neptune Ave, 12 inch	Tun 2	12	13	24	D19
		USS			SS - E/S W 5th St, 1st SS N/O West Brighton Ave	Tun 2	12	13	24	D19
		DSS			SS - E/S W 5th St, 1st SS S/O Neptune Ave	Tun 2	12	13	24	D19
28950		**REG**			SS - W/S 14th Ave, 1st SS N/O 52nd St, 20 inch	Tun 2	20	12	22	C16
		USS			SS - W/S 14th Ave, 1st SS S/O 51st St	Tun 2	20	12	22	C16
		DSS			SS - W/S 14th Ave, BTW 52nd St & 53rd St	Tun 2	20	12	22	C16
29050		**REG**			SS - N/S 81st St, 1st SS E/O 19th Ave, 12 inch	Tun 2	12	11	24	C17
		USS			SS - N/S 81st St, 1st SS W/O 20th Ave	Tun 2	12	11	24	C17
		DSS			SS - N/S 81st St, BTW 18th & 19th Aves	Tun 2	12	11	24	C17

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29300	**surv**	**REG**			SS - E/S 5th Ave, BTW 24th & 25th Sts, 66 inch	Tun 2	66	7	20	C15
		SUB			66" Hydrant - E/S 5th Ave, 1st hydt S/O 24th St	Tun 2	66	7	20	C15
29350		**REG**			SS - W/S 4th Ave, BTW 28th & 29th Sts, 20 inch	Mixed	20	7	22	C15
		USS			SS - W/S 4th Ave, BTW 27th & 28th Sts	Mixed	20	7	22	C15
		DSS			SS - W/S 4th Ave, BTW 29th & 30th Sts	Mixed	20	7	22	C15
29450		**REG**			SS - IFO 4011 E/S 7th Ave, 1st SS S/O 40th St, 12 inch	Tun 2	12	7	20	C15
		USS			SS - E/S 7th Ave, 1st SS N/O 41st St	Tun 2	12	7	20	C15
		DSS			SS - E/S 7th Ave, BTW 39th & 40th Sts	Tun 2	12	7	20	C15
29500	**surv**	**REG**			SS - W/S Ridge Blvd, BTW Bay Ridge Ave & 68th St, 48 inch	Tun 2	48	10	22	B16
		SUB			48" Hydrant - W/S Ridge Blvd, 1st hydt S/O 70th St	Tun 2	48	10	22	B16
29550		**REG**			SS - N/S Bay Ridge Ave, 2nd SS W/O 4th Ave, 12 inch	Tun 2	12	10	22	A16
		USS			SS - N/S Bay Ridge Ave, 1st SS W/O 4th Ave	Tun 2	12	10	22	A16
		DSS			SS - N/S Bay Ridge Ave, 1st SS E/O 3rd Ave	Tun 2	12	10	22	A16
29850		**REG**			SS - IFO 1425 E/S Pennsylvania Ave, 2nd SS S/O Schroeders Ave, 20 inch	Tun 2	20	5	21	H15
		USS			SS - E/S Pennsylvania Ave, 1st SS S/O Schroeders Ave	Tun 2	20	5	21	H15
		DSS			SS - E/S Pennsylvania Ave, 3rd SS S/O Schroeders Ave	Tun 2	20	5	21	H15
3ISL3	**surv**		**3**	**10/26/05**	SS - Wards Island, DEP Water Pollution Control Plant, BTW 1st and 2nd security gates, OPP traffic circle	Croton			8	F7
3ISL4	**surv**		**3**	**10/26/05**	SS - Randalls Island, OPP exit ramp to Qns, next to golf driving range, S/O of Police Launch Repair Shop	Croton			8	F8
30050		**REG**			SS - IFO 8 E/S Centre Market Place, 2nd SS N/O Grand St, 12 inch	Tun 1	12	2	1	D20
		USS			SS - E/S Centre Market Place, 1st SS S/O Broome St	Tun 1	12	2	1	D20
		DSS			SS - E/S Centre Market Place, 1st SS N/O Grand St	Tun 1	12	2	1	D20
30150		**REG**			SS - E/S 1st Ave, 1st SS S/O E 3rd St, 12 inch	Croton	12	3	1	E20
		USS			SS - E/S 1st Ave, 1st SS N/O E 3rd St	Croton	12	3	1	E20
		DSS			SS - E/S 1st Ave, 1st SS N/O E 2nd St	Croton	12	3	1	E20
30250		**REG**			SS - OPP 280 N/S Madison St, 2nd SS W/O Montgomery St, 12 inch	Tun 1	12	3	1	E21
		USS			SS - N/S Madison St, 1st SS W/O Montgomery St	Tun 1	12	3	1	E21
		DSS			SS - N/S Madison St, 1st SS E/O Clinton St	Tun 1	12	3	1	E21
30350		**REG**			SS - IFO 90 E/S Pitt St, 2nd SS N/O Rivington St, 12 inch	Tun 1	12	3	1	E20
		USS			SS - E/S Pitt St, 1st SS N/O Rivington St	Tun 1	12	3	1	E20
		DSS			SS - E/S Pitt St, 1st SS S/O Stanton St	Tun 1	12	3	1	E20
30450		**REG**			SS - N/S Water St, 2nd SS E/O Catherine Slip, 12 inch	Tun 1	12	3	1	E21
		USS			SS - N/S Water St, 1st SS W/O Market Slip	Tun 1	12	3	1	E21
		DSS			SS - N/S Water St, 1st SS E/O Catherine Slip	Tun 1	12	3	1	E21
30550		**REG**			SS - E/S Water St, 1st SS S/O Maiden La (IFO Wall St Plaza), 20 inch	Tun 1	20	1	1	D22
		USS			SS - E/S Water St, BTW Fletcher St & Maiden La	Tun 1	20	1	1	D22
		DSS			SS - E/S Water St, 1st SS N/O Pine St	Tun 1	20	1	1	D22
30750		**REG**			SS - IFO 269 N/S W 140th St, 2nd SS E/O Frederick Douglass Blvd (8th Ave), 12 inch	Croton	12	10	2	C11
		USS			SS - N/S W 140th St, 1st SS W/O Adam Clayton Powell Jr Blvd (7th Ave)	Croton	12	10	2	C11
		DSS			SS - N/S W 140th St, 1st SS E/O Frederick Douglass Blvd (8th Ave)	Croton	12	10	2	C11
30850		**REG**			SS - IFO 230 S/S E 125th St, 2nd SS E/O 3rd Ave, 12 inch	Croton	12	11	2	E12
		USS			SS - S/S E 125th St, 1st SS E/O 3rd Ave	Croton	12	11	2	E12
		DSS			SS - S/S E 125th St, 1st SS W/O 2nd Ave	Croton	12	11	2	E12
30950		**REG**			SS - W/S South End Ave, 2nd SS N/O West Thames St, 20 inch	Tun 1	20	1	1	D22
		USS			SS - W/S South End Ave, w/i Rector Place circle	Tun 1	20	1	1	D22
		DSS			SS - W/S South End Ave, 1st SS N/O West Thames St	Tun 1	20	1	1	D22

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31050		REG			SS - IFO 370 W/S Greenwich St, 1st SS N/O Franklin St, 20 inch	Tun 1/Croton	20	1	1	D21
		USS			SS - W/S Greenwich St, 1st SS N/O Harrison St	Tun 1/Croton	20	1	1	D21
		DSS			SS - W/S Greenwich St, 1st SS S/O N Moore St	Tun 1/Croton	20	1	1	D21
31200	surv	REG			SS - W/S Amsterdam Ave, BTW W 177th & W 178th Sts, 48 inch	Tun 3	48	12	3	B9
		SUB			36" Hydrant - W/S Amsterdam Ave, BTW W 172nd & W 173rd Sts	Tun 3	48	12	3	B9
31350		REG			SS - E/S Bedford St, 1st SS S/O Grove St, 12 inch	Tun 1/Croton	12	2	1	C20
		USS			SS - E/S Bedford St, 1st SS N/O Grove St	Tun 1/Croton	12	2	1	C20
		DSS			SS - E/S Bedford St, 1st SS N/O Barrow St	Tun 1/Croton	12	2	1	C20
31450		REG			SS - IFO 22 N/S Howard St, BTW Crosby & Lafayette Sts, 12 inch	Tun 1	12	2	1	D21
		USS			SS - N/S Howard St, BTW Broadway & Crosby St	Tun 1	12	2	1	D21
		DSS			SS - N/S Howard St, BTW Crosby & Lafayette Sts	Tun 1	12	2	1	D21
31550		REG			SS - OPP 329 S/S W 18th St, 2nd SS E/O 9th Ave, 12 inch	Croton	12	4	1	C19
		USS			SS - S/S W 18th St, 1st SS E/O 9th Ave	Croton	12	4	1	C19
		DSS			SS - S/S W 18th St, 1st SS W/O 8th Ave	Croton	12	4	1	C19
31650		REG			SS - N/S E 77th St, 2nd SS W/O 3rd Ave, 12 inch	Tun 3	12	8	2	D15
		USS			SS - N/S E 77th St, 1st SS W/O 3rd Ave	Tun 3	12	8	2	D15
		DSS			SS - N/S E 77th St, 1st SS E/O Lexington Ave	Tun 3	12	8	2	D15
31750		REG			SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12 inch	Croton	12	4	1	C18
		USS			SS - N/S W 26th St, 1st SS E/O 10th Ave	Croton	12	4	1	C18
		DSS			SS - N/S W 26th St, 1st SS W/O 9th Ave	Croton	12	4	1	C18
31850		REG			SS - IFO 82 S/S Warren St, 2nd SS E/O Greenwich St, 12 inch	Tun 1	12	1	1	D21
		USS			SS - S/S Warren St, 1st SS W/O West Broadway	Tun 1	12	1	1	D21
		DSS			SS - S/S Warren St, 1st SS E/O Greenwich St	Tun 1	12	1	1	D21
31950		REG			SS - IFO 313 N/S W 47th St, 2nd SS W/O 8th Ave, 12 inch	Tun 1	12	4	1	C17
		USS			SS - N/S W 47th St, 1st SS W/O 8th Ave	Tun 1	12	4	1	C17
		DSS			SS - N/S W 47th St, 1st SS E/O 9th Ave	Tun 1	12	4	1	C17
32050		REG			SS - IFO 49 N/S W 96th St, 2nd SS W/O Central Park West, 12 inch	Tun 3	12	7	2	C14
		USS			SS - N/S W 96th St, 1st SS W/O Central Park West	Tun 3	12	7	2	C14
		DSS			SS - N/S W 96th St, 1st SS E/O Columbus Ave	Tun 3	12	7	2	C14
32150		REG			SS - W/S St Nicholas Ave, 1st SS N/O 174th St, 12 inch	Tun 3	12	12	3	B9
		USS			SS - W/S St Nicholas Ave, 1st SS S/O 175th St	Tun 3	12	12	3	B9
		DSS			SS - W/S St Nicholas Ave, 1st SS S/O 174th St	Tun 3	12	12	3	B9
32200	surv	REG			SS - S/S W 150th St, BTW Convent & St Nicholas Aves, 30 inch	Tun 3	30	9	3	C10
		SUB	1	04/22/04	30" Hydrant - S/S W 150th St, 1st hyt E/O Amsterdam Ave	Tun 3	30	9	3	C10
32350		REG			SS - IFO 116 E/S Ave C, 2nd SS N/O E 7th St, 12 inch	Croton	12	3	1	E19
		USS			SS - E/S Ave C, 1st SS S/O E 8th St	Croton	12	3	1	E19
		DSS			SS - E/S Ave C, 1st SS N/O E 7th St	Croton	12	3	1	E19
32400	surv	REG			SS - E/S 1st Ave, BTW E 29th & E 30th Sts, 48 inch	Croton	48	6	1	E18
		SUB			48" Hydrant - E/S 1st Ave, BTW E 29th & E 30th Sts	Croton	48	6	1	E18
32550		REG			SS - IFO 271 W/S Ave C, 1st SS S/O E 16th St, 20 inch	Croton	20	6	1	E18
		USS			SS - W/S Ave C, 1st SS N/O E 16th St	Croton	20	6	1	E18
		DSS			SS - W/S Ave C, 1st SS N/O E 15th St	Croton	20	6	1	E18

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32650		REG	1	09/10/99	SS - IFO 14 S/S W 18th St, 2nd SS W/O 5th Ave, 12 inch	Tun 1/Croton	12	5	1	D19
		USS			SS - S/S W 18th St, 1st SS W/O 5th Ave	Tun 1/Croton	12	5	1	D19
		DSS			SS - S/S W 18th St, 1st SS E/O 6th Ave	Tun 1/Croton	12	5	1	D19
32750		REG			SS - IFO 235 S/S E 57th St, 2nd SS E/O 3rd Ave, 12 inch	Tun 3	12	6	1	E17
		USS			SS - S/S E 57th St, 1st SS E/O 3rd Ave	Tun 3	12	6	1	E17
		DSS			SS - S/S E 57th St, 1st SS W/O 2nd Ave	Tun 3	12	6	1	E17
32850		REG			SS - IFO 138 S/S E 37th St, 2nd SS E/O Lexington Ave, 12 inch	Tun 1	12	6	1	D18
		USS			SS - S/S E 37th St, 1st SS W/O 3rd Ave	Tun 1	12	6	1	D18
		DSS			SS - S/S E 37th St, 1st SS E/O Lexington Ave	Tun 1	12	6	1	D18
32950		REG			SS - W/S 1st Ave, 1st SS S/O E 25th St, 12 inch	Croton	12	6	1	E18
		USS			SS - W/S 1st Ave, BTW E 25th & E 26th Sts	Croton	12	6	1	E18
		DSS			SS - W/S 1st Ave, 1st SS N/O E 24th St	Croton	12	6	1	E18
33050		REG			SS - N/S W 62nd St, 2nd SS E/O Amsterdam Ave, 12 inch	Tun 1	12	7	2	C16
		USS			SS - N/S W 62nd St, 1st SS W/O Columbus Ave	Tun 1	12	7	2	C16
		DSS			SS - N/S W 62nd St, 1st SS E/O Amsterdam Ave	Tun 1	12	7	2	C16
33100	surv	REG			SS - E/S Dyckman St, 1st SS S/O 10th Ave (IFO PS #5), 30 inch	Croton	30	12	4	B7
		SUB			30" Hydrant - E/S Dyckman St, 1st hydt S/O 10th Ave (next to SS)	Croton	30	12	4	B7
33150		REG			SS - IFO 200 N/S Nagle Ave, 2nd SS E/O Dyckman St, 12 inch	Croton	12	12	4	B7
		USS			SS - N/S Nagle Ave, 1st SS E/O Dyckman St	Croton	12	12	4	B7
		DSS			SS - N/S Nagle Ave, 1st SS W/O Academy St	Croton	12	12	4	B7
33250		REG			SS - IFO 925 W/S West End Ave, 1st SS N/O W 105th St, 12 inch	Tun 3	12	7	2	B13
		USS			SS - W/S West End Ave, BTW W 104th & W 105th Sts	Tun 3	12	7	2	B13
		DSS			SS - W/S West End Ave, 1st SS S/O W 106th St	Tun 3	12	7	2	B13
33300	surv	REG			SS - S/S W 125th St, BTW 7th & 8th Aves (IFO Lane Bryant Store), 48 inch	Croton	48	10	2	C12
		SUB			48" Hydrant - S/S W 125th St, 1st hydt W/O 7th Ave	Croton	48	10	2	C12
33450		REG			SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12 inch	Croton	12	10	2	C13
		USS			SS - N/S W 112th St, 1st SS W/O St Nicholas Ave	Croton	12	10	2	C13
		DSS			SS - N/S W 112th St, 1st SS E/O 7th Ave	Croton	12	10	2	C13
33550		REG			SS - IFO 115 N/S E 67th St, 2nd SS W/O Lexington Ave, 12 inch	Tun 3	12	8	2	D16
		USS			SS - N/S E 67th St, 1st SS E/O Park Ave	Tun 3	12	8	2	D16
		DSS			SS - N/S E 67th St, 1st SS W/O Lexington Ave	Tun 3	12	8	2	D16
33600	surv	REG			SS - W/S 2nd Ave, BTW E 42nd St & 43rd Sts, 48 inch	Croton	48	6	1	E17
		SUB			48" Hydrant - W/S 2nd Ave, 1st hydt N/O E 44th St	Croton	48	6	1	E17
33700	surv	REG			SS - IFO 69 W/S St Nicholas Ave, BTW W 113th & W 114th Sts, 48 inch	Croton	48	10	2	C13
		SUB			48" Hydrant - W/S St Nicholas Ave, BTW W 119th & W 120th Sts	Croton	48	10	2	C13
33850		REG			SS - IFO 155 N/S E 85th St, 1st SS E/O Lexington Ave, 12 inch	Tun 3	12	8	2	D15
		USS			SS - N/S E 85th St, 1st SS W/O Lexington Ave	Tun 3	12	8	2	D15
		DSS			SS - N/S E 85th St, 1st SS W/O 3rd Ave	Tun 3	12	8	2	D15
33950		REG			SS - N/S E 104th St, 2nd SS E/O 3rd Ave, 12 inch	Croton	12	11	2	E14
		USS			SS - N/S E 104th St, 1st SS E/O 3rd Ave	Croton	12	11	2	E14
		DSS			SS - N/S E 104th St, 1st SS W/O 2nd Ave	Croton	12	11	2	E14

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
34050		REG			SS - IFO 611 N/S W 181st St, 1st SS W/O St Nicholas Ave, 12 inch	Tun 3	12	12	3	B8
		USS			SS - W/S St Nicholas Ave, BTW W 181st & W 182nd Sts	Tun 3	12	12	3	B8
		DSS			SS - N/S W 181st St, 1st SS E/O Wadsworth Ave	Tun 3	12	12	3	B8
34150		REG			SS - N/S W 151st St, 2nd SS W/O Amsterdam Ave, 12 inch	Tun 3	12	9	3	B10
		USS			SS - N/S W 151st St, 1st SS W/O Amsterdam Ave	Tun 3	12	9	3	B10
		DSS			SS - N/S W 151st St, 1st SS E/O Broadway	Tun 3	12	9	3	B10
34200	surv	REG			SS - S/S W 97th St, BTW Columbus & Amsterdam Ave, 36 inch	Tun 3	36	7	2	C14
		SUB			36" Hydrant - N/S W 97th St, 1st hydt W/O Central Park West	Tun 3	36	7	2	C14
34300	surv	REG			SS - S/S W 40th St, BTW Broadway & 7th Ave, 48 inch	Tun 1	48	5	1	C18
		SUB			48" Hydrant - S/S W 42nd St, 1st hydt W/O 7th Ave	Tun 1	48	5	1	C18
34350		REG			SS - E/S 6th Ave, BTW W 37th & W 38th Sts, 20 inch	Tun 1	20	5	1	D18
		USS			SS - IFO 1026 E/S 6th Ave, BTW W 38th & W 39th Sts	Tun 1	20	5	1	D18
		DSS			SS - IFO 968 E/S 6th Ave, BTW W 35th & W 36th Sts	Tun 1	20	5	1	D18
34550		REG			SS - IFO 133 N/S 128th St, 2nd SS W/O Lenox Ave, 12 inch	Croton	12	10	2	D12
		USS			SS - N/S 128th St, 1st SS W/O Lenox Ave	Croton	12	10	2	D12
		DSS			SS - N/S 128th St, 1st SS E/O 7th Ave	Croton	12	10	2	D12
34650		REG			SS - IFO 1066 E/S St Nicholas Ave, BTW W 163rd & W 164th Sts, 12 inch	Tun 3	12	12	3	B10
		USS			SS - E/S St Nicholas Ave, BTW W 164th & W 165th Sts	Tun 3	12	12	3	B10
		DSS			SS - E/S St Nicholas Ave, BTW W 162nd & W 163rd Sts	Tun 3	12	12	3	B10
34700	surv	REG			SS - S/S W 165th St, BTW Edgecombe & Amsterdam Aves, 30 inch	Tun 3	30	12	3	C9
		SUB			30" Hydrant - S/S W 165th St, 1st hydt W/O Edgecombe Ave	Tun 3	30	12	3	C9
34850		REG			SS - OPP 40 N/S W 53rd St, 2nd SS E/O 6th Ave, 12 inch	Tun 1	12	5	1	D17
		USS			SS - N/S W 53rd St, 1st SS E/O 6th Ave	Tun 1	12	5	1	D17
		DSS			SS - N/S W 53rd St, 1st SS W/O 5th Ave	Tun 1	12	5	1	D17
34950		REG			SS - IFO 686 W/S Academy St, 2nd SS E/O Cooper St, 12 inch	Tun 3	12	12	4	B7
		USS			SS - IFO 674 W/S Academy St, 1st SS N/O Broadway	Tun 3	12	12	4	B7
		DSS			SS - W/S Academy St, BTW Cooper St & Seaman Ave	Tun 3	12	12	4	B7
35000	surv	REG			SS - S/S W 93rd St, BTW Columbus Ave & Central Park West, 30 inch	Tun 3	30	7	2	C14
		SUB			30" Hydrant - N/S W 93rd St, 1st hydt E/O Columbus Ave	Tun 3	30	7	2	C14
35050		REG			SS - IFO 565 N/S W 125th St, 1st SS W/O Old Broadway, 20 inch	Croton	20	9	2	C12
		USS			SS - N/S W 125th St, 1st SS E/O Old Broadway	Croton	20	9	2	C12
		DSS			SS - N/S W 125th St, 2nd SS W/O Old Broadway	Croton	20	9	2	C12
35100	surv	REG			SS - E/S Central Park West, BTW W 93rd & W 94th Sts, 30 inch	Tun 3	36	7	2	C14
		SUB			30" Hydrant - E/S Central Park West, Corner of N/O W 90st St	Tun 3	36	7	2	C14
35150		REG			SS - IFO 21 E/S Bennett Ave, 2nd SS N/O W 181st St, 20 inch	Tun 3	20	12	4	B8
		USS			SS - E/S Bennett Ave, 1st SS N/O W 181st St	Tun 3	20	12	4	B8
		DSS			SS - E/S Bennett Ave, 1st SS S/O W 184th St	Tun 3	20	12	4	B8
35200	surv	REG			SS - S/S W 65th St, BTW Broadway & Central Park West, 36 inch	Tun 1	36	7	2	C16
		SUB			36" Hydrant - S/S W 65th St, 1st hydt E/O Broadway	Tun 1	36	7	2	C16
35350		REG			SS - IFO 541 E/S W 207th (Emerson) St, 1st SS S/O Sherman Ave, 12 inch	Croton	12	12	4	B7
		USS			SS - E/S W 207th (Emerson) St, 1st SS N/O Post Ave	Croton	12	12	4	B7
		DSS			SS - E/S W 207th (Emerson) St, BTW Vermilyea & Sherman Aves	Croton	12	12	4	B7
35450		REG			SS - IFO 500 N/S E 76th St, 2nd SS E/O York Ave, 12 inch	Croton	12	8	2	E15
		USS			SS - N/S E 76th St, 1st SS E/O York Ave	Croton	12	8	2	E15
		DSS			SS - N/S E 76th St, 1st SS W/O Cherokee Pl	Croton	12	8	2	E15
35550		REG			SS - N/S Washington Square S, 1st SS W/O Washington Square E (OPP 70 Washington Square E), 12 inch	Tun 1	12	2	1	D20
		USS			SS - N/S Washington Square S, 1st SS E/O Laguardia Pl	Tun 1	12	2	1	D20
		DSS			SS - N/S Washington Square S, BTW Washington Square E & Greene St	Tun 1	12	2	1	D20

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Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
35650		REG			SS - IFO 35 N/S W 25th St, 2nd SS W/O Broadway, 12 inch	Tun 1/Croton	12	2	1	D18
		USS			SS - N/S W 25th St, 1st SS E/O 6th Ave	Tun 1/Croton	12	2	1	D18
		DSS			SS - N/S W 25th St, 1st SS W/O Broadway	Tun 1/Croton	12	2	1	D18
35750		REG			SS - N/S W 83rd St, 2nd SS W/O Central Park West, 12 inch	Tun 3	12	7	2	C15
		USS			SS - N/S W 83rd St, 1st SS E/O Columbus Ave	Tun 3	12	7	2	C15
		DSS			SS - N/S W 83rd St, 1st SS W/O Central Park West	Tun 3	12	7	2	C15
35800	surv	REG			SS - N/S E 85th St, BTW 5th & Madison Aves, 36 inch	Tun 3	36	8	2	D15
		SUB		02/12/02	36" Hydrant - S/S E 85th St, BTW Park & Madison Aves	Tun 3	36	8	2	D15
35900	surv	REG			SS - IFO 168 W/S 5th Ave, BTW E 21st & E 22nd Sts, 48 inch	Tun 1/Croton	48	5	1	D19
		SUB			48" Hydrant - N/S E 21st St, 1st W/O 5th Ave	Tun 1/Croton	48	5	1	D19
36000	surv	REG			SS - S/S E 68th St, BTW 5th & Madison Aves, 36 inch	Tun 1	36	8	2	D16
		SUB			36" Hydrant - S/S E 68th St, 1st hydt W/O Madison Ave	Tun 1	36	8	2	D16
36100	surv	REG			SS - IFO 1212 E/S 6th Ave, BTW W 47th & W 48th Sts, 20 inch	Tun 1	20	5	1	D17
		SUB			20" Hydrant - E/S 6th Ave, BTW W 47th & W 48th Sts	Tun 1	20	5	1	D17
36200	surv	REG			SS - W/S 5th Ave, BTW W 8th St & Washington Square N, 48 inch	Tun 1/Croton	48	2	1	D20
		SUB			48' Hydrant - W/S 5th Ave, BTW W 8th & W 9th Sts	Tun 1/Croton	48	2	1	D20
36300	surv	REG			SS - E/S Central Park West, BTW W 105th & W 106th Sts, 48 inch	Tun 3	48	7	2	C13
		SUB			36" Hydrant - S/S W 100th St, 1st hydt W/O Central Park West	Tun 3	48	7	2	C14
36350		REG			SS - IFO 165 N/S E 112th St, 1st SS E/O Lexington Ave, 12 inch	Croton	12	11	2	D13
		USS			SS - N/S E 112th St, 1st SS W/O Lexington Ave	Croton	12	11	2	D13
		DSS			SS - N/S E 112th St, 1st SS W/O 3rd Ave	Croton	12	11	2	D13
36400	surv	REG			SS - N/S W 106th St, BTW Manhattan Ave & Central Park West, 30 inch	Tun 3	30	7	2	C13
		SUB		02/13/02	36" Hydrant - N/S W 106th St, 1st hydt E/O Columbus Ave	Tun 3	30	7	2	C13
36500	surv	REG			SS - E/S Broadway, BTW Howard & Grand Sts, 30 inch	Tun 1	30	2	1	D21
		SUB			30" Hydrant - W/S Broadway, 1st hydt S/O Lispenard St	Tun 1	30	2	1	D21
36600	surv	REG			SS - IFO 87 E/S Bowery, BTW Hester & Canal Sts, 36 inch	Tun 1	36	3	1	D21
		SUB			36" Hydrant - E/S Bowery, 1st hydt N/O Hester St	Tun 1	36	3	1	D21
36700	surv	REG			SS - S/S South St, BTW Rutgers Slip & Jefferson Sts, 30 inch	Tun 1	30	3	1	F22
		SUB			30" Hydrant - N/S South St, 1st hydt W/O Clinton St	Tun 1	30	3	1	F22
36950		REG	1	09/10/99	SS - Roosevelt Island - Operating Corporation, 591 Main St	Tun 3	12	8	8	E9
		USS			SS - S/O Coller St	Tun 3	12	8	8	E9
		DSS			SS - In front of octagon park	Tun 3	12	8	8	E9
37300	surv	REG			SS - IFO 3401 W/S Broadway, BTW W 138th & W 139th Sts, 36 inch	Tun 3	36	9	3	B11
		SUB			36" Hydrant - W/S Broadway, BTW W 147th & W 148th Sts	Tun 3	36	9	3	B11
37450		REG			SS - IFO 526 N/S W 111st St, 2nd SS W/O Amsterdam Ave, 12 inch	Tun 3	12	9	2	B13
		USS			SS - N/S W 111st St, 1st SS E/O Broadway	Tun 3	12	9	2	B13
		DSS			SS - N/S W 111st St, 1st SS W/O Amsterdam Ave	Tun 3	12	9	2	B13
37950		REG			SS - IFO 325 N/S E 12th St, 2nd SS E/O 2nd Ave, 12 inch	Tun 1	12	3	1	E19
		USS			SS - N/S E 12th St, 1st SS E/O 2nd Ave	Tun 1	12	3	1	E19
		DSS			SS - N/S E 12th St, 1st SS W/O 1st Ave	Tun 1	12	3	1	E19
38150		REG			SS - IFO 121 N/S W 72nd St, 2nd SS W/O Columbus Ave, 12 inch	Tun 3	12	7	2	C16
		USS			SS - N/S W 72nd St, 1st SS W/O Columbus Ave	Tun 3	12	7	2	C16
		DSS			SS - N/S W 72nd St, 1st SS E/O Amsterdam Ave	Tun 3	12	7	2	C16

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Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
38250		REG			SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12 inch	Tun 3	12	8	2	E15
		USS			SS - N/S E 87th St, 1st SS E/O 2nd Ave	Tun 3	12	8	2	E15
		DSS			SS - N/S E 87th St, 1st SS W/O 1st Ave	Tun 3	12	8	2	E15
38300	surv	REG			SS - E/S Amsterdam Ave, BTW W 179th & W 180th Sts (IFO DEP Pump Station), 36 inch	Tun 3	36	12	3	C8
		SUB			30" Hydrant - E/S Amsterdam Ave, BTW W 181st & W 182nd Sts	Tun 3	36	12	3	C8
38400	surv	REG			Shaft 26 of New Croton Aqueduct, 179th St Pumping Station, Croton sampling pump tap - Amsterdam Ave & West 179th St	Croton	170	12	3	C8
		SUB			20" Hydrant - W/S Sedgwick Ave, 1st hydrant S/O Roberto Clemente State Park Bridge (BX)	Croton	48	12	3	C8
38650		REG			SS - IFO 238 N/S W 112th St, 2nd SS E/O 8th Ave, 12 inch	Tun 3	12	10	2	C13
		USS			SS - N/S W 112th St, 1st SS E/O 8th Ave	Tun 3	12	10	2	C13
		DSS			SS - N/S W 112th St, 1st SS W/O 7th Ave	Tun 3	12	10	2	C13
39200	surv	REG			SS - E/S Amsterdam Ave, BTW W 61st & W 62nd Sts, 48 inch	Croton	48	7	2	B16
		SUB			48" Hydrant - S/S W 62nd St, BTW Broadway & Central Park West	Croton	48	7	2	B16
39400	surv	REG			SS - S/S W 62nd St, BTW Columbus Ave & Broadway, 48 inch	Croton	48	7	2	C16
		SUB			48" Hydrant - S/S W 62nd St, 1st hydt W/O Broadway	Croton	48	7	2	C16
39550		REG			SS - W/S Park Ave, 1st SS S/O E 95th St, 12 inch	Tun 3	12	8	2	D14
		USS			SS - W/S Park Ave, 1st SS N/O E 94th St	Tun 3	12	8	2	D14
		DSS			SS - W/S Park Ave, BTW E 95th & E 96th Sts	Tun 3	12	8	2	D14
39650		REG			SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12 inch	Tun 1	12	6	1	E17
		USS			SS - N/S E 49th St, 1st SS E/O 3rd Ave	Tun 1	12	6	1	E17
		DSS			SS - N/S E 49th St, 1st SS W/O 2nd Ave	Tun 1	12	6	1	E17
39750		REG			SS - IFO 321 N/S E 71st St, 2nd SS W/O 1st Ave, 12 inch	Tun 3	12	8	2	E16
		USS			SS - N/S E 71st St, 1st SS E/O 2nd Ave	Tun 3	12	8	2	E16
		DSS			SS - N/S E 71st St, 1st SS W/O 1st Ave	Tun 3	12	8	2	E16
39800	surv	REG			SS - W/S Broadway, BTW W 76th & W 77th Sts, 36 inch	Tun 3	36	7	2	B15
		SUB			36" Hydrant - W/S Broadway, 1st hydt S/O W 77th St	Tun 3	36	7	2	B15
39950		REG			SS - IFO 601 W/S West End Ave, 1st SS N/O W 89th St, 12 inch	Tun 3	12	7	2	B15
		USS			SS - W/S West End Ave, 1st SS S/O W 90th St	Tun 3	12	7	2	B15
		DSS			SS - W/S West End Ave, BTW W 88th St & W 89th Sts	Tun 3	12	7	2	B15
4ISL5	surv		3	**10/26/05**	SS - Rikers Island, traffic island OPP James A. Thomas Ctr, 14-14 Hazen St	Tun 2			8	H7
40150		REG		**09/20/02**	SS - N/S 27th Ave, 1st SS E/O 2nd St, 12 inch	Tun 3	12	1	8	E8
		USS			SS - N/S 27th Ave, 1st SS W/O 3rd St	Tun 3	12	1	8	E8
		DSS			SS - N/S 27th Ave, BTW 1st & 2nd Sts	Tun 3	12	1	8	E8
40200	surv	REG			SS - S/S 19th Ave, BTW 41st & Steinway Sts, 60 inch	Tun 2	60	1	8	G8
		SUB			60" Hydrant - S/S 19th Ave, BTW 41st & Steinway Sts	Tun 2	60	1	8	G8
40250		REG			SS - IFO 22-26 W/S Steinway St, 2nd SS S/O Ditmars Blvd, 12 inch	Tun 2	12	1	8	G8
		USS			SS - W/S Steinway St, 1st SS N/O 23rd Ave	Tun 2	12	1	8	G8
		DSS			SS - W/S Steinway St, 1st SS S/O Ditmars Blvd	Tun 2	12	1	8	G8
40300	surv	REG			SS - IFO 12 - 23 SE/S Jackson Ave, BTW 48th & 49th Aves, 72 inch	Tun 2	72	2	11	E10
		SUB		**02/28/02**	72" Hydrant - SE/S Jackson Ave, 1st hyt N/O 48th Ave	Tun 2	72	2	11	E10
40350		REG			SS - N/S 41st Ave, 2nd SS W/O 21st St, 12 inch	Tun 2	12	1	8	E9
		USS			SS - N/S 41st Ave, 1st SS W/O 21st St	Tun 2	12	1	8	E9
		DSS			SS - N/S 41st Ave, 1st SS E/O 12th St	Tun 2	12	1	8	E9
40450		REG			SS - N/S 48th Ave, 1st SS E/O 33rd St, 12 inch	Tun 2	12	2	11	F10
		USS			SS - N/S 48th Ave, BTW 32nd Pl & 33rd St	Tun 2	12	2	11	F10
		DSS			SS - N/S 48th Ave, 1st SS W/O 34th St	Tun 2	12	2	11	F10
40550		REG			SS - W/S 61st (Bush) St, 1st SS S/O 47th Ave, 12 inch	Tun 2	12	2	11	G10
		USS			SS - W/S 61st (Bush) St, 1st SS N/O 47th Ave	Tun 2	12	2	11	G10
		DSS			SS - W/S 61st (Bush) St, 1st SS N/O Laurel Hill Blvd (BQE)	Tun 2	12	2	11	G10
40600	surv	REG			SS - E/S 89th St, BTW Northern Blvd & 32nd Ave, 72 inch	Tun 2	72	3	8	H9
		SUB			72" Hydrant - E/S 89th St, BTW Northern Blvd & 32nd Ave	Tun 2	72	3	8	H9

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
40650		REG			SS - IFO 30 - 12 W/S 94th St, 1st SS S/O 30th Ave, 12 inch	Tun 2	12	3	8	H9
		USS			SS - W/S 94th St, 1st SS N/O 31st Ave	Tun 2	12	3	8	H9
		DSS			SS - W/S 94th St, 1st SS N/O 30th Ave	Tun 2	12	3	8	H9
40750		REG			SS - N/S Northern Blvd, 1st SS W/O 78th St, 12 inch	Tun 2	12	3	8	G9
		USS			SS - N/S Northern Blvd, 1st SS E/O 77th St	Tun 2	12	3	8	G9
		DSS			SS - N/S Northern Blvd, BTW 78th & 79th Sts	Tun 2	12	3	8	G9
40800	surv	REG			SS - E/S 62nd St, BTW 37th Ave & Broadway, 48 inch	Tun 2	48	2	8	G9
		SUB			48" Hydrant - E/S 62nd St, BTW 37th Ave & Broadway	Tun 2	48	2	8	G9
40850		REG			SS - IFO 4205 E/S 77th St, 1st SS S/O Woodside Ave, 12 inch	Tun 2	12	3	11	H10
		USS			SS - E/S 77th St, 1st SS N/O Woodside Ave	Tun 2	12	3	11	H10
		DSS			SS - E/S 77th St, 1st SS N/O 45th Ave	Tun 2	12	3	11	H10
40950		REG			SS - W/S 94th St, 2nd SS S/O 41st Rd , 12 inch	Tun 2	12	4	11	H10
		USS			SS - W/S 94th St, 1st SS S/O 41st Rd	Tun 2	12	4	11	H10
		DSS			SS - W/S 94th St, BTW 42nd & 43rd Aves	Tun 2	12	4	11	H10
41050		REG			SS - IFO 86-31 W/S 57th Ave, 2nd SS S/O Seabury Ave, 12 inch	Tun 2	12	4	11	H10
		USS			SS - W/S 57th Ave, 1st SS S/O Seabury Ave	Tun 2	12	4	11	H10
		DSS			SS - W/S 57th Ave, 1st SS N/O Van Horn St	Tun 2	12	4	11	H10
41100	surv	REG			SS - IFO 94-03 S/S Alstyne Ave, BTW Junction Blvd & 94th St, 48 inch	Tun 2	48	4	11	H10
		SUB			48" Hydrant - S/S Alstyne Ave, BTW Junction Blvd & 94th St (next to SS)	Tun 2	48	4	11	H10
41150		REG	1	04/02/01	SS - OPP 110 08 W/S Colonial Ave, 2nd SS S/O 62nd Ave, 12 inch	Tun 2	12	6	12	J10
		USS			SS - W/S Colonial Ave, 1st SS S/O 62nd Ave	Tun 2	12	6	12	J10
		DSS	1	04/02/01	SS - W/S Colonial Ave, 1st SS N/O 62nd Dr	Tun 2	12	6	12	J10
41250		REG			SS - SW/S LIE (service Rd), 1st SS E/O 71st St, 12 inch	Tun 2	12	5	11	G11
		USS			SS - SW/S LIE (service Rd), 1st SS W/O 71st St	Tun 2	12	5	11	G11
		DSS			SS - SW/S LIE (service Rd), 1st SS W/O 58th Ave	Tun 2	12	5	11	G11
41300	surv	REG			SS - S/S Cypress Ave, BTW Dekalb Ave & Stockholm St, 60 inch	Tun 2	60	5	11	F12
		SUB			60" Hydrant - S/S Cypress Ave, BTW Dekalb Ave & Stockholm St	Tun 2	60	5	11	F12
41350		REG			SS - W/S Menahan St, 1st SS N/O Onderdonk Ave, 12 inch	Tun 2	12	5	11	G12
		USS			SS - W/S Menahan St, 1st SS S/O Woodward Ave	Tun 2	12	5	11	G12
		DSS			SS - W/S Menahan St, 1st SS S/O Onderdonk Ave	Tun 2	12	5	11	G12
41450		REG			SS - OPP 1820 W/S Decatur St, 2nd SS S/O Forest Ave, 12 inch	Tun 2	12	5	11	G12
		USS			SS - W/S Decatur St, 1st SS S/O Forest Ave	Tun 2	12	5	11	G12
		DSS			SS - W/S Decatur St, 1st SS N/O Seneca Ave	Tun 2	12	5	11	G12
41550		REG			SS - IFO 98-05 N/S 63rd Rd, 1st SS E/O 98th St, 12 inch	Tun 2	12	6	11	J11
		USS			SS - IFO 97-37 N/S 63rd Rd, 1st SS W/O 98th St	Tun 2	12	6	11	J11
		DSS			SS - N/S 63rd Rd, 2nd SS E/O 99th St	Tun 2	12	6	11	J11
41600	surv	REG			SS - IFO 93-29 N/S Queens Blvd, BTW 62nd Dr & 62nd Ave, 72 inch	Tun 2	72	6	12	J11
		SUB			72" Hydrant - N/S Queens Blvd, BTW 62nd Dr & 63rd Rd	Tun 2	72	6	12	J11
41650		REG			SS - IFO 106-15 N/S Queens Blvd (service Rd), 2nd SS E/O Yellowstone Blvd, 12 inch	Tun 2	12	6	12	J11
		USS			SS - N/S Queens Blvd (service Rd), 1st SS E/O Yellowstone Blvd	Tun 2	12	6	12	J11
		DSS			SS - N/S Queens Blvd (service Rd), 1st SS W/O 70th Ave	Tun 2	12	6	12	J11
41750		REG			SS - OPP 104-41 SW/S Ditmars Blvd, BTW 24th Rd & 25th Ave, 12 inch	Tun 2	12	3	8	H9
		USS			SS - SW/S Ditmars Blvd, BTW 25th & 27th Aves	Tun 2	12	3	8	H9
		DSS			SS - SW/S Ditmars Blvd, BTW 24th Rd & 24th Ave	Tun 2	12	3	8	H9
41850		REG			SS - IFO 67-02 W/S Bell Blvd, 1st SS S/O 67th Ave, 12 inch	Tun 2	12	11	13	N10
		USS			SS - W/S Bell Blvd, 1st SS N/O 67th Ave	Tun 2	12	11	13	N10
		DSS			SS - W/S Bell Blvd, 1st SS S/O 68th Ave	Tun 2	12	11	13	N10
41900	surv	REG			SS - W/S Fresh Meadow La, Corner N/O Booth Memorial Ave, 30 inch	Tun 2	30	7	12	L10
		SUB			30" Hydrant - W/S Fresh Meadow La, 1st hydt N/O Booth Memorial Ave	Tun 2	30	7	12	L10
41950		REG			SS - IFO 170-05 N/S 45th Ave, 1st SS E/O 170th St, 12 inch	Tun 2	12	7	9	M9
		USS			SS - N/S 45th Ave, 1st SS W/O 171st St	Tun 2	12	7	9	M9
		DSS			SS - N/S 45th Ave, BTW 169th & 170th Sts	Tun 2	12	7	9	M9
42100	surv	REG			SS - S/S Metropolitan Ave, 1st SS E/O 80th St, 48 inch	Tun 2	48	5	11	H12
		SUB			48" Hydrant - S/S Metropolitan Ave, 1st hydt E/O 80th St	Tun 2	48	5	11	H12

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
42150		REG			SS - IFO 68-78 W/S 76th St, 2nd SS S/O 68th Ave, 12 inch	Tun 2	12	5	11	H12
		USS			SS - W/S 76th St, 1st SS S/O 68th Ave	Tun 2	12	5	11	H12
		DSS			SS - W/S 76th St, 1st SS N/O 69th Rd	Tun 2	12	5	11	H12
42300	surv	REG			SS - S/S 48th Ave, BTW 42nd & 43rd Sts, 72 inch	Tun 2	72	2	11	F10
		SUB			72" Hydrant - S/S 48th Ave, BTW 47th & 48th Sts	Tun 2	72	2	11	F10
42350		REG			SS - IFO 41-18 W/S 39th St, 2nd SS S/O Skillman Ave, 12 inch	Tun 2	12	2	11	F10
		USS			SS - W/S 39th St, 1st SS N/O 43rd Ave	Tun 2	12	2	11	F10
		DSS			SS - W/S 39th St, 1st SS S/O Skillman Ave	Tun 2	12	2	11	F10
42700	surv	REG			SS - OPP 64-65 W/S 210th St, N/O 67th Ave, 48 inch	Tun 2	48	8	13	N10
		SUB			48" Hydrant - W/S 210th St, BTW Horace Harding Blvd & 64th Ave	Tun 2	48	8	13	N10
42750		REG			SS - IFO 64-50A W/S 188th St, 2nd SS S/O 64th Ave, 20 inch	Tun 2	20	8	12	M10
		USS			SS - W/S 188th St, 1st SS S/O 64th Ave	Tun 2	20	8	12	M10
		DSS			SS - W/S 188th St, 1st SS N/O 69th Ave	Tun 2	20	8	12	M10
42850		REG			SS - IFO 147-29 N/S Grand Central Pkwy (service Rd), 2nd SS W/O Parsons Blvd, 12 inch	Tun 2	12	8	12	L11
		USS			SS - N/S Grand Central Pkwy (service Rd), 1st SS E/O Main St	Tun 2	12	8	12	L11
		DSS			SS - N/S Grand Central Pkwy (service Rd), 1st SS W/O Parsons Blvd	Tun 2	12	8	12	L11
42950		REG			SS - IFO 80-56 W/S 193rd St, 1st SS N/O 81st Ave, 12 inch	Tun 2	12	8	13	M11
		USS			SS - W/S 193rd St, 1st SS S/O Union Turnpike	Tun 2	12	8	13	M11
		DSS			SS - W/S 193rd St, BTW 81st Ave & Aberdeen Rd	Tun 2	12	8	13	M11
43050		REG			SS - S/S Park Lane S, 1st SS W/O 102nd St, 20 inch	Tun 2	20	9	12	J12
		USS			SS - S/S Park Lane S, 1st SS E/O 101st St	Tun 2	20	9	12	J12
		DSS			SS - S/S Park Lane S, 1st SS E/O 102nd St	Tun 2	20	9	12	J12
43150		REG			SS - W/S 88th St, 2nd SS S/O 149th Ave, 12 inch	Tun 2	12	10	14	J14
		USS			SS - W/S 88th St, 1st SS N/O 151st Ave	Tun 2	12	10	14	J14
		DSS			SS - W/S 88th St, 1st SS S/O 149th Ave	Tun 2	12	10	14	J14
43250		REG		02/14/02	SS - IFO 87-48 W/S 78th St, 1st SS N/O 88th Ave, 12 inch	Tun 2	12	9	14	J13
		USS			SS - W/S 78th St, 1st SS S/O 87th Ave	Tun 2	12	9	14	J13
		DSS			SS - W/S 78th St, 1st SS S/O 88th Ave	Tun 2	12	9	14	J13
43550		REG			SS - W/S 125th St, 1st SS S/O 15th Ave, 20 inch	Tun 2	20	7	9	J8
		USS			SS - W/S 125th St, 1st SS N/O 18th Ave	Tun 2	20	7	9	J8
		DSS			SS - E/S 125th St, BTW 14th & 15th Aves	Tun 2	20	7	9	J8
43600	surv	REG			SS - E/S Union St, BTW Northern Blvd & 35th Ave, 72 inch	Tun 2	72	7	9	K9
		SUB			72" Hydrant - E/S Union St, BTW 34th & 35th Aves	Tun 2	72	7	9	K9
43650		REG			SS - E/S Whitestone Expy (service Rd), 1st SS S/O Higgins St, 12 inch	Tun 2	12	7	9	K9
		USS			SS - E/S Whitestone Expy (service Rd), 1st SS N/O 32nd Ave	Tun 2	12	7	9	K9
		DSS			SS - E/S Whitestone Expy (service Rd), BTW Higgins & Downing Sts	Tun 2	12	7	9	K9
43750		REG			SS - N/S 20th Ave, 2nd SS W/O Whitestone Expy, 12 inch	Tun 2	12	7	9	K8
		USS			SS - N/S 20th Ave, 1st SS W/O Whitestone Expy	Tun 2	12	7	9	K8
		DSS			SS - N/S 20th Ave, 3rd SS W/O Whitestone Expy	Tun 2	12	7	9	K8
43900	surv	REG			SS - N/S 39th Ave, BTW 215th Pl & 216th St, 24 inch	Tun 2	24	11	10	N9
		SUB			24" Hydrant - N/S 39th Ave, BTW 215th Pl & 216th St	Tun 2	24	11	10	N9
43950		REG			SS - N/S 26th Ave, BTW 210th Pl & 211st St (IFO Sony Theatres), 12 inch	Tun 2	12	7	10	M8
		USS			SS - N/S 26th Ave, BTW 211st & 212nd Sts	Tun 2	12	7	10	M8
		DSS			SS - N/S 26th Ave, BTW 210th Pl & 210th St	Tun 2	12	7	10	M8
44150		REG			SS - IFO 20-44 W/S 21st St, 2nd SS N/O 21st Ave, 20 inch	Tun 2	20	1	8	F8
		USS			SS - W/S 21st St, 1st SS N/O 21st Ave	Tun 2	20	1	8	F8
		DSS			SS - W/S 21st St, 1st SS S/O 20th Ave	Tun 2	20	1	8	F8
44250		REG			SS - IFO 50-05 N/S Broadway, 2nd SS E/O 49th St, 12 inch	Tun 2	12	1	8	F9
		USS			SS - N/S Broadway, 1st SS E/O 49th St	Tun 2	12	1	8	F9
		DSS			SS - N/S Broadway, 1st SS W/O 51st St	Tun 2	12	1	8	F9
44350		REG			SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12 inch	Tun 3	12	1	8	F9
		USS			SS - N/S 34th Ave, 1st SS E/O 21st St	Tun 3	12	1	8	F9
		DSS			SS - N/S 34th Ave, 1st SS E/O 24th St	Tun 3	12	1	8	F9

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
44450		REG			SS - IFO 223-03 N/S Manor Rd, 2nd SS W/O 229th St, 12 inch	Tun 2	12	13	13	O10
		USS			SS - N/S Manor Rd, 1st SS W/O 229th St	Tun 2	12	13	13	O10
		DSS			SS - W/S Manor Rd, 1st SS N/O Hillside Ave	Tun 2	12	13	13	O10
44550		REG			SS - N/S 17th Ave, 1st SS E/O 201st St, 12 inch	Tun 2	12	11	9	M8
		USS			SS - N/S 17th Ave, BTW 200th & 201st Sts	Tun 2	12	11	9	M8
		DSS			SS - N/S 17th Ave, 1st SS W/O 202nd St	Tun 2	12	11	9	M8
44700	surv	REG			SS - N/S Jewel Ave, BTW 172nd & 173rd Sts, 60 inch	Tun 2	60	8	12	L10
		SUB		**02/20/02**	60" Hydrant - N/S Jewel Ave, 1st hydt W/O 172nd St	Tun 2	60	8	12	L10
44750		REG			SS - IFO 67-02 W/S Parsons Blvd, 2nd SS N/O Jewel Ave, 12 inch	Tun 2	12	8	12	L10
		USS			SS - W/S Parsons Blvd, 1st SS S/O 65th Ave	Tun 2	12	8	12	L10
		DSS			SS - W/S Parsons Blvd, 1st SS N/O Jewel Ave	Tun 2	12	8	12	L10
44950		REG			SS - W/S Selfridge St, 1st SS N/O Olcott St, 12 inch	Tun 2	12	6	12	J11
		USS			SS - W/S Selfridge St, 1st SS S/O Olcott St	Tun 2	12	6	12	J11
		DSS			SS - W/S Selfridge St, 1st SS S/O Nansen St	Tun 2	12	6	12	J11
45000	surv	REG			SS - W/S Douglaston Pkwy, BTW 67th & 68th Aves, 20 inch	Tun 2	48	11	10	O9
		SUB			20" Hydrant - E/S Douglaston Pkwy, BTW 65th & 66th Aves	Tun 2	48	11	10	O9
45050		REG			SS - IFO 253-38 S/S 61st Ave, 1st SS W/O 255th St, 20 inch	Tun 2	20	11	10	O9
		USS			SS - S/S 61st Ave, 1st SS E/O 251st St	Tun 2	20	11	10	O9
		DSS			SS - S/S 61st Ave, 1st SS E/O 255th St	Tun 2	20	11	10	O9
45250		REG			SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Dr, 12 inch	Tun 2	12	14	16	M18
		USS			SS - E/S Beach 58th St, 1st SS N/O Beach Channel Dr	Tun 2	12	14	16	M18
		DSS			SS - E/S Beach 58th St, 1st SS S/O Almeda Ave	Tun 2	12	14	16	M18
45650		REG			SS - IFO 107-02 W/S 109th St, 1st SS S/O 107th Ave, 12 inch	Tun 2	12	10	14	K13
		USS			SS - W/S 109th St, 1st SS N/O 109th Ave	Tun 2	12	10	14	K13
		DSS			SS - W/S 109th St, BTW Liberty & 107th Aves	Tun 2	12	10	14	K13
45700	surv	REG			SS - E/S Cross Bay Blvd, BTW 156th Ave & Belt Pkwy, 48 inch	Tun 2	48	10	14	K14
		SUB	**1**	**04/02/01**	48" Hydrant - E/S Cross Bay Blvd, 1st hydt N/O 158th Ave	Tun 2	48	10	14	K14
45750		REG			SS - N/S 161st Ave, 2nd SS W/O 83rd St, 12 inch	Tun 2	12	10	14	J15
		USS			SS - N/S 161st Ave, 1st SS W/O 83rd St	Tun 2	12	10	14	J15
		DSS			SS - N/S 161st Ave, 1st SS W/O 81st St	Tun 2	12	10	14	J15
45850		REG			SS - N/S Sutter Ave, 1st SS E/O 91st St, 12 inch	Tun 2	12	10	14	J13
		USS			SS - N/S Sutter Ave, 1st SS W/O 92nd St	Tun 2	12	10	14	J13
		DSS			SS - N/S Sutter Ave, BTW 90th & 91st Sts	Tun 2	12	10	14	J13
46100	surv	REG			SS - IFO 833 S/S Central Ave, BTW Virginia St & Doughty Blvd, 20 inch	Tun 2	20	14	16	O17
		SUB			20" Hydrant - S/S Central Ave, 1st hydt E/O Virginia St	Tun 2	20	14	16	O17
46150		REG			SS - IFO 20-23 S/S Seagirt Blvd, 2nd SS W/O Beach 20th St, 12 inch	Tun 2	12	14	16	N18
		USS			SS - S/S Seagirt Blvd, 1st SS E/O Crest Rd	Tun 2	12	14	16	N18
		DSS			SS - S/S Seagirt Blvd, 1st SS W/O Beach 20th St	Tun 2	12	14	16	N18
46250		REG			SS - S/S Beach Channel Dr, 2nd SS E/O Beach 126th St, 12 inch	Tun 2	12	14	17	K19
		USS			SS - S/S Beach Channel Dr, 1st SS W/O Beach 125th St	Tun 2	12	14	17	K19
		DSS			SS - S/S Beach Channel Dr, 1st SS E/O Beach 126th St	Tun 2	12	14	17	K19
46350		REG			SS - S/S Astoria Blvd, 1st SS W/O 110th St, 12 inch	Tun 2	12	3	9	J9
		USS			SS - S/S Astoria Blvd, 2nd SS W/O 110th Sts	Tun 2	12	3	9	J9
		DSS			SS - S/S Astoria Blvd, 1st SS E/O 110th St	Tun 2	12	3	9	J9
46450		REG			SS - IFO 150-03 N/S Northern Blvd, 1st SS E/O 150th St, 12 inch	Tun 2	12	7	9	L9
		USS			SS - N/S Northern Blvd, 1st SS E/O 150th Pl	Tun 2	12	7	9	L9
		DSS			SS - N/S Northern Blvd, 1st SS W/O 150th St	Tun 2	12	7	9	L9
46850		REG			SS - IFO 63-01 NW/S Eliot Ave, BTW 63rd & 64th Sts, 12 inch	Tun 2	12	5	11	G11
		USS			SS - NW/S Eliot Ave, BTW 62nd & 63rd Sts	Tun 2	12	5	11	G11
		DSS			SS - NW/S Eliot Ave, BTW 64th & 65th Sts	Tun 2	12	5	11	G11
46950		REG			SS - IFO 118-40 S/S Metropolitan Ave, 2nd SS E/O 118th St	Tun 2	8	9	12	K12
		USS			SS - S/S Metropolitan Ave, 1st SS E/O 118th St	Tun 2	8	9	12	K12
		DSS			SS - S/S Metropolitan Ave, 1st SS W/O Lefferts Blvd	Tun 2	8	9	12	K12
47150		REG			SS - IFO 147-19 N/S 7th Ave, 2nd SS W/O 149th St, 12 inch	Tun 2	12	7	9	K7
		USS			SS - N/S 7th Ave, 1st SS E/O 147th St	Tun 2	12	7	9	K7
		DSS			SS - N/S 7th Ave, 1st SS W/O 149th St	Tun 2	12	7	9	K7

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
47500	**surv**	**REG**			SS - IFO 20-10 W/S Cross Bay Blvd, BTW W 20th & Van Brunt Rds, 36 inch	Tun 2	36	10	16	L18
		SUB		**02/20/02**	36" Hydrant - W/S Cross Bay Blvd, BTW W 20th & Van Brunt Rds (next to SS)	Tun 2	36	10	16	L18
47550		**REG**			SS - E/S Beach 105th St, 2nd SS N/O Shore Front Pkwy, 12 inch	Tun 2	12	14	18	K19
		USS			SS - E/S Beach 105th St, 1st SS S/O Rockaway Beach Blvd	Tun 2	12	14	18	K19
		DSS			SS - E/S Beach 105th St, 1st SS N/O Shore Front Pkwy	Tun 2	12	14	18	K19
47650		**REG**			SS - N/S Rockaway Point Blvd, 2nd SS W/O Beach 199th St, 20 inch	Tun 2	20	14	17	G20
		USS			SS - N/S Rockaway Point Blvd, 1st SS E/O Beach 199th St	Tun 2	20	14	17	G20
		DSS			SS - N/S Rockaway Point Blvd, 1st SS E/O Beach 201st St	Tun 2	20	14	17	G20
47750		**REG**			SS - IFO 80 - 29 E/S Little Neck Pkwy, 2nd SS N/O 81st Ave, 20 inch	Tun 2	20	13	13	P10
		USS			SS - E/S Little Neck Pkwy, 1st SS S/O 80th Ave	Tun 2	20	13	13	P10
		DSS			SS - E/S Little Neck Pkwy, 1st SS N/O 81st Ave	Tun 2	20	13	13	P10
47850		**REG**			SS - IFO 246-35 N/S Van Zandt Ave, 1st SS W/O 248th St, 12 inch	Tun 2	12	11	10	O09
		USS			SS - N/S Van Zandt Ave, BTW Marathon Pkwy & 248th St	Tun 2	12	11	10	O09
		DSS			SS - N/S Van Zandt Ave, 1st SS E/O Overbrook Pl	Tun 2	12	11	10	O09
48600	**surv**	**REG**			SS - W/S Rockaway Blvd, BTW S Conduit Ave & 157th St, 48 inch	Tun 2	48	13	15	M14
		SUB			48" Hydrant - E/S Rockaway Blvd, BTW N Conduit & 140th Aves	Tun 2	48	13	15	M14
48700	**surv**	**REG**			SS - IFO 160-05 N/S Cross Island Pkwy (service Rd), BTW 160th & 161st Sts, 20 inch	Tun 2	20	7	10	L8
		SUB			20" Hydrant - N/S Cross Island Pkwy (service Rd), BTW 160th & 161st Sts	Tun 2	20	7	10	L8
49200	**surv**	**REG**	**1**	**01/09/02**	SS - S/S Jewel Ave, BTW Main St & 141st Sts, 72 inch	Tun 2	72	8	12	K11
		SUB			72" Hydrant - S/S Jewel Ave, 1st hydt E/O 141st Sts	Tun 2	72	8	12	K11
50050		**REG**			SS - N/S Hylan Blvd, 2nd SS W/O Edgewater St, 12 inch	Tun 2	12	1	27	P4
		USS			SS - N/S Hylan Blvd, 1st SS E/O Bay St	Tun 2	12	1	27	P4
		DSS			SS - N/S Hylan Blvd, 1st SS W/O Edgewater St	Tun 2	12	1	27	P4
50200	**surv**	**REG**			SS - IFO 93 N/S Austin Place, BTW Victory Blvd & Ward Ave, 84 inch	Tun 2	84	1	27	N2
		SUB			84" Hydrant - N/S Austin Place, BTW Victory Blvd & Ward Ave	Tun 2	84	1	27	N2
50250		**REG**			SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20 inch	Tun 2	20	1	27	M3
		USS			SS - N/S Victory Blvd, 1st SS E/O Cheshire Ave	Tun 2	20	1	27	M3
		DSS			SS - N/S Victory Blvd, 1st SS W/O Silver Lake Rd	Tun 2	20	1	27	M3
50600	**surv**	**REG**			SS - OPP 200 N/S Victory Blvd, BTW Pike St & Westervelt Ave, 20 inch	Tun 2	20	1	27	O2
		SUB		**02/27/02**	20" Hydrant - N/S Victory Blvd, 1st hydt W/O Cebra Ave	Tun 2	20	1	27	O2
50650		**REG**			SS - E/S York Ave, 1st SS N/O Pauw St, 8 inch	Tun 2	8	1	27	N1
		USS			SS - E/S York Ave, 1st SS S/O Carlyle St	Tun 2	8	1	27	N1
		DSS			SS - E/S York Ave, 1st SS S/O Pauw St	Tun 2	8	1	27	N1
50750		**REG**			SS - E/S Woodhull Ave, 1st SS S/O Albourne Ave, 8 inch	Tun 2	8	3	30	F10
		USS			SS - W/S Woodhull Ave, 1st SS N/O Hawley Ave	Tun 2	8	3	30	F10
		DSS			SS - E/S Woodhull Ave, BTW Albourne & Ashland Aves	Tun 2	8	3	30	F10
50850		**REG**			SS - IFO 512 W/S Arlene St,1st SS N/O Dawson Ct, 12 inch	Tun 2	12	2	26	H4
		USS			SS - W/S Arlene St, BTW Dawson Ct & Carnegie Ave	Tun 2	12	2	26	H4
		DSS			SS - W/S Arlene St,1st SS S/O Forest St	Tun 2	12	2	26	H4
51050		**REG**			SS - IFO 163 E/S Tysens La, 2nd SS N/O Coverly St, 12 inch	Tun 2	12	3	29	K7
		USS			SS - E/S Tysens La, 1st SS N/O Coverly St	Tun 2	12	3	29	K7
		DSS			SS - E/S Tysens La, 1st SS S/O Dalton Ave	Tun 2	12	3	29	K7
51100	**surv**	**REG**			SS - IFO 1759 NW/S Hylan Blvd, BTW Seaview & Liberty Aves, 48 inch	Tun 2	48	2	29	M7
		SUB			48" Hydrant - NW/S Hylan Blvd, 1st hydt W/O Liberty Ave	Tun 2	48	2	29	M7
51150		**REG**			SS - IFO 650 S/S Tysens La, 2nd SS E/O Falcon Ave, 12 inch	Tun 2	12	3	29	L8
		USS			SS - S/S Tysens La, 1st SS SS E/O Falcon Ave	Tun 2	12	3	29	L8
		DSS			SS - S/S Tysens La, 1st SS W/O Mill Rd	Tun 2	12	3	29	L8
51250		**REG**	**1**	**11/07/00**	SS - N/S Clarke Ave, 1st SS N/O Amber St (OPP library), 8 inch	Tun 2	8	3	28	K7
		USS	**1**	**11/07/00**	SS - N/S Clarke Ave, BTW Amber & Wolverine Sts	Tun 2	8	3	28	K7
		DSS	**1**	**11/07/00**	SS - N/S Clarke Ave, 1st SS S/O Kensico St	Tun 2	8	3	28	K7
51350		**REG**		**07/30/03**	SS - W/S Clove Rd, 2nd SS S/O Tyler Ave, 12 inch	Tun 2	12	1	27	L3
		USS		**07/30/03**	SS - W/S Clove Rd, 3rd SS S/O Tyler Ave	Tun 2	12	1	27	L3
		DSS		**07/30/03**	SS - W/S Clove Rd, 1st SS S/O Tyler Ave	Tun 2	12	1	27	L3

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
51450		REG			SS - IFO 119 E/S Justin Ave, BTW Hooper & O'Gorman Aves, 12 inch	Tun 2	12	3	28	K8
		USS			SS - E/S Justin Ave, BTW Hooper & Durant Aves	Tun 2	12	3	28	K8
		DSS			SS - E/S Justin Ave, BTW Twombly & O'Gorman Aves	Tun 2	12	3	28	K8
51550		REG			SS - OPP 306 E/S Huguenot Ave, 2nd SS N/O Rosedale Ave, 12 inch	Tun 2	12	3	30	F9
		USS			SS - E/S Huguenot Ave, 1st SS S/O Avon Green	Tun 2	12	3	30	F9
		DSS			SS - E/S Huguenot Ave, 1st SS N/O Rosedale Ave	Tun 2	12	3	30	F9
51850		REG			SS - IFO 67 N/S Hill St, 2nd SS W/O Tompkins Ave, 12 inch	Tun 2	12	1	27	O3
		USS			SS - N/S Hill St, 1st SS W/O Tompkins Ave	Tun 2	12	1	27	O3
		DSS			SS - N/S Hill St, 1st SS E/O Warren St	Tun 2	12	1	27	O3
51900	surv	REG			SS - N/S Vanderbilt Ave, BTW Bay St & Tompkins Ave, 66 inch	Tun 2	66	1	27	M4
		SUB			66" Hydrant - W/S Bay St, 1st hydt N/O Vanderbilt Ave	Tun 2	66	1	27	M4
51950		REG			SS - N/S Sobel Ct, 1st SS E/O Bowen St, 12 inch	Tun 2	12	1	27	N4
		USS			SS - N/S Sobel Ct, BTW Targee St & Bowen St	Tun 2	12	1	27	N4
		DSS			SS - N/S Sobel Ct, 1st SS W/O Park Hill Ave	Tun 2	12	1	27	N4
52000	surv	REG			SS - W/S Clove Rd, Corner of S/O Richmond Terrace, 24 inch	Tun 2	24	1	27	L2
		SUB			24" Hydrant - W/S Clove Rd, 1st hydt S/O Richmond Terrace	Tun 2	24	1	27	L2
52050		REG			SS - IFO 218 W/S Nicholas Ave, 1st SS S/O Charles Ave, 12 inch	Tun 2	12	1	26	K2
		USS			SS - E/S Nicholas Ave, BTW Charles & Castleton Aves	Tun 2	12	1	26	K2
		DSS			SS - W/S Nicholas Ave, 1st SS N/O Hatfield Pl	Tun 2	12	1	26	K2
52150		REG			SS - N/S Goethals Rd N, BTW Domain & Cooke Sts, 12 inch	Tun 2	12	1	26	H3
		USS			SS - N/S Goethals Rd N, BTW Domain St & Richmond Ave	Tun 2	12	1	26	H3
		DSS			SS - N/S Goethals Rd N, BTW Lambert & Cooke Sts	Tun 2	12	1	26	H3
52350		REG			SS - OPP 133 W/S Giffords La, 1st SS N/O Dewey Ave, 12 inch	Tun 2	12	2	28	J8
		USS			SS - W/S Giffords La, BTW Katan & Dewey Aves	Tun 2	12	2	28	J8
		DSS			SS - W/S Giffords La, 1st SS S/O Woodland Ave	Tun 2	12	2	28	J8
52450		REG			SS - OPP 526 N/S Travis Ave, 1st SS E/O Merrymount St, 12 inch	Tun 2	12	2	28	H5
		USS			SS - N/S Travis Ave, BTW Ferndale Ave & Merrymount St	Tun 2	12	2	28	H5
		DSS			SS - N/S Travis Ave, 1st SS W/O Keating Pl	Tun 2	12	2	28	H5
52550		REG			SS - IFO 43 N/S Dongan Hills Ave, 2nd SS N/O Jefferson St, 12 inch	Tun 2	12	2	29	M6
		USS			SS - N/S Dongan Hills Ave, 1st SS S/O Richmond Rd	Tun 2	12	2	29	M6
		DSS			SS - N/S Dongan Hills Ave, 1st SS N/O Jefferson St	Tun 2	12	2	29	M6
53500	surv	REG			SS - E/S Targee St, S/O Baltic Ave, 48 inch	Tun 2	48	2	27	N4
		SUB			48" Hydrant - E/S Targee St, 1st hydt S/O Clove Rd	Tun 2	48	2	27	N4
53550		REG			SS - IFO 130 W/S Lamport Blvd, 2nd SS S/O Kramer St, 8 inch	Tun 2	8	2	29	O5
		USS			SS - W/S Lamport Blvd, 1st SS S/O Kramer St	Tun 2	8	2	29	O5
		DSS			SS - W/S Lamport Blvd, 1st SS N/O McClean Ave	Tun 2	8	2	29	O5
55450		REG			SS - W/S Seguine Ave, 1st SS S/O Kingsland St, 12 inch	Tun 2	12	3	30	F11
		USS			SS - W/S Seguine Ave, BTW Keating & Kingsland Sts	Tun 2	12	3	30	F11
		DSS			SS - W/S Seguine Ave, 1st SS N/O Memo St	Tun 2	12	3	30	F11
56000	surv	REG			SS - N/S Hylan Blvd, opposite Holten Ave, 24 inch	Tun 2	24	3	30	F11
		SUB			24" Hydrant - N/S Hylan Blvd, 1st hydt E/O Holten Ave	Tun 2	24	3	30	F11
56200	surv	REG			SS - IFO 855 E/S Bloomingdale Rd, BTW Wirt & Candon Aves, 20 inch	Tun 2	20	3	30	E9
		SUB			20" Hydrant - E/S Bloomingdale Rd, 1st hydt N/O Candon Ave	Tun 2	20	3	30	E9
56300	surv	REG			SS - E/S Richmond Ave, 1st SS S/O Vedder Ave, 20 inch	Tun 2	20	1	26	J3
		SUB			20" Hydrant - E/S Richmond Ave, 1st hydt S/O Vedder Ave	Tun 2	20	1	26	J3
56400	surv	REG			SS - IFO 328 S/S Henderson Ave, BTW Westbury & Brentwood Aves, 20 inch	Tun 2	20	1	27	M2
		SUB			20" Hydrant - S/S Henderson Ave, BTW Westbury & Brentwood Aves	Tun 2	20	1	27	M2
57200	surv	REG			SS - W/S Richmond Ave, BTW Genesee & Scranton Aves, 48 inch	Tun 2	48	3	28	H8
		SUB			48" Hydrant - W/S Richmond Ave, 1st hydt S/O Scranton Ave	Tun 2	48	3	28	H8
57750		REG			SS - IFO 264 W/S Lockman Ave, 2nd SS S/O Brabant St, 12 inch	Tun 2	12	1	26	H2
		USS			SS - W/S Lockman Ave, 1st SS S/O Brabant St	Tun 2	12	1	26	H2
		DSS			SS - W/S Lockman Ave, 1st SS N/O Continental Pl	Tun 2	12	1	26	H2
58150		REG			SS - IFO 3262 W/S Richmond Ave, 1st SS N/O Gurley Ave, 12 inch	Tun 2	12	3	28	H8
		USS			SS - W/S Richmond Ave, 1st SS S/O Wainwright Ave	Tun 2	12	3	28	H8
		DSS			SS - W/S Richmond Ave, BTW Brandis & Gurley Aves	Tun 2	12	3	28	H8

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
58250		REG			SS - IFO 578 E/S Drumgoole Rd East, 2nd SS N/O Arden Ave, 12 inch	Tun 2	12	3	30	G9
		USS			SS - E/S Drumgoole Rd East, 1st SS N/O Arden Ave	Tun 2	12	3	30	G9
		DSS			SS - E/S Drumgoole Rd East, 1st SS S/O Carlton Blvd	Tun 2	12	3	30	G9
58300	surv	REG			SS - IFO 4299 NW/S Hylan Blvd, BTW Winchester & Thornycroft Aves, 48 inch	Tun 2	48	3	31	J10
		SUB			48" Hydrant - NW/S Hylan Blvd, BTW Winchester & Thornycroft Aves	Tun 2	48	3	31	J10
58350		REG			SS - IFO 139 NE/S Winchester Ave, 2nd SS N/O Hylan Blvd, 8 inch	Tun 2	8	3	31	J10
		USS			SS - NE/S Winchester Ave, 1st SS N/O Hylan Blvd	Tun 2	8	3	31	J10
		DSS			SS - NE/S Winchester Ave, 1st SS S/O King St	Tun 2	8	3	31	J10
58400	surv	REG			SS - IFO 408 W/S Woodrow Rd, BTW Arden Ave & Almond St, 16 inch	Tun 2	16	3	30	G9
		SUB			16" Hydrant - W/S Woodrow Rd, 1st hydt N/O Almond St	Tun 2	16	3	30	G9
58600	surv	REG			SS - N/S Hylan Blvd, 1st SS E/O Page Ave, 20 inch	Tun 2	20	3	30	D12
		SUB	1	04/02/01	20" Hydrant - N/S Hylan Blvd, 1st hydt E/O Butler Blvd	Tun 2	20	3	30	D12
58650		REG			SS - IFO 510 W/S Main St, 2nd SS S/O Hylan Blvd, 12 inch	Tun 2	12	3	30	C12
		USS			SS - W/S Main St, 1st SS S/O Hylan Blvd	Tun 2	12	3	30	C12
		DSS			SS - W/S Main St, 1st SS N/O Clermont Ave	Tun 2	12	3	30	C12
58850		REG			SS - IFO 255 N/S Westwood Ave, 1st SS W/O Franklin Pl, 12 inch	Tun 2	12	2	27	L4
		USS			SS - N/S Westwood Ave, 1st SS E/O Manor Rd	Tun 2	12	2	27	L4
		DSS			SS - N/S Westwood Ave, BTW Franklin Pl & LaGuardia Ave	Tun 2	12	2	27	L4
58950		REG			SS - IFO 1083 N/S Castelton Ave, 2nd SS W/O Broadway, 12 inch	Tun 2	12	1	27	L2
		USS			SS - N/S Castelton Ave, 1st SS W/O Broadway	Tun 2	12	1	27	L2
		DSS			SS - N/S Castelton Ave, 1st SS E/O Alaska St	Tun 2	12	1	27	L2
59050		REG			SS - IFO 989 N/S Forest Ave, 2nd SS W/O Clove Rd, 12 inch	Tun 2	12	1	27	L2
		USS			SS - N/S Forest Ave, 1st SS W/O Clove Rd	Tun 2	12	1	27	L2
		DSS			SS - N/S Forest Ave, 1st SS E/O Raymond Pl	Tun 2	12	1	27	L2
59300	surv	REG			SS - N/S Victory Blvd, 1st SS E/O Royal Oak Rd, 16 inch	Tun 2	16	1	26	L4
		SUB			16" Hydrant - N/S Victory Blvd, 1st hydt E/O Royal Oak Rd	Tun 2	16	1	26	L4
59350		REG			SS - IFO 1824 S/S Victory Blvd, BTW Raymond Ave & Lester St, 12 inch	Tun 2	12	1	26	L4
		USS			SS - S/S Victory Blvd, BTW Raymond Ave & Manor Rd	Tun 2	12	1	26	L4
		DSS			S/S Victory Blvd, BTW Westcott Blvd & Lester St	Tun 2	12	1	26	L4
76100	surv	REG			SS - E/S 164th St, BTW 82nd Rd and 81st Ave, 24 inch	Well	24	8	13	L11
		SUB			24" Hydt - W/S 164th St, N/O 84th Ave	Well	24	8	13	L11
76150		REG	1	06/21/05	*SS - IFO 160-20 S/S 85th Ave, betw 160th & 161st Sts*	Well 50/53	6	8	13	L11
		USS	1	06/21/05	*SS - S/S 85th Ave, betw 161st & 162nd Sts*	Well 50/53	6	8	13	L11
		DSS	1	06/21/05	*SS - IFO 159-18 S/S 85th Ave, betw 159th & 160th Sts*	Well 50/53	6	8	13	L11
76300	surv	REG			SS - N/S Hillside Ave & BTW 212 Pl & 214 St, 16 inch	Tun 2	16	13	13	N11
		SUB			12" Hydt -E/S 212th St, N/O Hillside Ave	Tun 2	16	13	13	N11
76450		REG			SS - OPP 139-50 N/S 85th Dr, 2nd SS E/O 139th St	Well 50/53	8	8	12	L12
		USS			SS - N/S 85th Dr, 1st E/O 139th St	Well 50/53	8	8	12	L12
		DSS			SS - N/S 85th Dr, 1st W/O 143rd St	Well 50/53	8	8	12	L12
76550		REG			SS - N/S Baisley Blvd, W/O Smith St	Tank 33	6	12	15	M13
		USS			SS - N/S Baisley Blvd, E/O Smith St	Tank 33	6	12	15	M13
		DSS			SS - IFO 163-03 N/S Baisley Blvd, E/O Guy R. Brewer Blvd	Tank 33	6	12	15	M13
76650		REG			SS - IFO 87-60 W/S Chevy Chase St, S/O Henley Rd	Well 58, 27	8	8	13	M11
		USS			SS - E/S Chevy Chase St, S/O Henley Rd	Well 58, 27	8	8	13	M11
		DSS			SS - W/S Chevy Chase St, N/O 87th Rd (IFO Well 37)	Well 58, 27	8	8	13	M11
76750		REG			SS - IFO 160-10 S/S 89th Ave, 2nd E/O Parsons Blvd	Mix	6	12	13	M12
		USS			SS - S/S 89th Ave, E/O Parsons Blvd	Mix	6	12	13	M12
		DSS			SS - S/S 89th Ave, W/O 161st St	Mix	6	12	13	M12

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
76850		REG			SS - IFO 111-46 W/S Farmers Blvd, 1st SS N/O Keeseville Ave	Well	20	12	13	N12
		USS			SS - IFO 111-12 W/S Farmers Blvd, 1st SS S/O Jordan Ave	Well	20	12	13	N12
		DSS			SS - W/S Farmers Blvd, 1st SS W/O 113th Ave	Well	20	12	13	N12
76950		REG			SS - IFO 90-20 W/S Francis Lewis Blvd, 1st SS S/O 90th Ave	Well	8	13	13	N11
		USS			SS - IFO 89-58 W/S Francis Lewis Blvd, N/O 90th Ave	Well	8	13	13	N11
		DSS			SS - IFO 90-32 W/S Francis Lewis Blvd, 2nd SS S/O 90th Ave	Well	8	13	13	N11
77050		REG			SS - IFO 93-40 E/S 217th St, S/O 94th Ave (IFO - Queens Village Library)	Well	8	13	13	O11
		USS			SS - W/S 217th St, C/O 93rd Ave	Well	8	13	13	O11
		DSS			SS - E/S 217th St, 2nd SS S/O 94th Ave	Well	8	13	13	O11
77150		REG	1	03/03/03	SS - N/S Linden Blvd, 1st SS W/O 230th St	Well	12	13	15	O14
		USS	1	03/03/03	SS - N/S Linden Blvd, 1st SS E/O 230th St	Well	12	13	15	O14
		DSS	1	03/03/03	SS - N/S Linden Blvd, 2nd SS W/O 230th St	Well	12	13	15	O14
77250		REG			SS - W/S Brookville Blvd, BTW Caney Rd & 144th Ave	Tank 32	8	13	15	O14
		USS			SS - W/S Brookville Blvd, BTW 144th Ave & 145th Ave	Tank 32	8	13	15	O14
		DSS			SS - W/S Brookville Blvd, BTW 145th Ave and Mayda Rd	Tank 32	8	13	15	O14
77350		REG	1	06/11/02	SS - S/S Merrick Blvd, BTW 222nd St and 223rd St	Tank 29	6	13	15	O14
		USS	1	06/11/02	SS - S/S Merrick Blvd, BTW 221st St and 222nd St	Tank 29	6	13	15	O14
		DSS			SS - S/S Merrick Blvd, BTW 223rd St and 224th St	Tank 29	6	13	15	O14
77550		REG			SS - IFO E/S 222nd St, BTW 91st Rd and 92nd Ave	Tun 2	6	13	13	O11
		USS			SS - E/S 222nd St, 1st SS S/O 91st Rd	Tun 2	6	13	13	O11
		DSS			SS - IFO 222-02 E/S 222nd St, S/O 92nd Ave	Tun 2	6	13	13	O11
77650		REG			SS - OPP 110-52 W/S 207th St	Well 48	6	12	13	N12
		USS			SS - W/S 207th St, S/O Hollis Ave	Well 48	6	12	13	N12
		DSS			SS - E/S 207th St, N/O 112th Ave	Well 48	6	12	13	N12
77750		REG			SS - OPP 120-11 W/S 237th St, BTW 120th and 121st Ave	Well	8	13	15	O13
		USS			SS - W/S 237th St, N/O 120th Ave	Well	8	13	15	O13
		DSS			SS - W/S 237th St, N/O 121st Ave	Well	8	13	15	O13
77850		REG			SS - N/S 90th Ave, BTW 179th and 180th Sts	Mix	8	12	13	M12
		USS			SS - N/S 90th Ave, 1st SS E/O 180th St	Mix	8	12	13	M12
		DSS			SS - N/S 90th Ave, 1st SS W/O 179th St	Mix	8	12	13	M12
78050		REG			SS - OPP 110-38 E/S Springfield Blvd	Well 47	16	13	13	O12
		USS			SS - E/S Springfield Blvd, N/O 110th Rd	Well 47	16	13	13	O12
		DSS			SS - E/S Springfield Blvd, N/O 111th Rd	Well 47	16	13	13	O12
78150		REG	1	03/03/03	SS - IFO 85-31 E/S 120th St, 2nd SS N/O Hillside Ave	Well 43A	8	9	12	K12
		USS	1	03/03/03	SS - E/S 120th St, 1st SS N/O Hillside Ave	Well 43A	8	9	12	K12
		DSS	1	03/03/03	SS - E/S 120th St, 1st SS N/O 85th Ave	Well 43A	8	9	12	K12
78350		REG	1	03/03/03	SS - N/S Hillside Ave, BTW 189th & 190th Sts	Well	16	12	13	N11
		USS	1	03/03/03	SS - N/S Hillside Ave, 1st SS W/O 189th St	Well	16	12	13	N11
		DSS	1	03/03/03	SS - N/S Hillside Ave, 1st SS E/O 190th St	Well	16	12	13	N11
78450		REG	2	03/03/03	SS - W/S Hollis Court Blvd, 2nd SS S/O Hillside Ave	Tun 2	8	13	13	N11
		USS	3	03/03/03	SS - W/S Hollis Court Blvd, 1st SS S/O Hillside Ave	Tun 2	8	13	13	N11
		DSS	2	03/03/03	SS - W/S Hollis Court Blvd, BTW 89th and 90th Aves	Tun 2	8	13	13	N11
78550		REG			SS - W/S Springfield Blvd, 2nd SS S/O 116th Ave	Well	8	13	15	O12
		USS			SS - W/S Springfield Blvd, 1st SS S/O 116th Ave	Well	8	13	15	O12
		DSS			SS - W/S Springfield Blvd, BTW 116th Rd & Linden Blvd	Well	8	13	15	O12

2005 NYCDEP Water Supply Distribution Sampling Sites Location List

Index	Class	SUB	Rev	Rev Date	LOCATION & DESCRIPTION	System	Pipe Size	CB	Page	Coord
78650		REG			SS -N/S Linden Blvd, 1st SS E/O 191st St (IFO Queens Library)	Well	8	12	15	N13
		USS			SS -IFO 192-05 N/S Linden Blvd, 1st SS E/O 192nd St	Well	8	12	15	N13
		DSS			SS - IFO 190-07 N/S Linden Blvd, 1st SS E/O 190th St	Well	8	12	15	N13
78850		REG	**1**	**03/03/03**	SS - OPP 109-36 E/S 160th St, 2nd SS N/O 110th Ave	Well	6	12	13	M12
		USS	**1**	**03/03/03**	SS - E/S 160th St, 1st SS S/O 109th Ave (IFO Community Center)	Well	6	12	13	M12
		DSS	**1**	**03/03/03**	SS - E/S 160th St, 1st SS N/O 110th Ave, across 109-52 160th St	Well	6	12	13	M12
79050		REG			SS - S/S South Conduit Ave, 2nd SS E/O Springfield Blvd	Tun 2	12	13	15	N14
		USS			SS - S/S South Conduit Ave, 1st SS E/O Springfield Blvd	Tun 2	12	13	15	N14
		DSS			SS - S/S South Conduit Ave, 1st SS W/O 222nd St	Tun 2	12	13	15	N14
79150		REG			SS - IFO 127-11 E/S Farmers Blvd (Keyspan), 2nd SS N/O Merrick Blvd	Well	6	12	15	N13
		USS			SS - E/S Farmers Blvd, 1st SS N/O Merrick Blvd	Well	6	12	15	N13
		DSS			SS - E/S Farmers Blvd, 3rd SS N/O Merrick Blvd	Well	6	12	15	N13
79450		REG			SS - OPP 127-18 N/S Foch Blvd, 1st SS W/O 128th St	Tun 2	8	10	14	L13
		USS			SS - OPP 127-08 N/S Foch Blvd, 1st SS E/O 127th St	Tun 2	8	10	14	L13
		DSS			SS - N/S Foch Blvd, 1st SS W/O 130th St	Tun 2	8	10	14	L13
79550		REG			SS - W/S 127th St, 1st SS S/O 109th Ave	Well	6	9	14	K13
		USS			SS - OPP 109-09 W/S 127th St, 2nd SS S/O 109th Ave	Well	6	9	14	K13
		DSS			SS - W/S 127th St, 1st SS N/O Hawtree Creek Rd	Well	6	9	14	K13

THE CITY OF NEW YORK

DEPARTMENT OF ENVIRONMENTAL PROTECTION

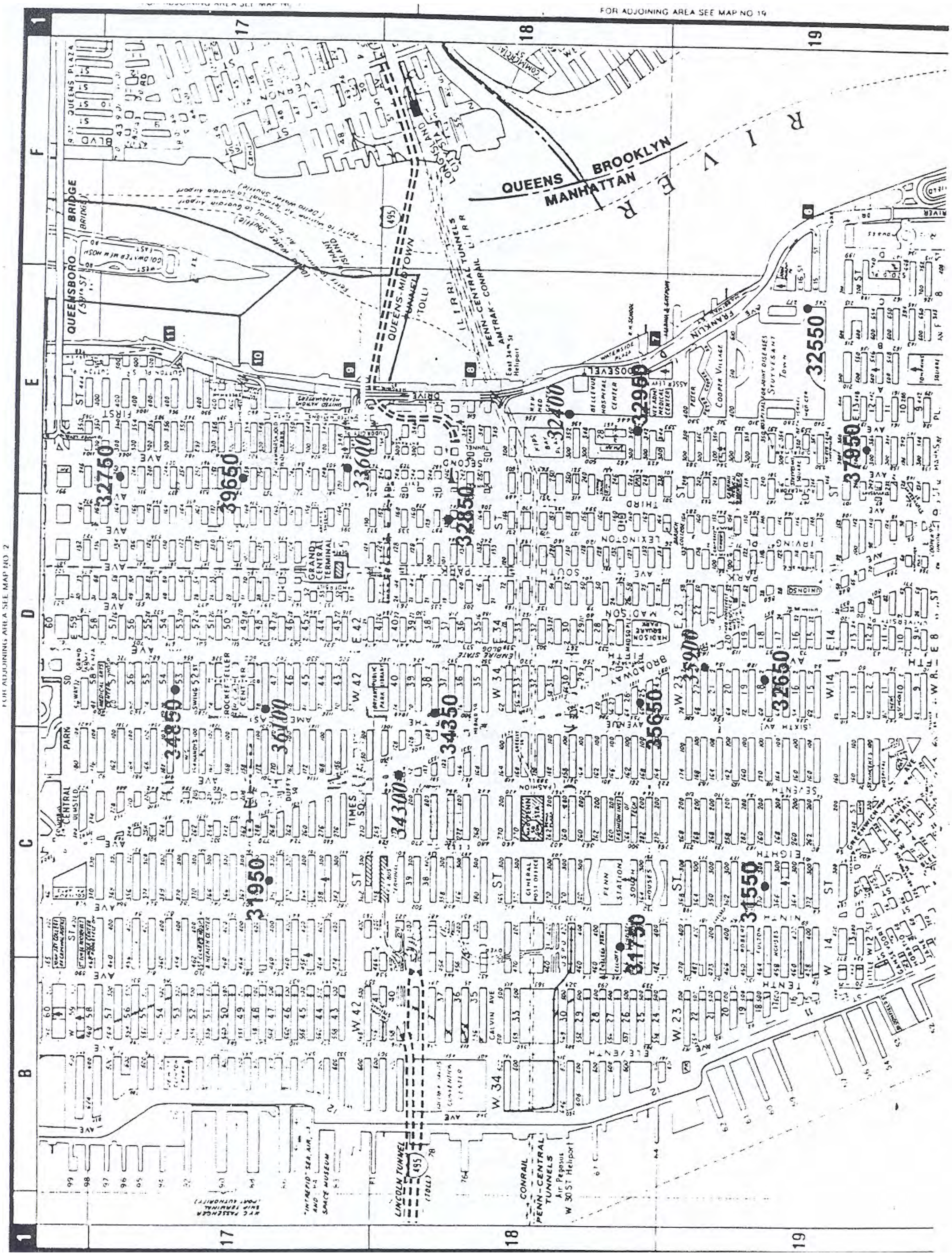
DISTRIBUTION SAMPLING SITE LOCATIONS

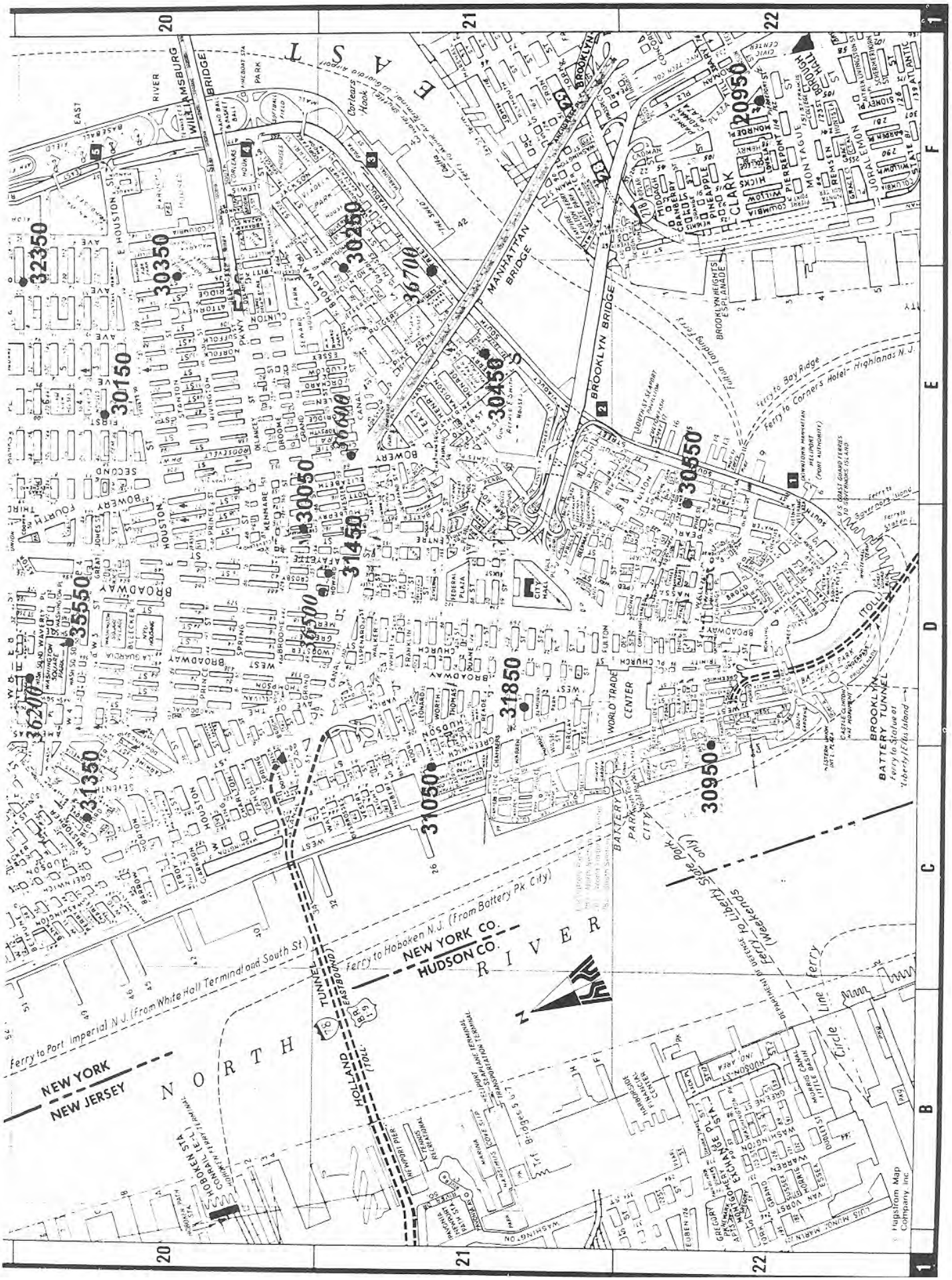
(HAGSTROM MAP)

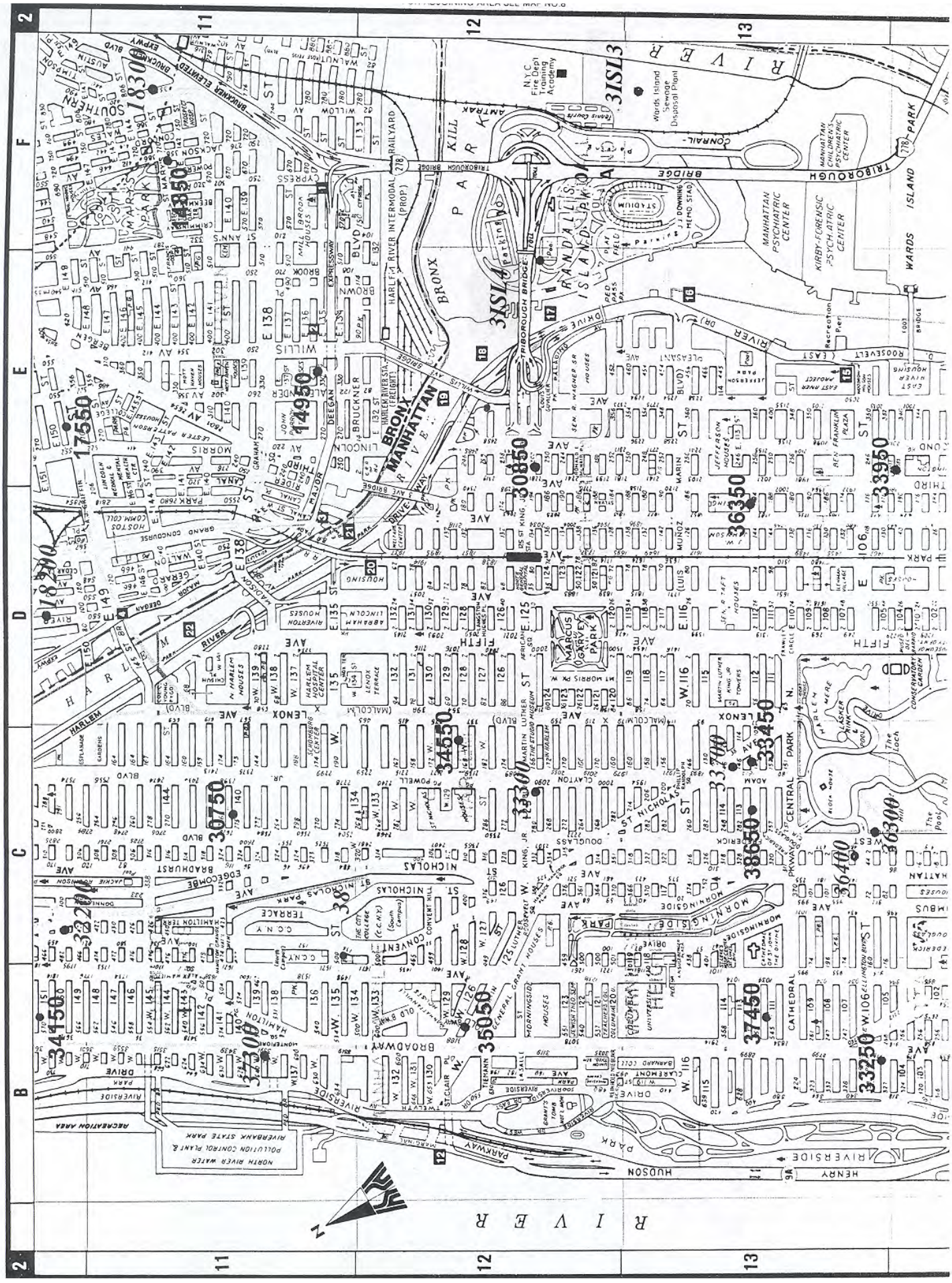
Legend

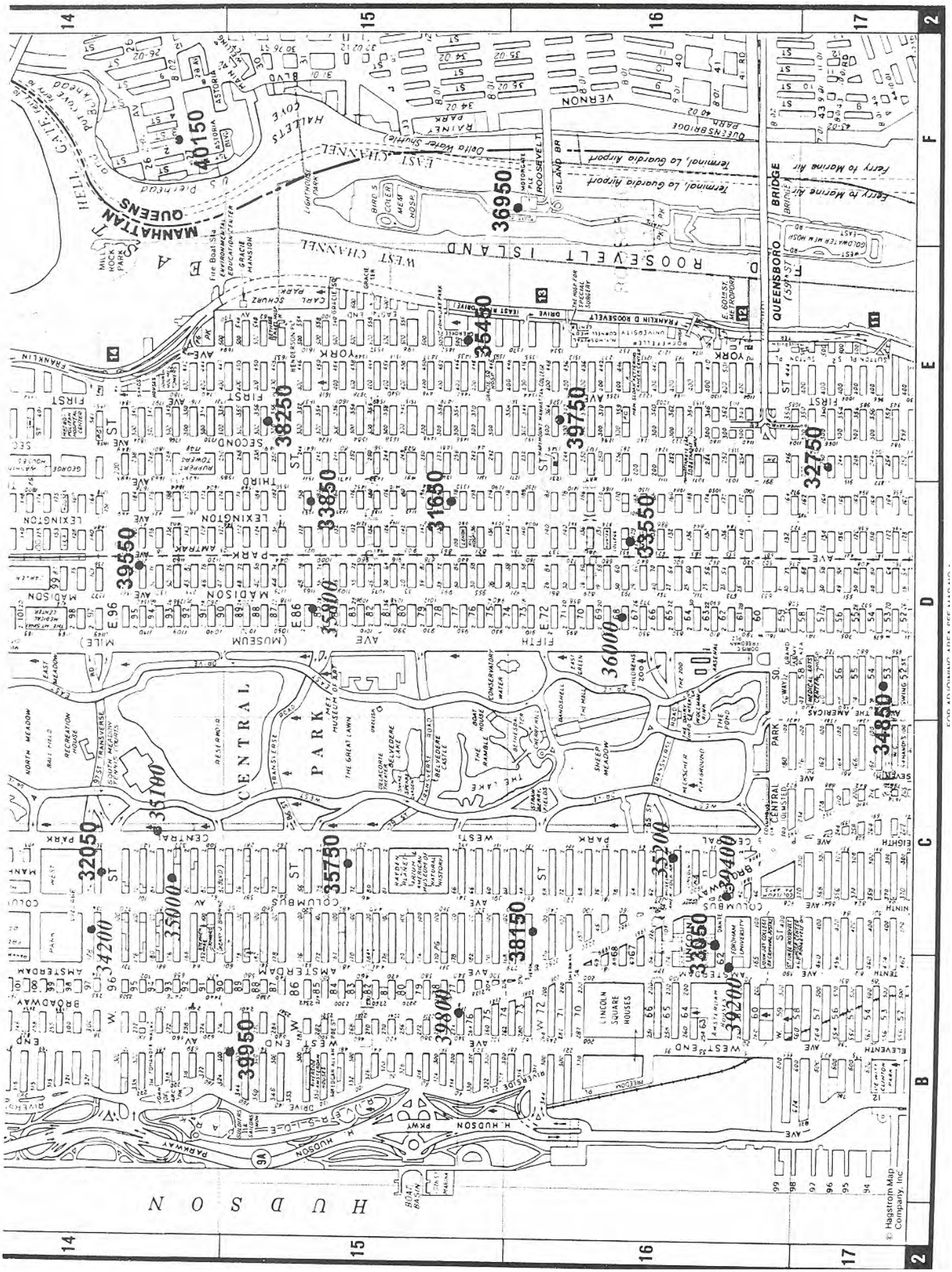
23450 - Compliance Sampling Site

38300 - Surveillance Sampling Site


FOR ADJOINING AREA SEE MAP NO 19
QUEENS
BROOKLYN
MANHATTAN
RIVER
QUEENSBORO BRIDGE
QUEENS-MIDTOWN TUNNEL
LINCOLN TUNNEL
GRAND CENTRAL TERMINAL
EMPIRE STATE BLDG
PENN STATION
GENERAL POST OFFICE
TIMES SQ.
BROADWAY
32750
39650
33600
32400
32950
32550
37950
32850
24850
36100
34350
35900
32650
35650
34300
31950
31550
31750


EAST RIVER
NEW YORK
NEW JERSEY
NORTH
RIVER
NEW YORK CO.
HUDSON CO.
Ferry to Port Imperial N.J. (From White Hall Terminal and South St)
Ferry to Hoboken N.J. (From Battery Pk City)
HOLLAND TUNNEL (TOLL)
TUNNEL (EASTBOUND)
WILLIAMSBURG BRIDGE
MANHATTAN BRIDGE
BROOKLYN BRIDGE
BROOKLYN BATTERY TUNNEL
WORLD TRADE CENTER
BATTERY PARK CITY
Ferry to Bay Ridge
Ferry to Corners Hotel- Highlands N.J.
Ferry to Governors Island
Ferry to Staten I.
Ferry to Statue of Liberty
Ferry to Statue of Liberty (Weekends)
Circle Line Ferry
Hagstrom Map Company Inc


RIVER
PARK
HARLEM RIVER
BRONX
MANHATTAN
RANDALL'S ISLAND
WARDS ISLAND
HARLEM
HUDSON
RIVERSIDE
MORNINGSIDE
CENTRAL PARK
FIFTH AVE
LENOX AVE
MADISON AVE
BROADWAY
NICHOLAS TERRACE
HARLEM RIVER INTERMODAL RAILYARD (PROP)
TRIBOROUGH BRIDGE
MANHATTAN PSYCHIATRIC CENTER
KIRBY-FORENSIC PSYCHIATRIC CENTER
N.Y.C. Fire Dept Training Academy
Wards Island Sewage Disposal Plant
NORTH RIVER WATER POLLUTION CONTROL PLANT &
RIVERBANK STATE PARK
RECREATION AREA
FOR ADJOINING AREA SEE MAP NO. 8
FOR ADJOINING AREA SEE MAP NO. 9


CENTRAL PARK
HUDSON
ROOSEVELT ISLAND
WEST CHANNEL
EAST CHANNEL
MANHATTAN
QUEENS
HELL GATE
QUEENSBORO BRIDGE
Terminal, La Guardia Airport
Ferry to Marine Air
FIFTH AVE
MADISON AVE
PARK AVE
LEXINGTON AVE
THIRD AVE
SECOND AVE
FIRST AVE
YORK AVE
E 96 ST
E 86 ST
E 72 ST
59 ST
CENTRAL PARK WEST
COLUMBUS AVE
AMSTERDAM AVE
BROADWAY
WEST END AVE
WEST 72 ST
WEST 79 ST
WEST 86 ST
WEST 96 ST
NORTH MEADOW
RECREATION HOUSE
SOUTH MEADOW
THE GREAT LAWN
BELVEDERE CASTLE
THE LAKE
THE RAMBLE
BOAT HOUSE
CONSERVATORY WATER
THE MALL
THE POND
SHEEP MEADOW
WOLLMAN RINK
CENTRAL PARK SOUTH
59 ST TRANSVERSE
79 ST TRANSVERSE
86 ST TRANSVERSE
96 ST TRANSVERSE
LINCOLN SQUARE HOUSES
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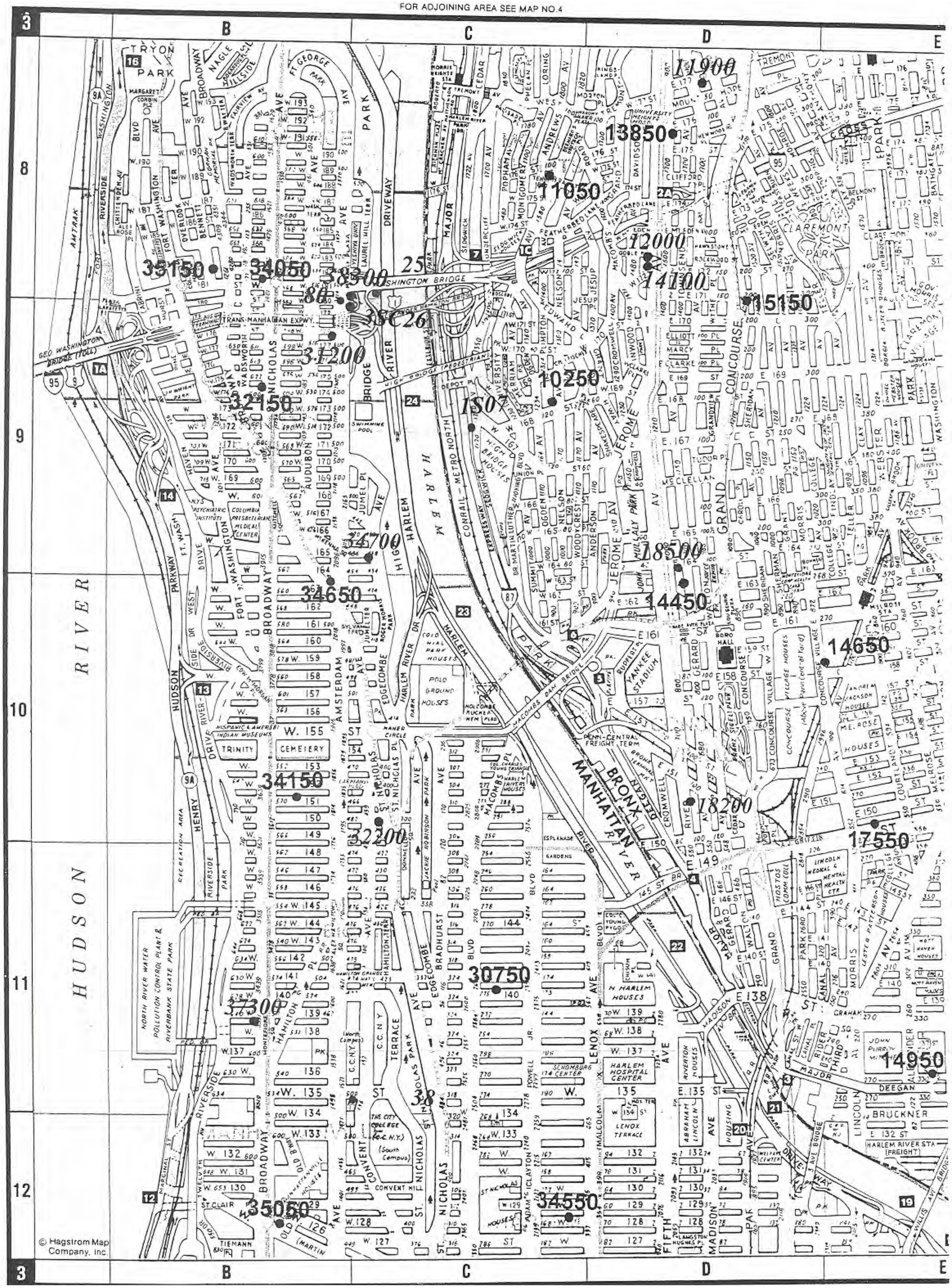
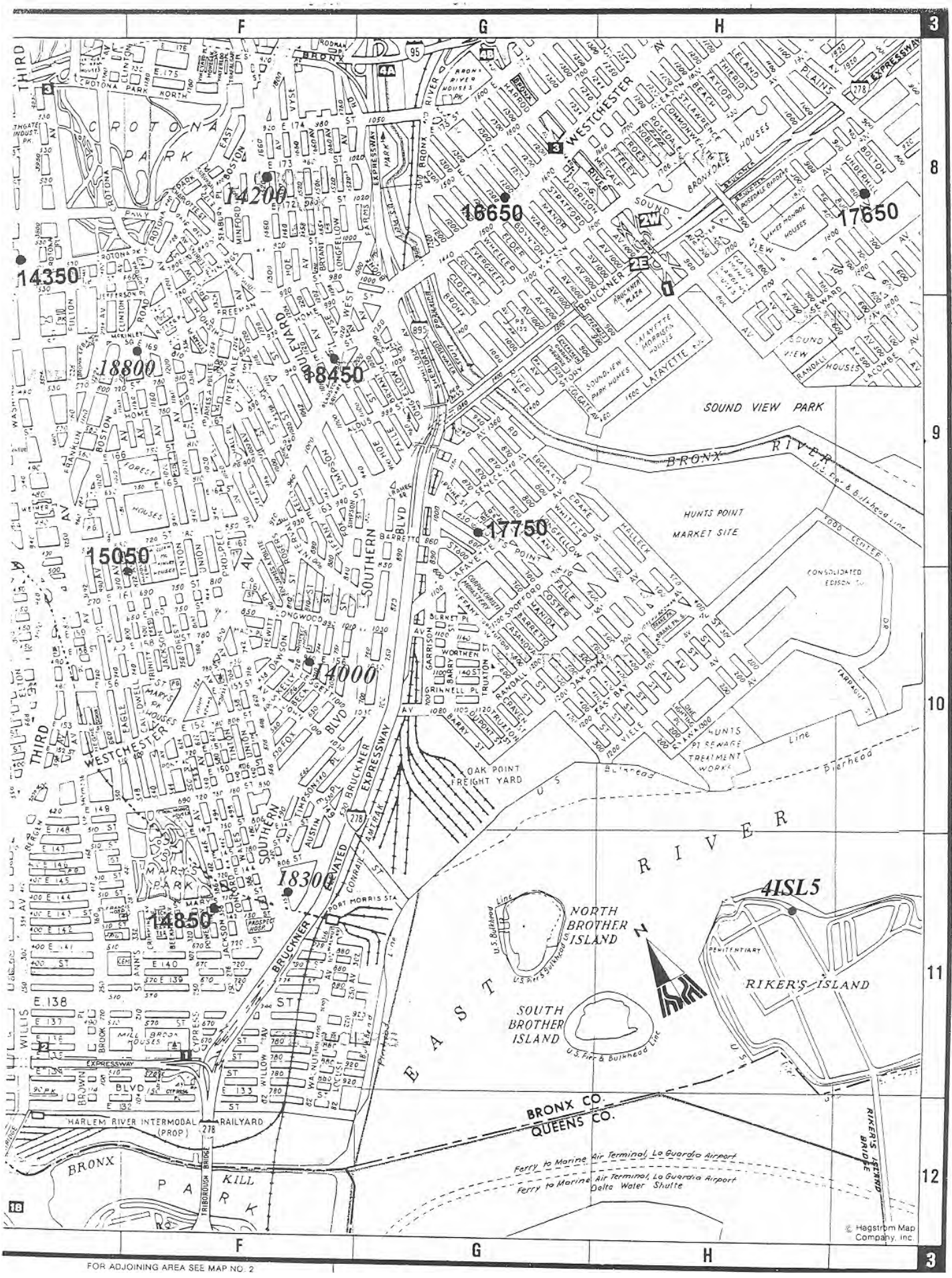

FOR ADJOINING AREA SEE MAP NO.4
3
B
C
D
E
8
9
10
11
12
11900
13850
11050
12000
14100
15150
35150
34050
38300
25
38C26
31200
10250
32150
1S07
34700
18500
34650
14450
14650
34150
18200
32200
17550
30750
37300
14950
38
35050
34550
HUDSON
RIVER
HARLEM
RIVER
BRONX
MANHATTAN
YANKEE STADIUM
© Hagstrom Map Company, Inc.


F
G
H
3
8
9
10
11
12
14350
14200
16650
17650
18800
18450
17750
15050
14000
18300
14850
4ISL5
SOUND VIEW PARK
BRONX RIVER
HUNTS POINT MARKET SITE
HUNTS PT SEWAGE TREATMENT WORKS
OAK POINT FREIGHT YARD
NORTH BROTHER ISLAND
SOUTH BROTHER ISLAND
RIKER'S ISLAND
EAST RIVER
BRONX CO.
QUEENS CO.
HARLEM RIVER INTERMODAL RAILYARD (PROP)
BRONX KILL PARK
Ferry to Marine Air Terminal, La Guardia Airport
Ferry to Marine Air Terminal, La Guardia Airport Delta Water Shuttle
FOR ADJOINING AREA SEE MAP NO. 7
FOR ADJOINING AREA SEE MAP NO. 8
FOR ADJOINING AREA SEE MAP NO. 2
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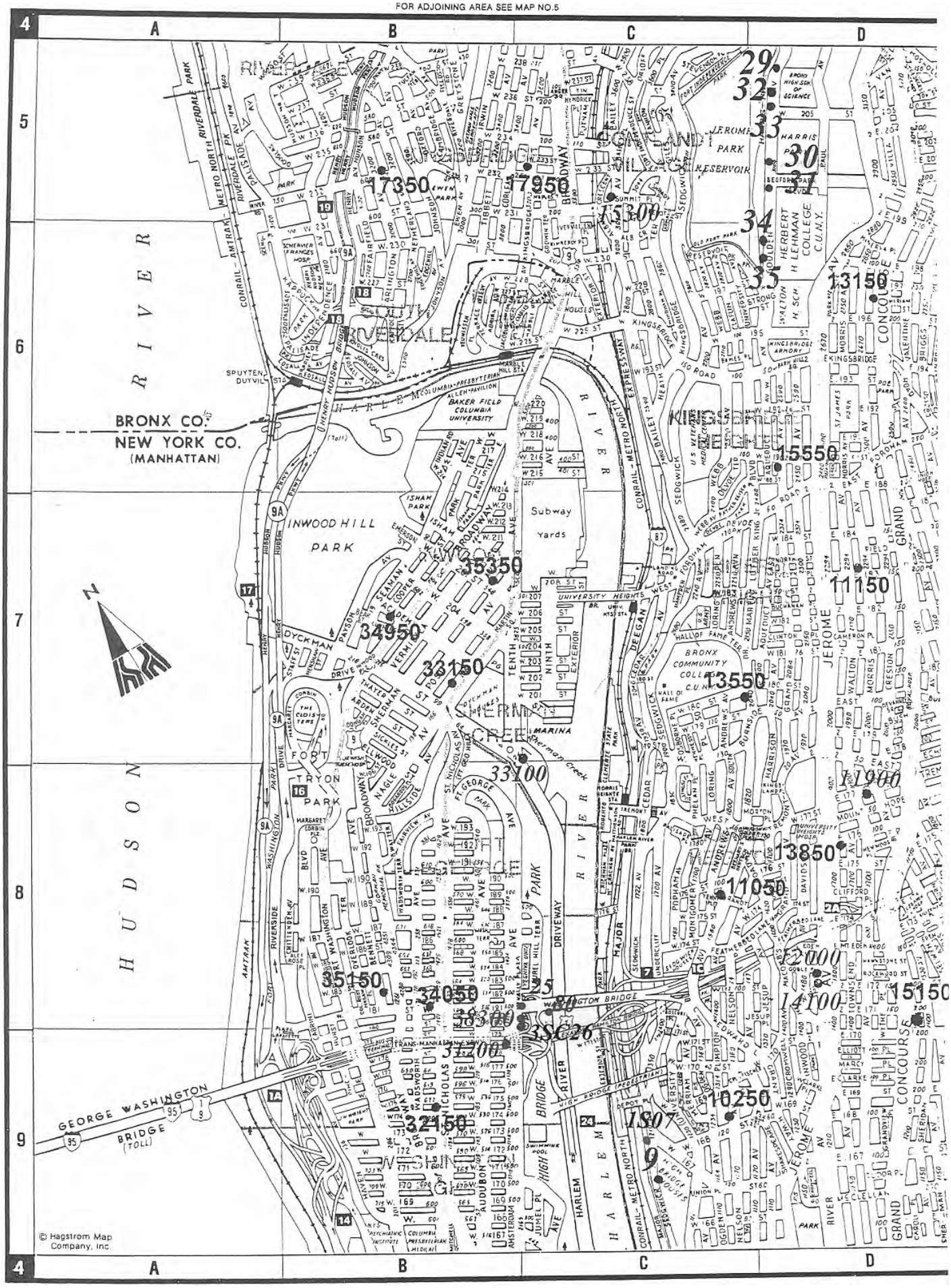
FOR ADJOINING AREA SEE MAP NO.5
A
B
C
D
4
5
6
7
8
9
HUDSON RIVER
HARLEM RIVER
BRONX CO.
NEW YORK CO.
(MANHATTAN)
RIVERDALE
INWOOD HILL PARK
FORT TRYON PARK
HARLEM RIVER DRIVE
HARLEM RIVER PARK
HARLEM RIVER BRIDGE
GEORGE WASHINGTON BRIDGE (TOLL)
MARINA
Subway Yards
BAKER FIELD COLUMBIA UNIVERSITY
HERBERT H LEHMAN COLLEGE C.U.N.Y.
BRONX COMMUNITY COLLEGE C.U.N.Y.
JEROME RESERVOIR
JEROME PARK
CONCOURSE
17350
17950
17300
13150
15550
11150
13550
11900
13850
11050
12000
14100
15150
10250
35350
34950
33150
33100
35150
34050
33300
33200
32150
Sherman Creek
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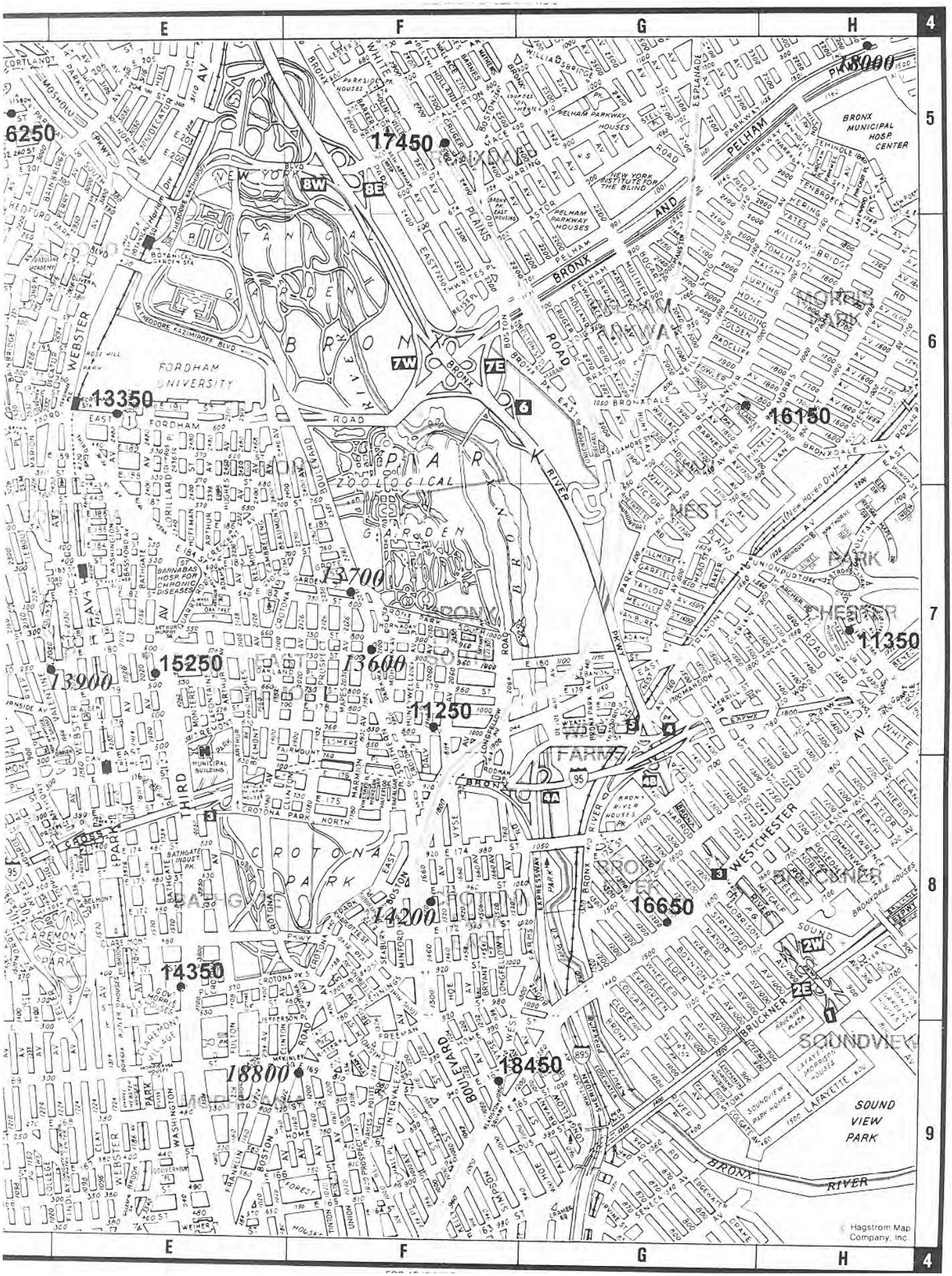
E
F
G
H
4
5
6
7
8
9
6250
17450
18000
13350
16150
13700
15250
13600
13900
11250
11350
16650
14200
14350
18800
18450
BRONX
PARK
ZOO
LOGICAL
GARDEN
BOTANICAL
GARDEN
FORDHAM
UNIVERSITY
BRONX RIVER
HARLEM RIVER
BRONX KILL
SOUND VIEW PARK
SOUNDVIEW
CROTONA PARK
BRONX MUNICIPAL HOSP. CENTER
PELHAM PARKWAY
BRONX RIVER PARKWAY
CROSS BRONX EXPWY
BRUCKNER BLVD
WEBSTER AVE
THIRD AVE
WHITE PLAINS ROAD
BOSTON ROAD
WESTCHESTER AVE
LAFAYETTE AVE
BRONX RIVER
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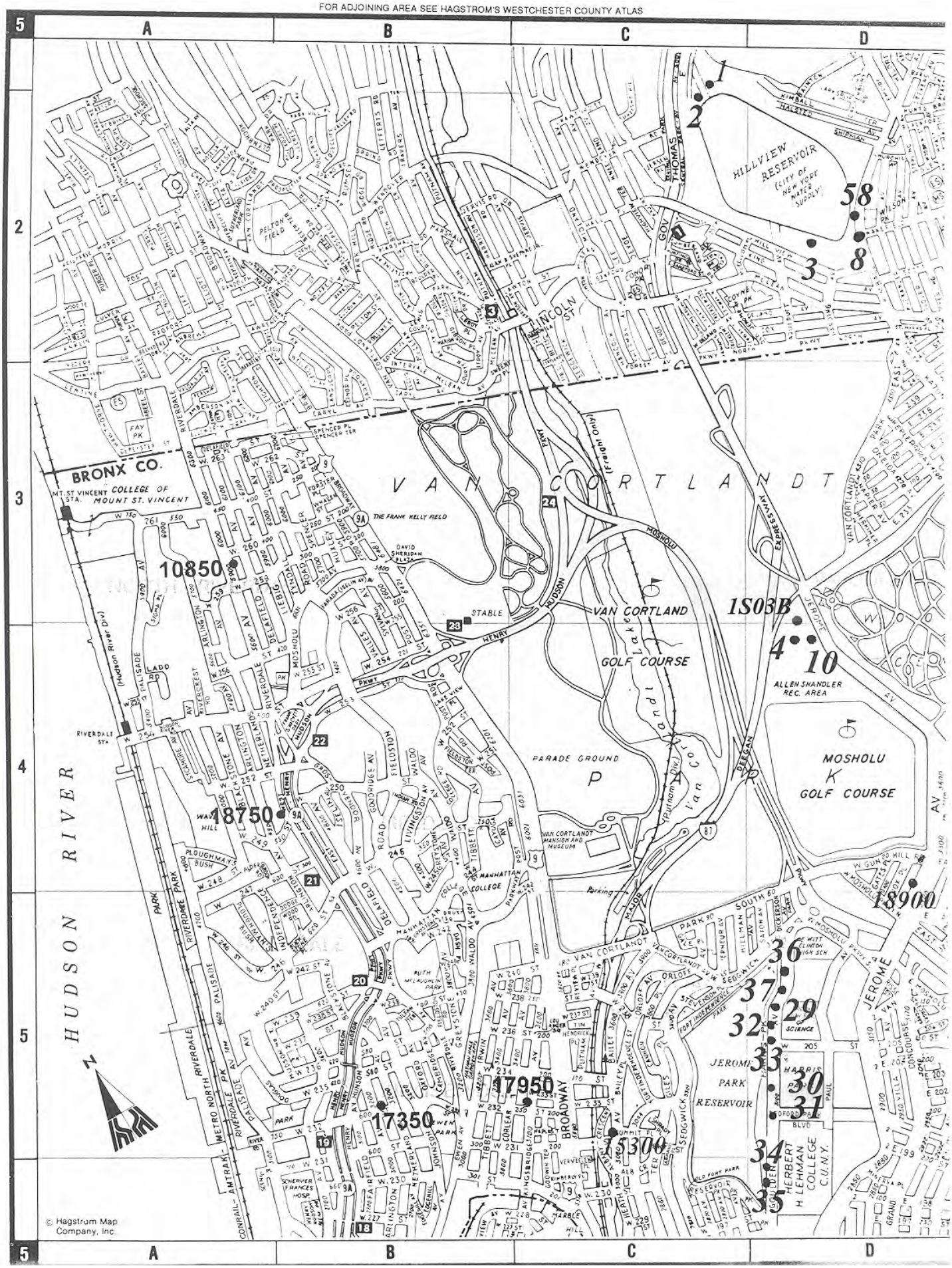
FOR ADJOINING AREA SEE HAGSTROM'S WESTCHESTER COUNTY ATLAS
BRONX CO.
VAN CORTLANDT
HUDSON RIVER
HILLVIEW RESERVOIR (CITY OF NEW YORK WATER SUPPLY)
VAN CORTLAND GOLF COURSE
MOSHOLU GOLF COURSE
ALLEN SHANDLER REC. AREA
PARADE GROUND
JEROME PARK RESERVOIR
HERBERT H LEHMAN COLLEGE C.U.N.Y.
10850
18750
17350
17950
18300
18900
1S03B
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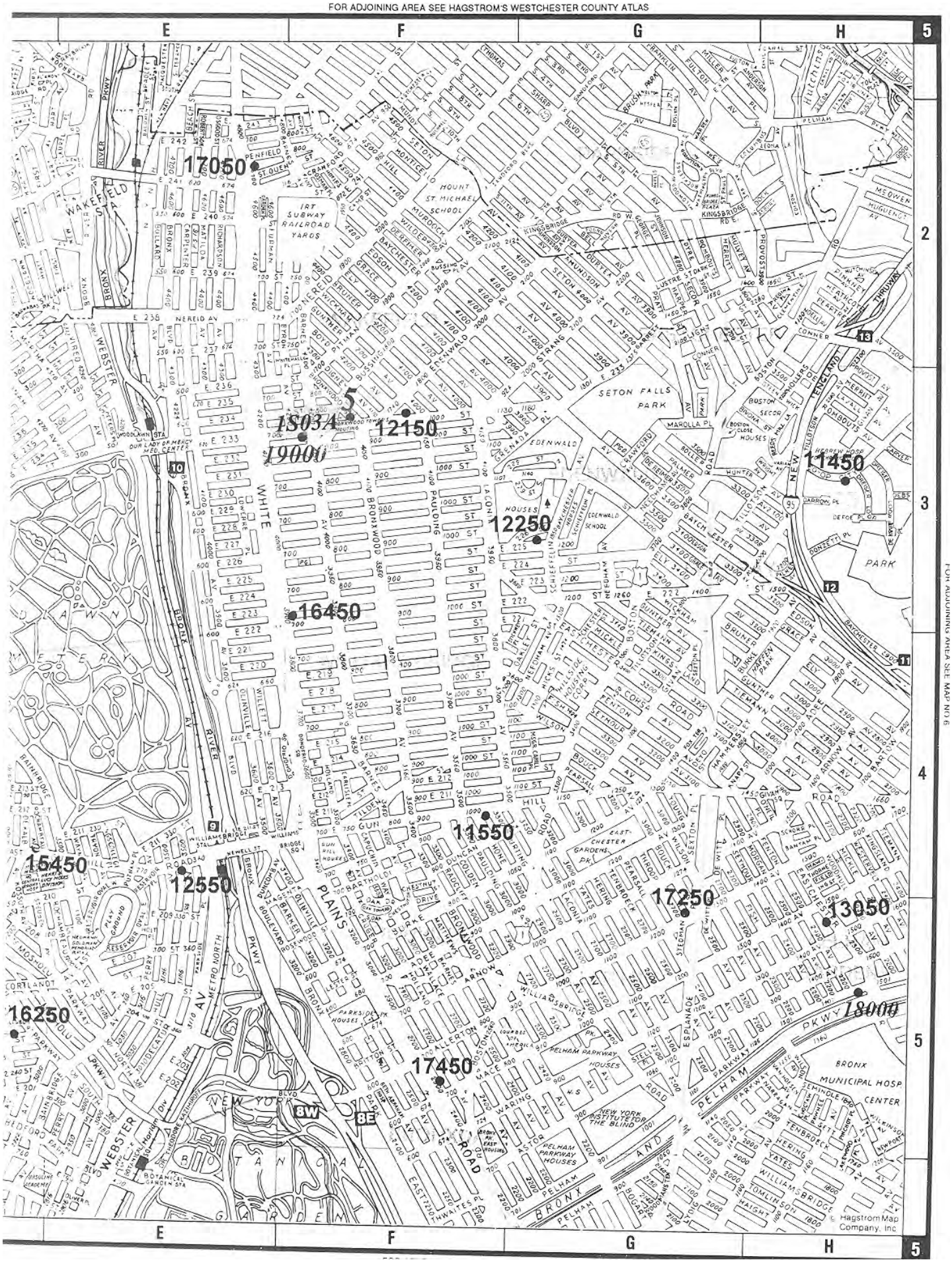
FOR ADJOINING AREA SEE HAGSTROM'S WESTCHESTER COUNTY ATLAS
E
F
G
H
5
4
3
2
1
17050
18303A
19000
12150
12250
16450
11550
15450
12550
17250
13050
16250
17450
18000
11450
SETON FALLS PARK
HUNT ST. MICHAEL SCHOOL
IRT SUBWAY RAILROAD YARDS
WAKEFIELD STA
WOODLAWN STA
BOTANICAL GARDEN STA
WILLIAMSBRIDGE
BRONX MUNICIPAL HOSP CENTER
NEW YORK INSTITUTE FOR THE BLIND
FOR ADJOINING AREA SEE MAP NO 6
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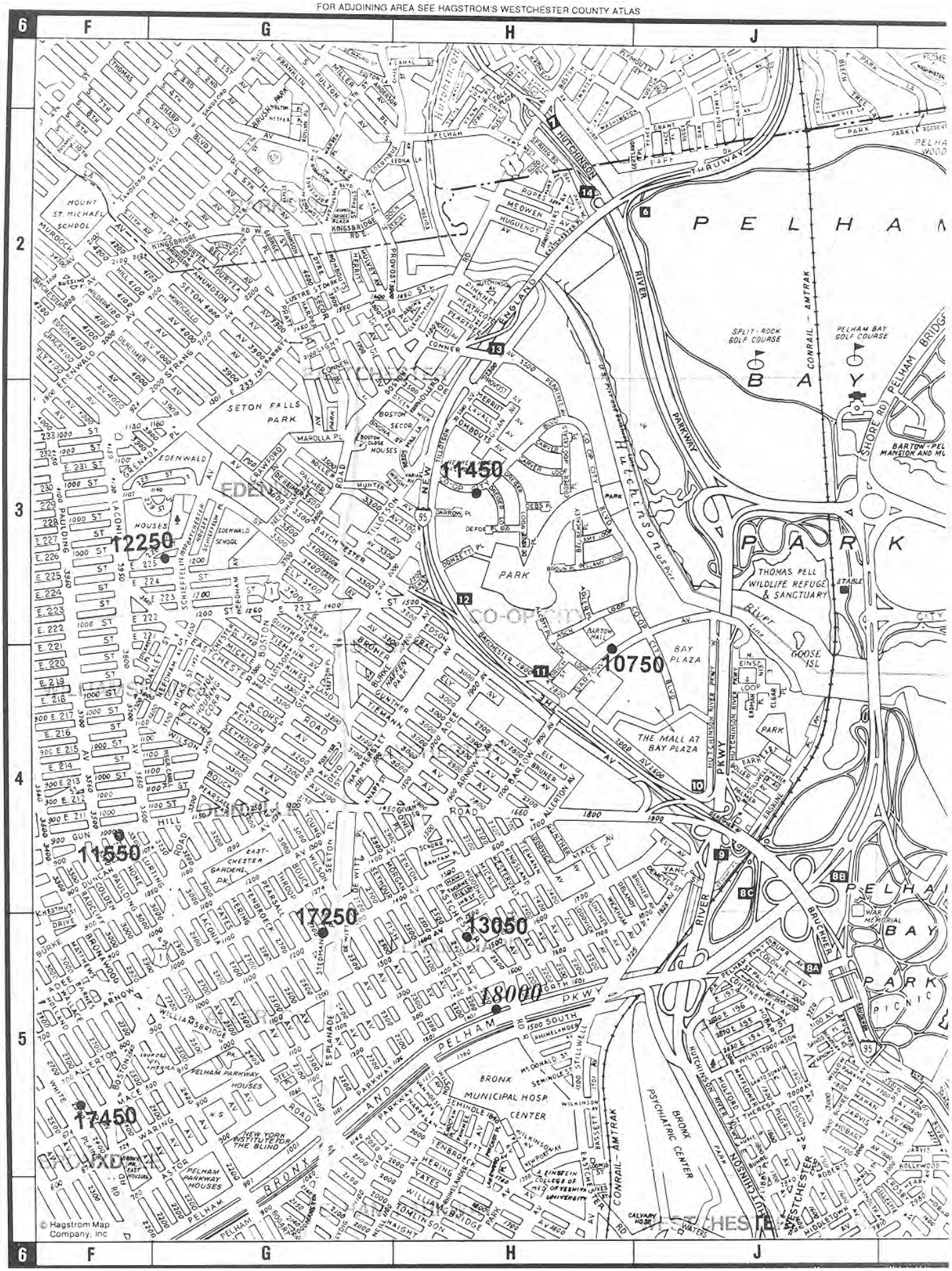
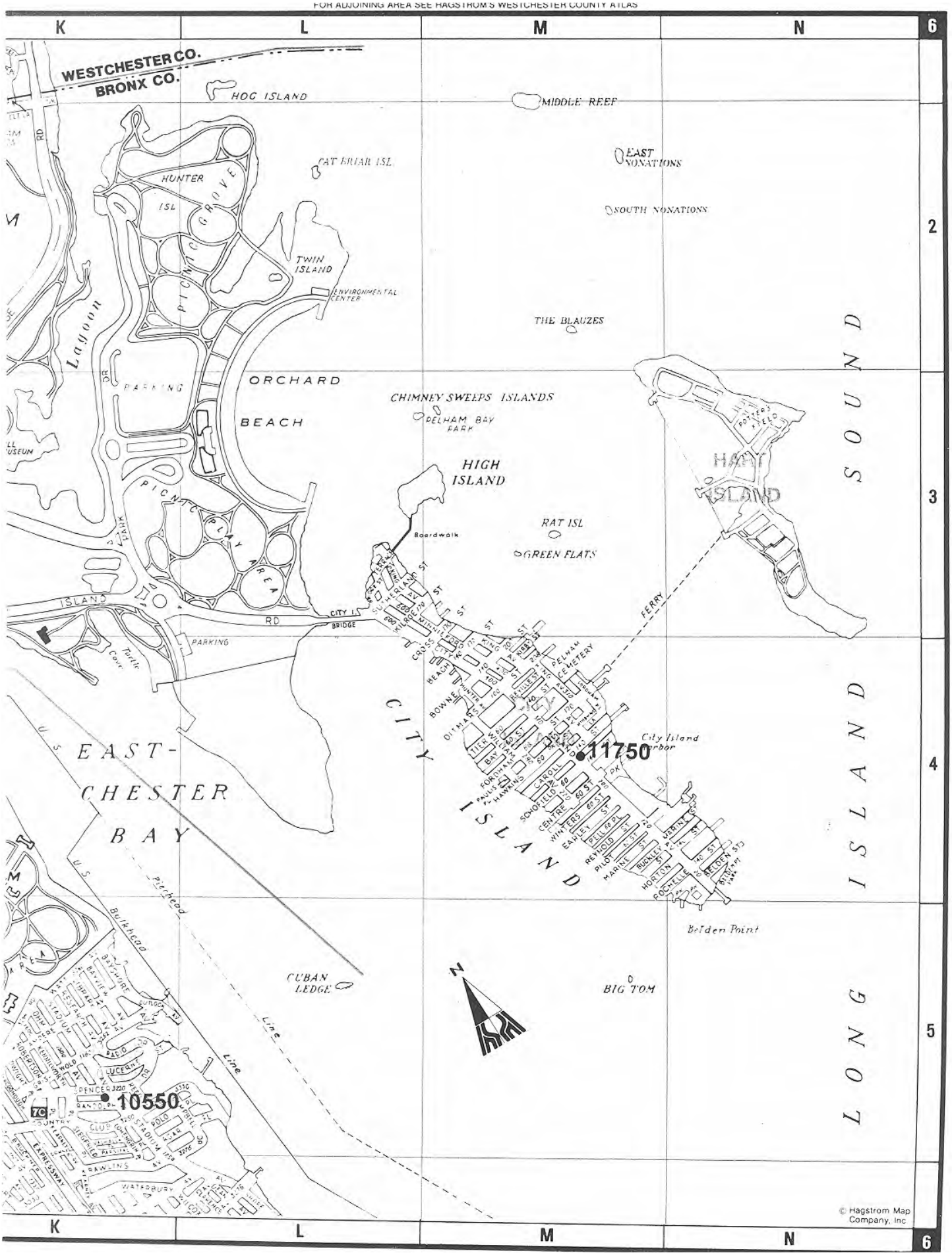
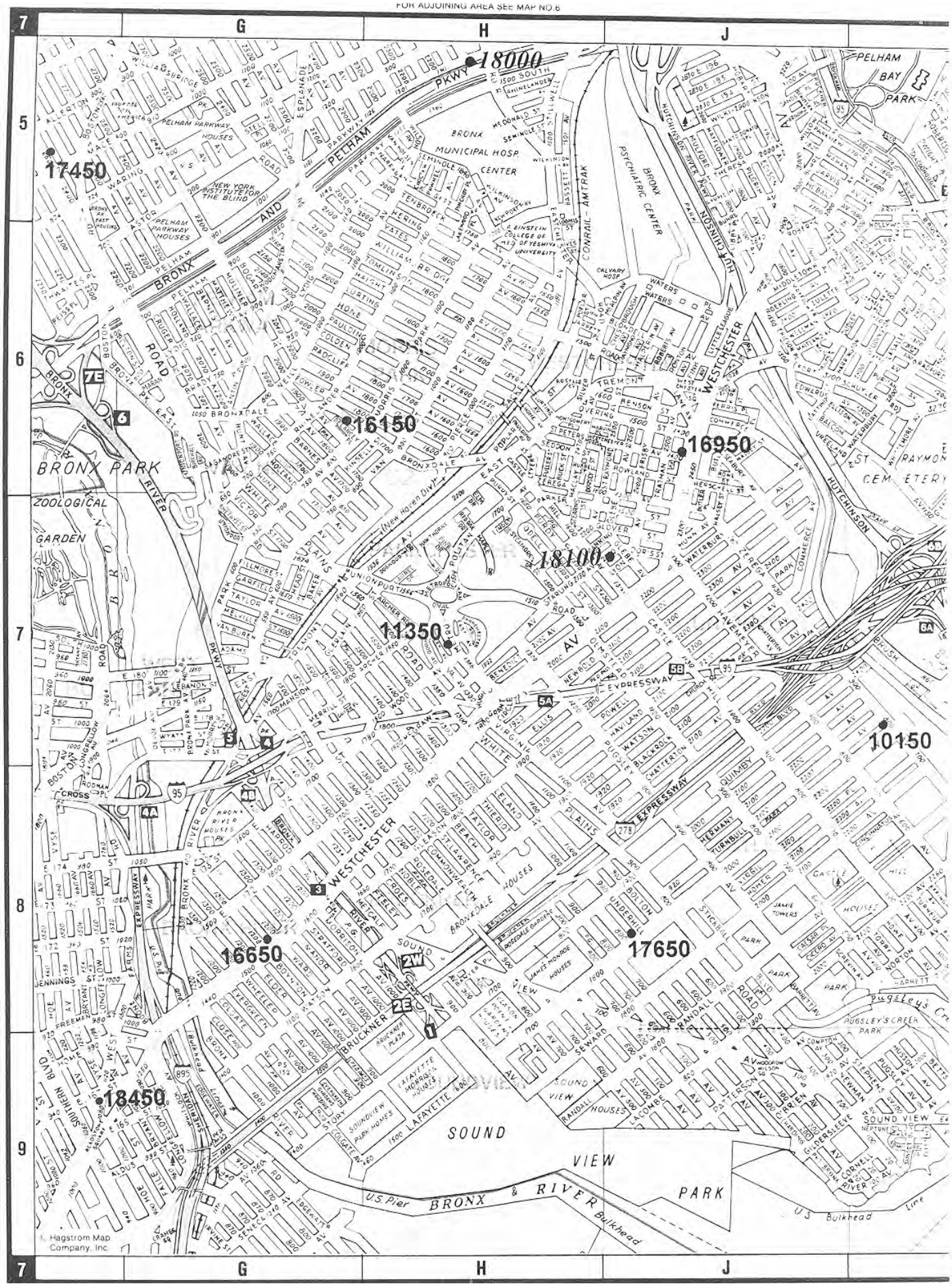

FOR ADJOINING AREA SEE HAGSTROM'S WESTCHESTER COUNTY ATLAS
F
G
H
J
2
3
4
5
6
11450
12250
10750
11550
17250
13050
18000
17450
PELHAM
BAY
PARK
THOMAS PELL WILDLIFE REFUGE & SANCTUARY
SPLIT-ROCK GOLF COURSE
PELHAM BAY GOLF COURSE
THE MALL AT BAY PLAZA
BAY PLAZA
SETON FALLS PARK
EDEN
PARK
HUTCHINSON RIVER PKWY
PELHAM PARKWAY
BRONX MUNICIPAL HOSP CENTER
BRONX PSYCHIATRIC CENTER
CONRAIL - AMTRAK
NEW ENGLAND THRUWAY
HUTCHINSON RIVER PARKWAY
SHORE RD
PELHAM BRIDGE
GOOSE ISL
STABLE
© Hagstrom Map Company, Inc


FOR ADJOINING AREA SEE HAGSTROM'S WESTCHESTER COUNTY ATLAS
K
L
M
N
6
2
3
4
5
WESTCHESTER CO.
BRONX CO.
HOG ISLAND
MIDDLE REEF
CAT BRIAR ISL
EAST NONATIONS
SOUTH NONATIONS
HUNTER ISL
GROVE
TWIN ISLAND
ENVIRONMENTAL CENTER
PICNIC
Lagoon
THE BLAUZES
ORCHARD BEACH
PARKING
CHIMNEY SWEEPS ISLANDS
PELHAM BAY PARK
HIGH ISLAND
RAT ISL
GREEN FLATS
Boardwalk
PICNIC PLAY AREA
ISLAND
CITY IS
BRIDGE
PARKING
Turtle Cove
FERRY
SOUND
EAST-CHESTER BAY
CITY ISLAND
City Island Harbor
11750
Belden Point
LONG ISLAND
Bulkhead
Pierhead
Line
CUBAN LEDGE
BIG TOM
10550
© Hagstrom Map Company, Inc


FOR ADJOINING AREA SEE MAP NO.6
7
G
H
J
5
6
7
8
9
18000
17450
16150
16950
18100
11350
10150
16650
17650
18450
BRONX PARK
ZOOLOGICAL GARDEN
BRONX RIVER
PELHAM BAY PARK
BRONX MUNICIPAL HOSP CENTER
PSYCHIATRIC CENTER
CONRAIL - AMTRAK
WESTCHESTER
HUTCHINSON
SOUND VIEW PARK
SOUND VIEW
U.S Pier
BRONX & RIVER Bulkhead
U S Bulkhead
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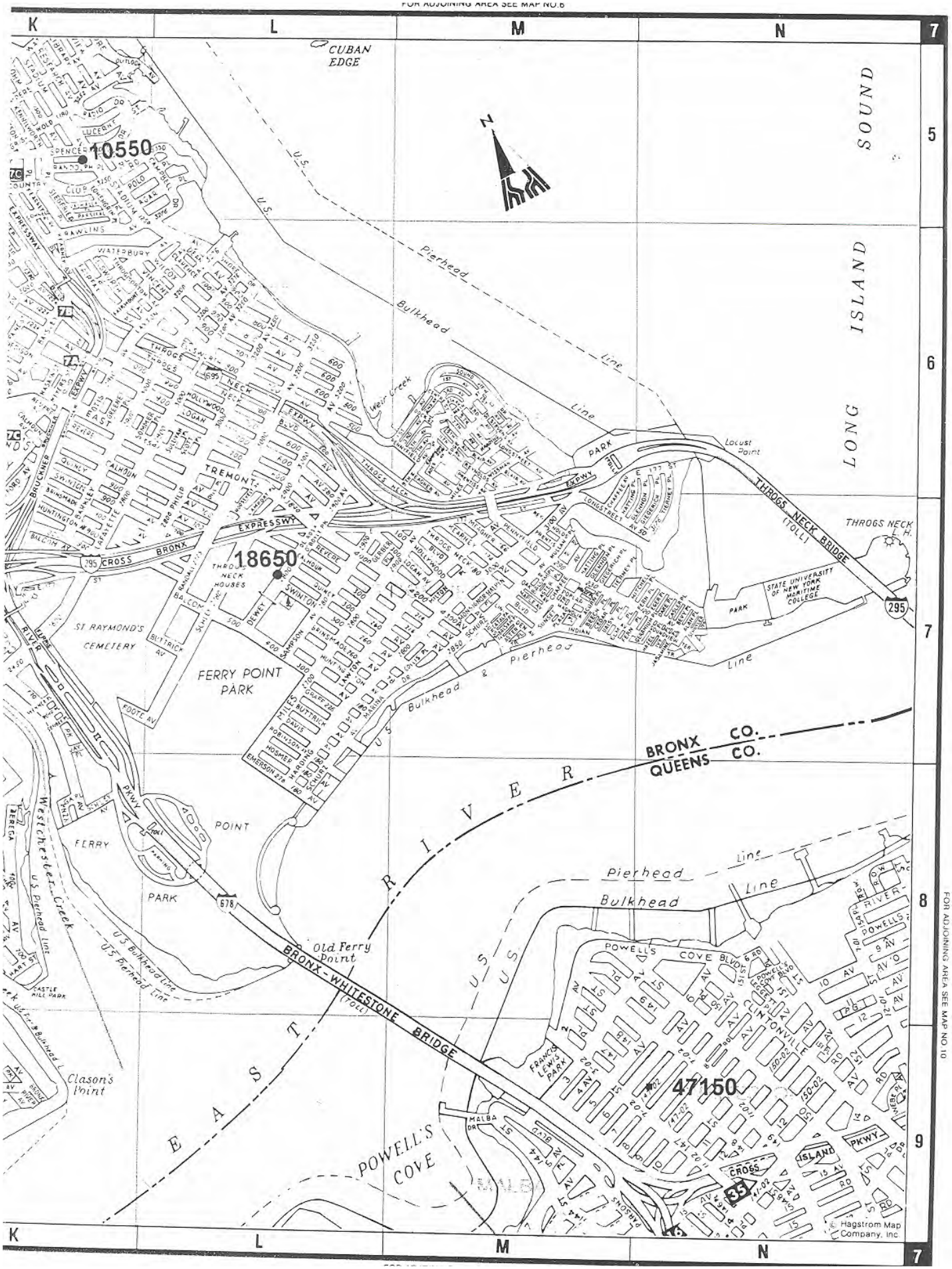
FOR ADJOINING AREA SEE MAP NO.6
K
L
M
N
7
5
6
7
8
9
CUBAN EDGE
LONG ISLAND SOUND
10550
18650
47150
N
U.S. Pierhead Bulkhead Line
Weir Creek
Locust Point
PARK
THROGS NECK BRIDGE (TOLL)
THROGS NECK L.H.
STATE UNIVERSITY OF NEW YORK MARITIME COLLEGE
EXPRESSWY
CROSS BRONX
295
TREMONT
THROGS NECK HOUSES
ST RAYMOND'S CEMETERY
FERRY POINT PARK
BRONX CO.
QUEENS CO.
EAST RIVER
Westchester Creek
POINT
FERRY
PARK
678
Old Ferry Point
BRONX-WHITESTONE BRIDGE (TOLL)
Clason's Point
POWELL'S COVE
POWELL'S COVE BLVD
FRANCIS LEWIS PARK
CLINTONVILLE
PKWY
ISLAND
CROSS
35
FOR ADJOINING AREA SEE MAP NO 10
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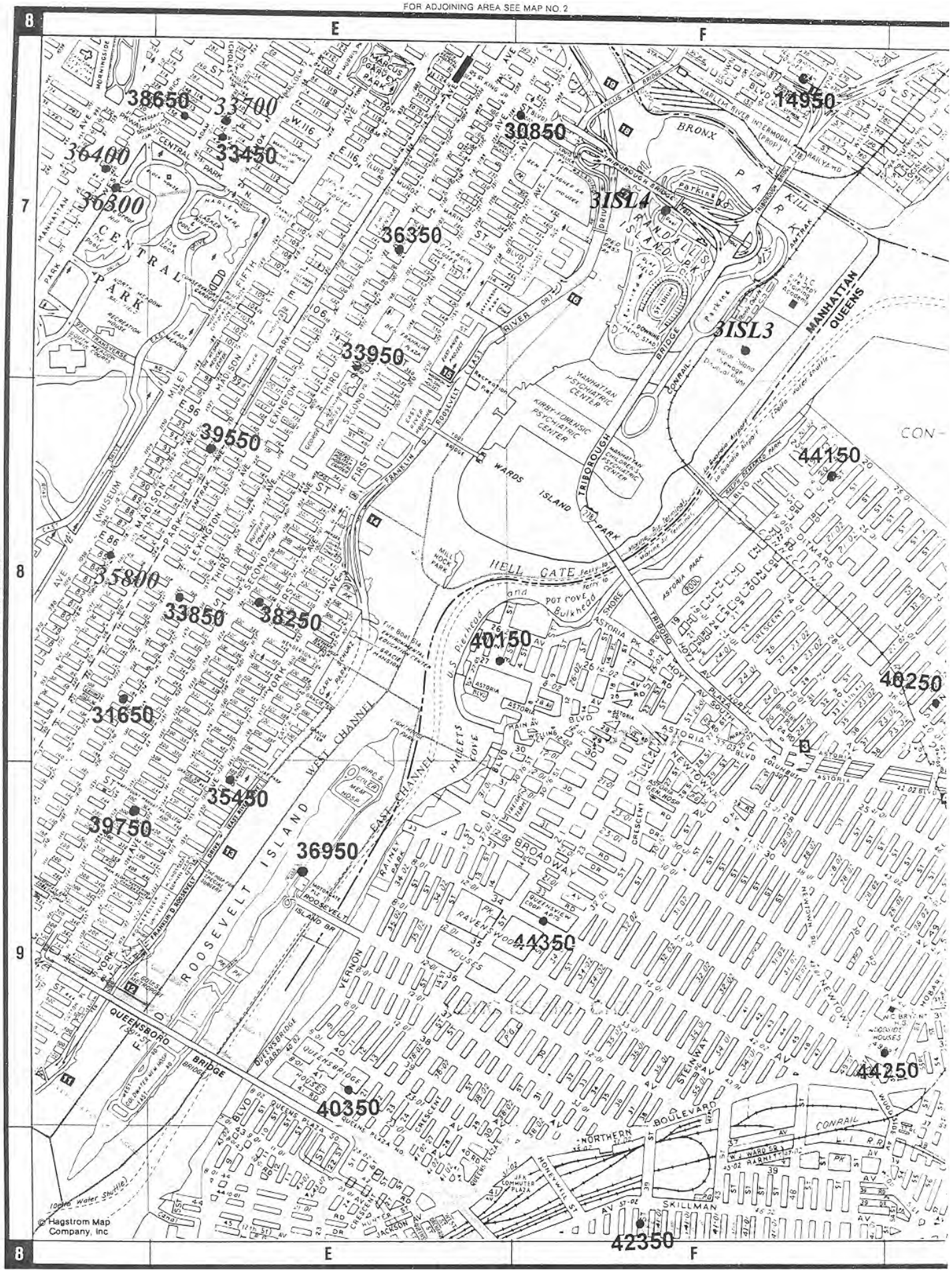
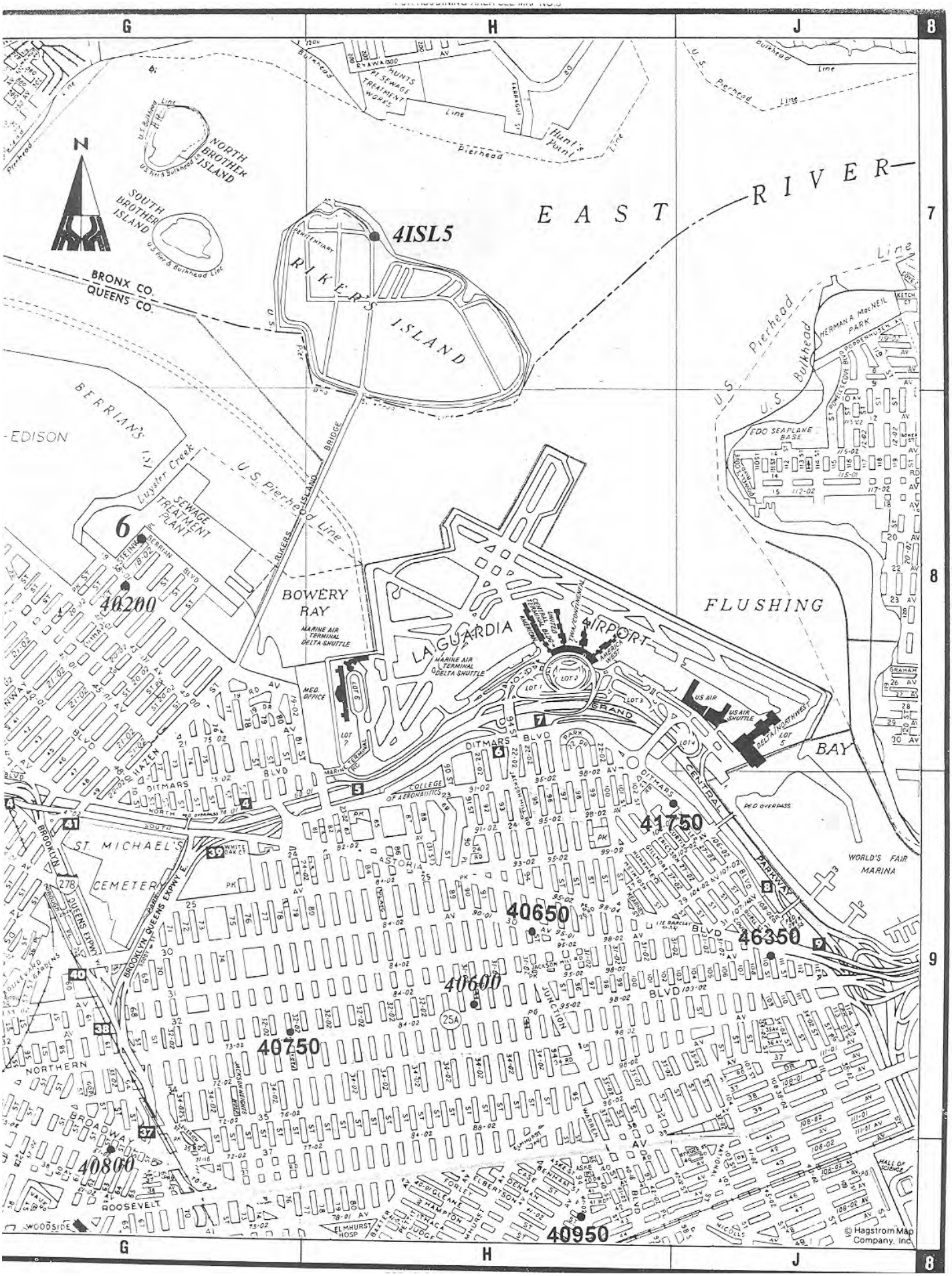

FOR ADJOINING AREA SEE MAP NO. 2
38650
33700
14950
30850
36400
33450
36800
BISL4
36350
BISL3
33950
39550
44150
35800
33850
38250
40150
40250
31650
35450
39750
36950
44350
40350
44250
42350
CENTRAL PARK
BRONX PARK
WARDS ISLAND
HELL GATE
WEST CHANNEL
EAST CHANNEL
ROOSEVELT ISLAND
BROADWAY
QUEENSBORO BRIDGE
TRIBOROUGH BRIDGE
MANHATTAN
QUEENS
E
F
7
8
9


G
H
J
8
7
9
N
4ISL5
EAST RIVER
RIKER'S ISLAND
NORTH BROTHER ISLAND
SOUTH BROTHER ISLAND
BRONX CO.
QUEENS CO.
BERRIAN'S
EDISON
Luyster Creek
SEWAGE TREATMENT PLANT
6
40200
BOWERY BAY
MARINE AIR TERMINAL DELTA SHUTTLE
LA GUARDIA AIRPORT
FLUSHING
BAY
HUNTS POINT SEWAGE TREATMENT WORKS
Hunt's Point
U.S. Pierhead Line
U.S. Bulkhead Line
EDO SEAPLANE BASE
HERMAN A. MacNEIL PARK
41750
40650
40600
40750
40800
40950
46350
ST. MICHAEL'S CEMETERY
WORLD'S FAIR MARINA
COLLEGE OF AERONAUTICS
BROOKLYN QUEENS EXPWY
QUEENS EXPWY
NORTHERN BLVD
BROADWAY
ROOSEVELT
WOODSIDE
DITMARS BLVD
HAZEN ST
ASTORIA
JUNCTION BLVD
PARKWAY
CENTRAL
GRAND
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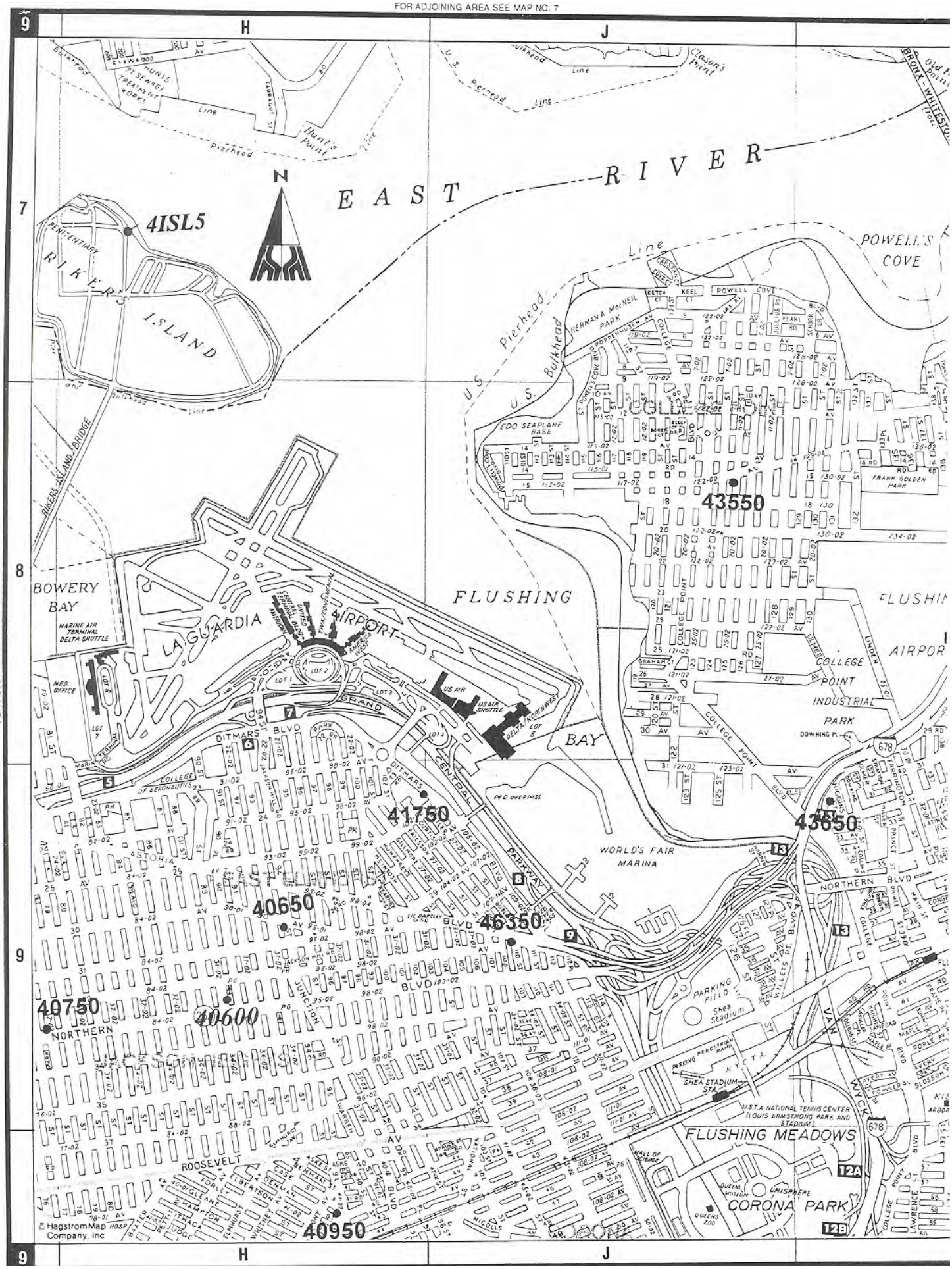
FOR ADJOINING AREA SEE MAP NO. 7
FOR ADJOINING AREA SEE MAP NO. 6
EAST RIVER
4ISL5
RIKERS ISLAND
PENITENTIARY
BOWERY BAY
LA GUARDIA AIRPORT
FLUSHING BAY
COLLEGE POINT
POWELLS COVE
WORLDS FAIR MARINA
FLUSHING MEADOWS
CORONA PARK
43550
41750
43650
40650
45350
40750
40600
40950
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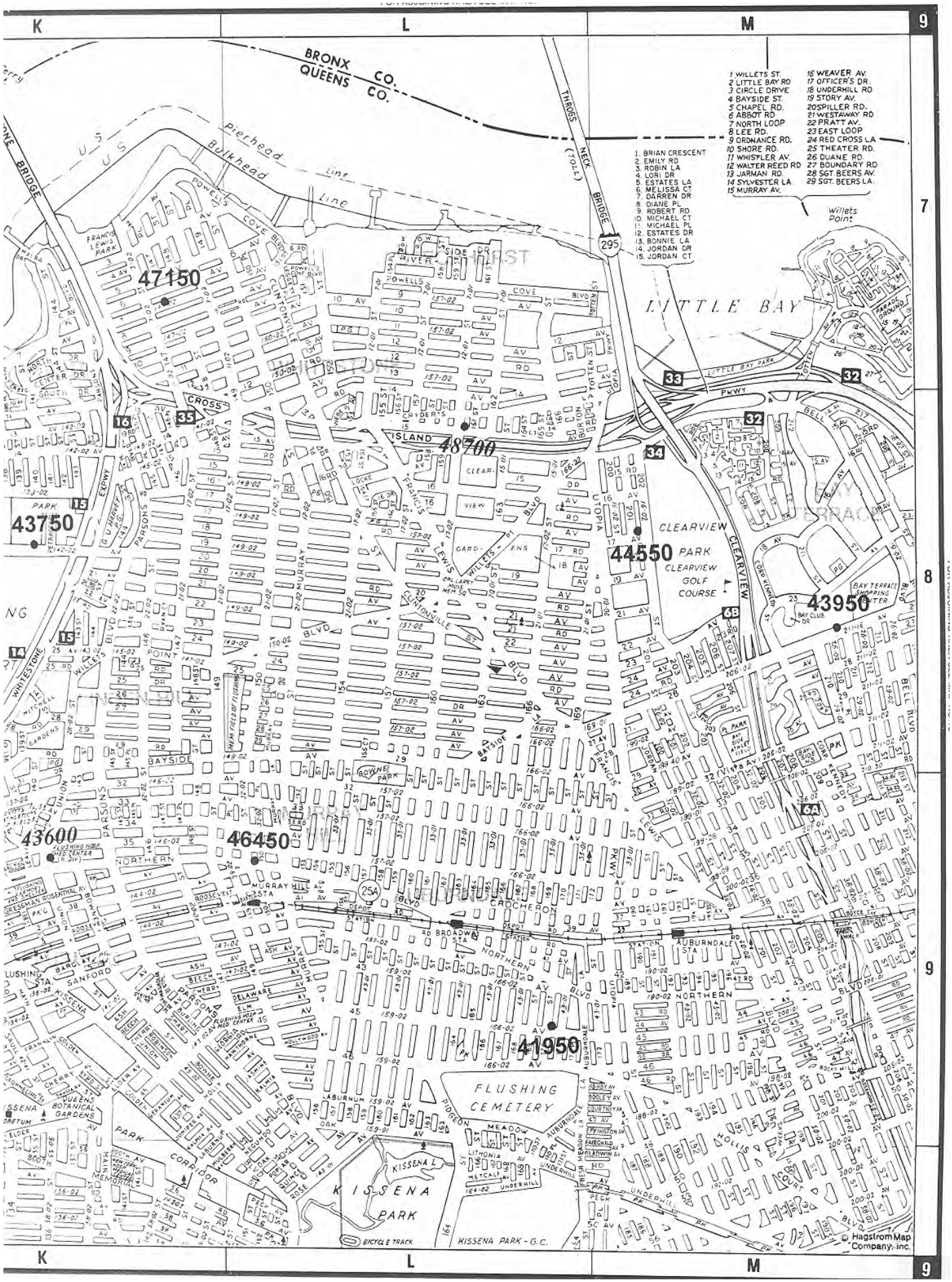
K
L
M
9
7
8
9
BRONX CO.
QUEENS CO.
Pierhead Bulkhead Line
THROGS NECK BRIDGE (TOLL)
295
1 WILLETS ST.
2 LITTLE BAY RD
3 CIRCLE DRIVE
4 BAYSIDE ST.
5 CHAPEL RD.
6 ABBOT RD
7 NORTH LOOP
8 LEE RD.
9 ORDNANCE RD.
10 SHORE RD.
11 WHISTLER AV.
12 WALTER REED RD
13 JARMAN RD
14 SYLVESTER LA
15 MURRAY AV.
16 WEAVER AV.
17 OFFICER'S DR
18 UNDERHILL RD
19 STORY AV.
20 SPILLER RD.
21 WESTAWAY RD
22 PRATT AV.
23 EAST LOOP
24 RED CROSS LA
25 THEATER RD.
26 DUANE RD.
27 BOUNDARY RD
28 SGT. BEERS AV.
29 SGT. BEERS LA.
1. BRIAN CRESCENT
2. EMILY RD
3. ROBIN LA
4. LORI DR
5. ESTATES LA
6. MELISSA CT
7. DARREN DR
8. DIANE PL
9. ROBERT RD
10. MICHAEL CT
11. MICHAEL PL
12. ESTATES DR
13. BONNIE LA
14. JORDAN DR
15. JORDAN CT
Willets Point
LITTLE BAY
47150
48700
43750
44550
CLEARVIEW GOLF COURSE
43950
43600
46450
41950
FLUSHING CEMETERY
KISSENA PARK
KISSENA PARK - G.C.
BICYCLE TRACK
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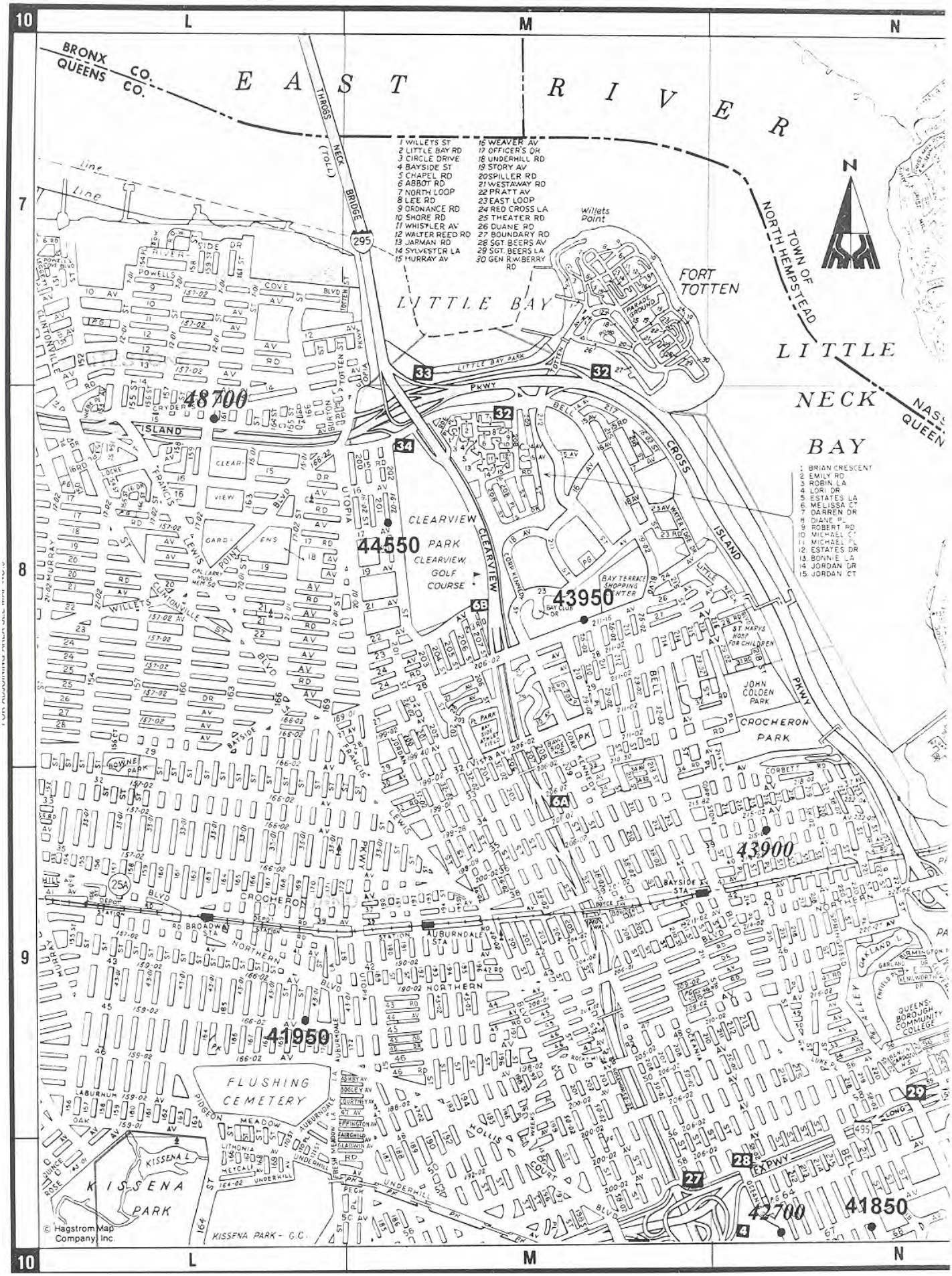
BRONX CO.
QUEENS CO.
EAST RIVER
THROGS NECK BRIDGE (TOLL)
295
Willets Point
FORT TOTTEN
LITTLE BAY
TOWN OF NORTH HEMPSTEAD
LITTLE NECK BAY
1 WILLETS ST
2 LITTLE BAY RD
3 CIRCLE DRIVE
4 BAYSIDE ST
5 CHAPEL RD
6 ABBOTT RD
7 NORTH LOOP
8 LEE RD
9 ORDNANCE RD
10 SHORE RD
11 WHISTLER AV
12 WALTER REED RD
13 JARMAN RD
14 SYLVESTER LA
15 MURRAY AV
16 WEAVER AV
17 OFFICER'S DR
18 UNDERHILL RD
19 STORY AV
20 SPILLER RD
21 WESTAWAY RD
22 PRATT AV
23 EAST LOOP
24 RED CROSS LA
25 THEATER RD
26 DUANE RD
27 BOUNDARY RD
28 SGT. BEERS AV
29 SGT. BEERS LA
30 GEN R.W.BERRY RD
1 BRIAN CRESCENT
2 EMILY RD
3 ROBIN LA
4 LORI DR
5 ESTATES LA
6 MELISSA CT
7 DARREN DR
8 DIANE PL
9 ROBERT RD
10 MICHAEL CT
11 MICHAEL CL
12 ESTATES DR
13 BONNIE LA
14 JORDAN DR
15 JORDAN CT
48700
44550
43950
43900
41950
42700
41850
CLEARVIEW PARK
CLEARVIEW GOLF COURSE
BAY TERRACE SHOPPING CENTER
JOHN COLDEN PARK
CROCHERON PARK
FLUSHING CEMETERY
KISSENA PARK
KISSENA PARK - G.C.
QUEENS BOROUGH COMMUNITY COLLEGE
BAYSIDE STA
AUBURNDALE STA
BROADWAY STA
ISLAND
CROSS ISLAND PKWY
LITTLE BAY PARK
EXPWY
L
M
N
10
7
8
9
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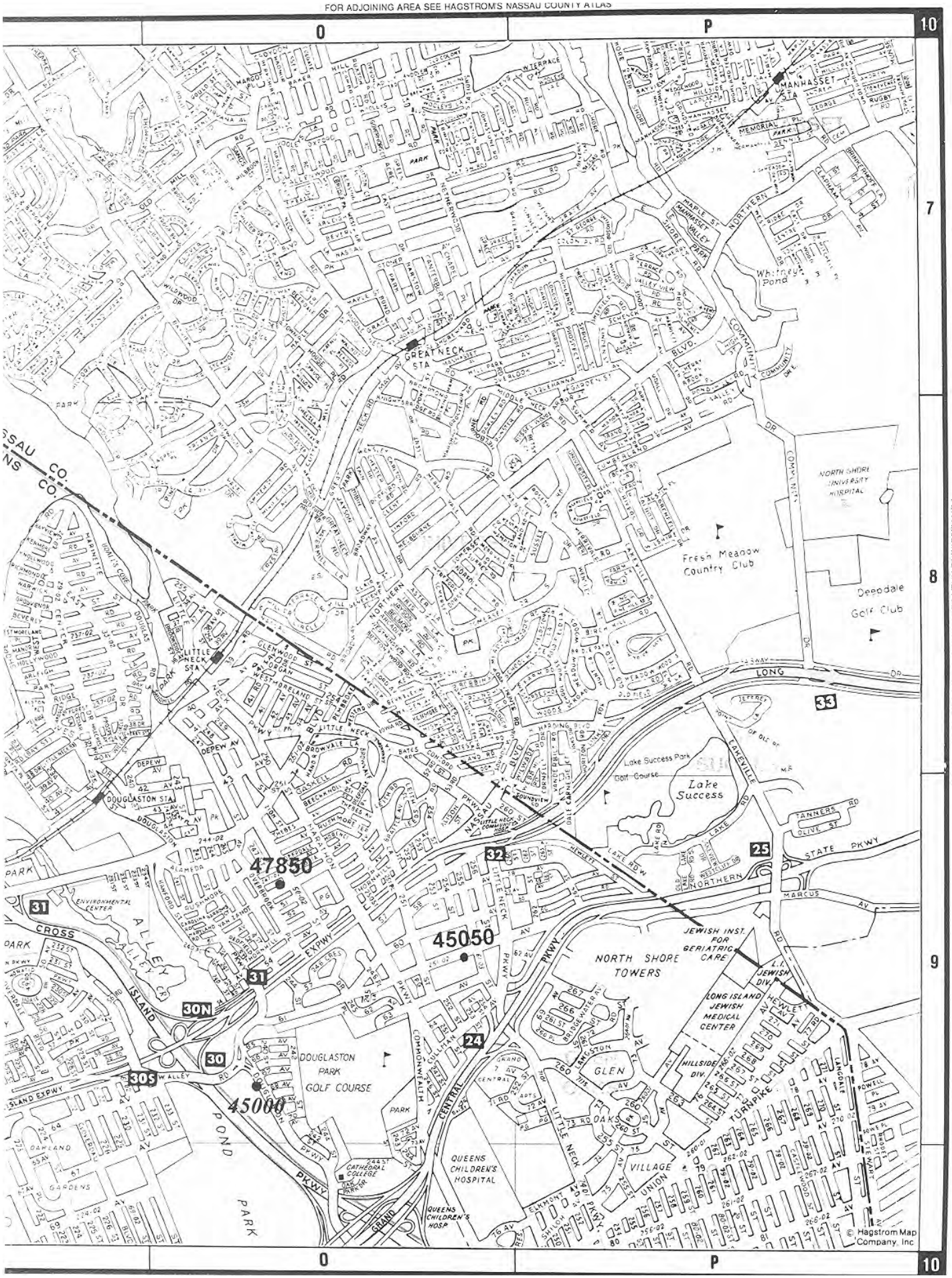
FOR ADJOINING AREA SEE HAGSTROM'S NASSAU COUNTY ATLAS
0
P
10
7
8
9
47850
45050
45000
GREAT NECK STA
MANHASSET
LITTLE NECK STA
DOUGLASTON STA
Whitney Pond
Fresh Meadow Country Club
Deepdale Golf Club
NORTH SHORE UNIVERSITY HOSPITAL
Lake Success
Lake Success Park Golf Course
NORTH SHORE TOWERS
JEWISH INST. FOR GERIATRIC CARE
LONG ISLAND JEWISH MEDICAL CENTER
DOUGLASTON PARK GOLF COURSE
QUEENS CHILDREN'S HOSPITAL
CATHEDRAL COLLEGE
GLEN OAKS VILLAGE
ENVIRONMENTAL CENTER
LONG
STATE PKWY
NORTHERN
CROSS ISLAND EXPWY
POND PARK
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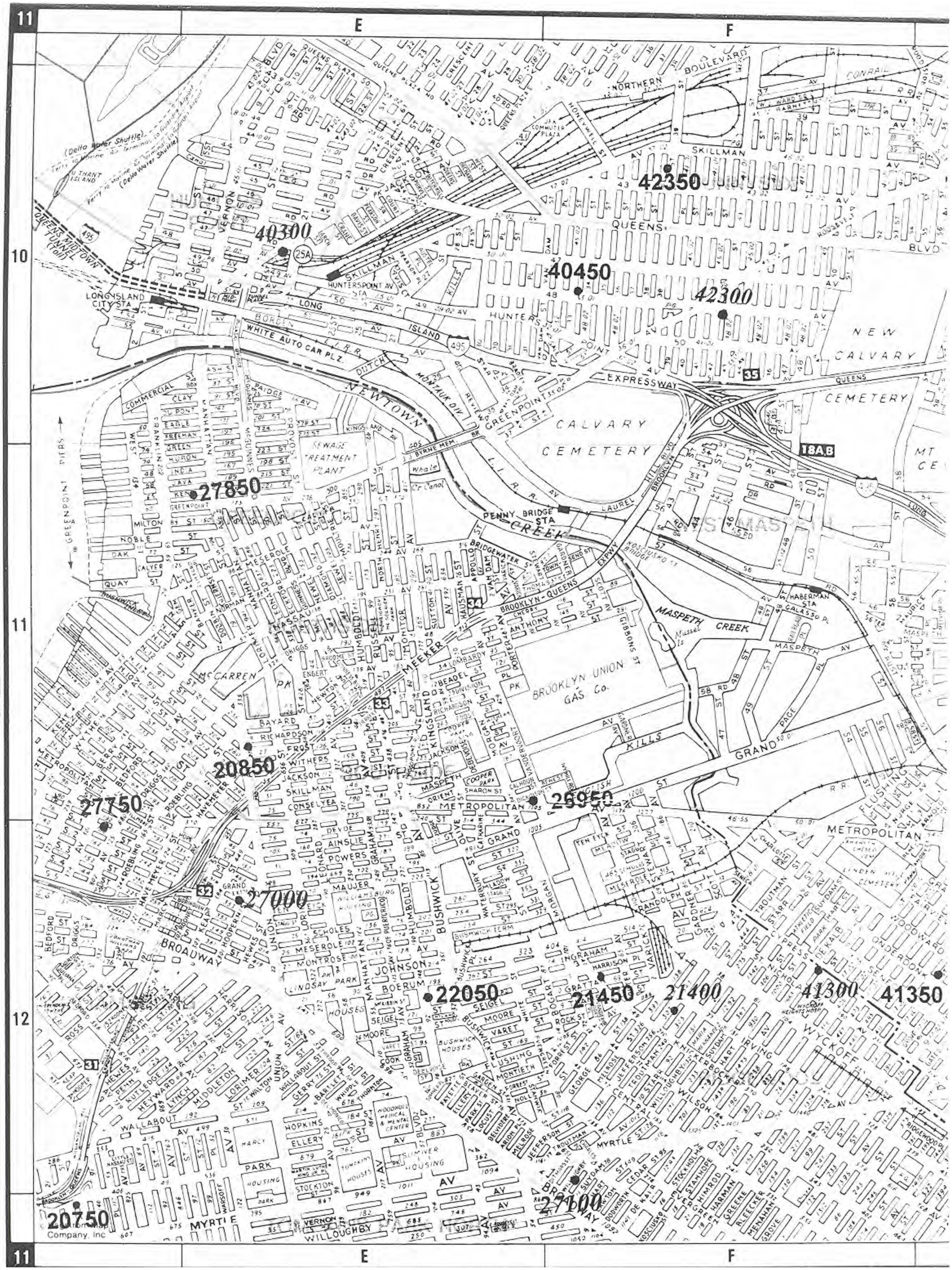
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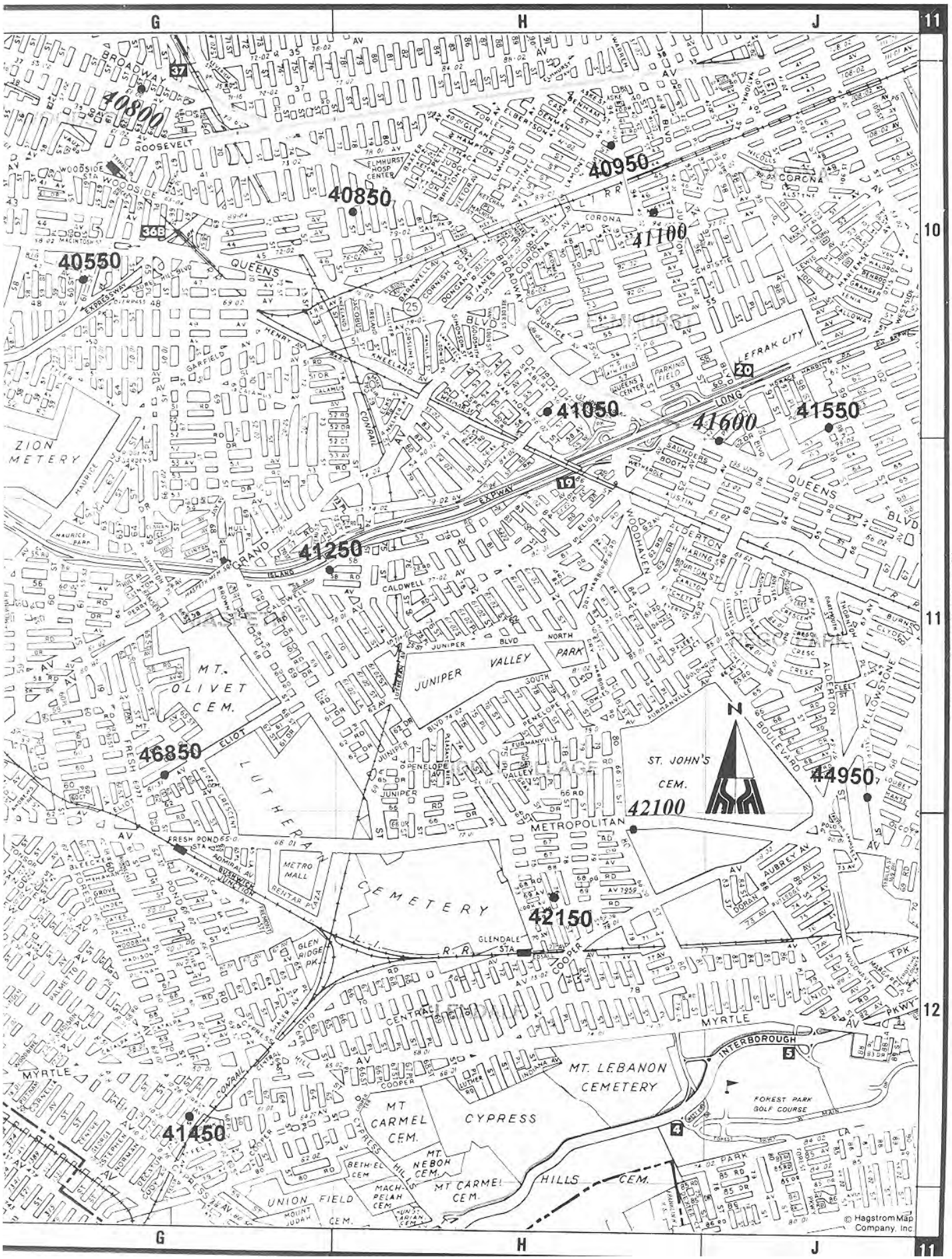
NEW CALVARY
NEWTOWN
BROOKLYN UNION GAS Co.
SEWAGE TREATMENT PLANT
MASPETH CREEK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BROADWAY
ROOSEVELT
WOODSIDE
QUEENS
CORONA
LEFRAK CITY
LONG ISLAND EXPRESSWAY
GRAND AVE
QUEENS BLVD
JUNIPER VALLEY PARK
JUNIPER BLVD NORTH
JUNIPER BLVD SOUTH
ELIOT
MT. OLIVET CEM.
ZION METERY
LUTHERAN CEMETERY
METROPOLITAN CEMETERY
ST. JOHN'S CEM.
MT. LEBANON CEMETERY
MT CARMEL CEM.
CYPRESS HILLS CEM.
UNION FIELD
MT CARMEL CEM.
FOREST PARK GOLF COURSE
INTERBOROUGH PKWY
MYRTLE AVE
FRESH POND RD
GLENDALE
METRO MALL
GLEN RIDGE PK.
N
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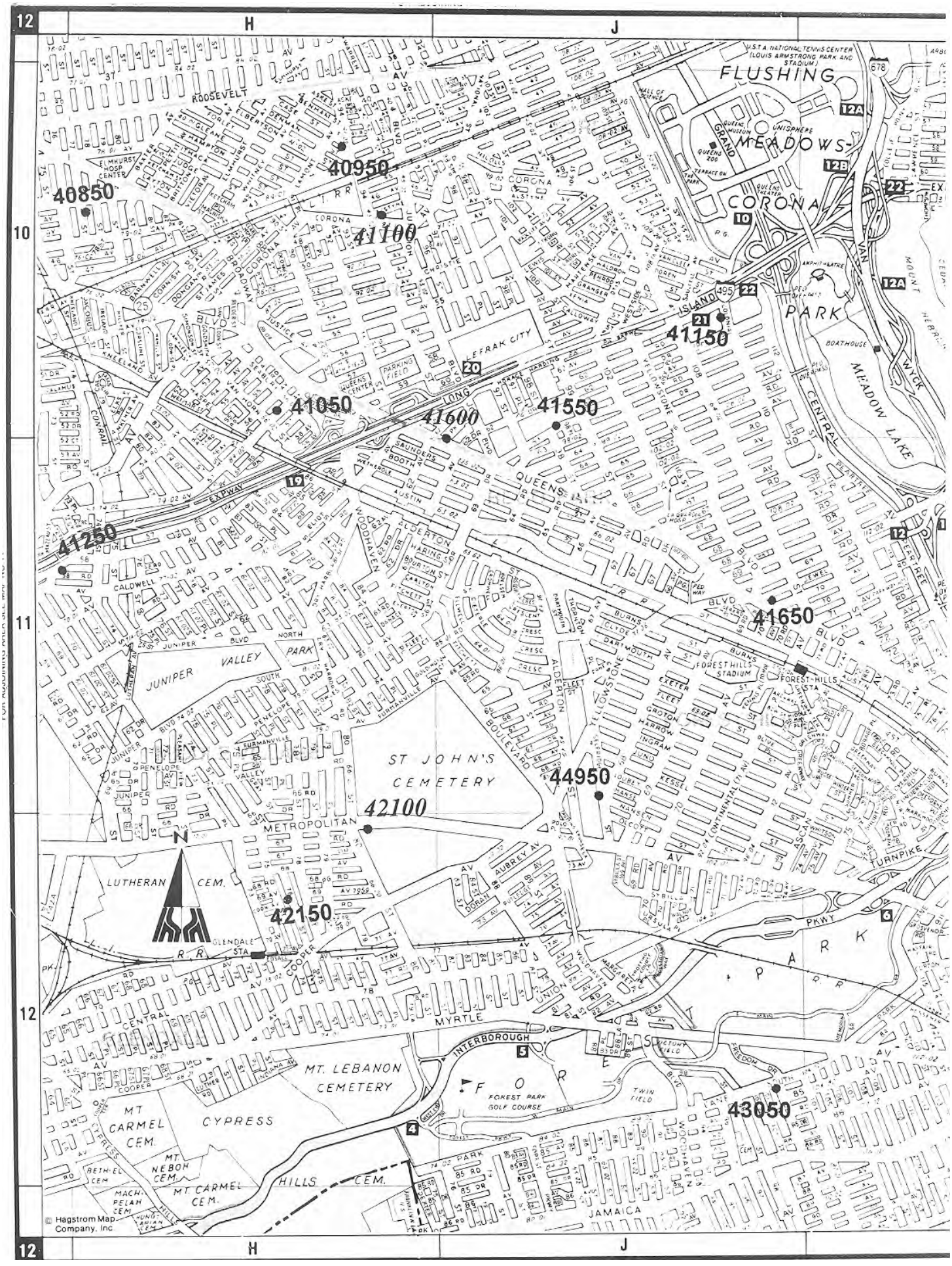
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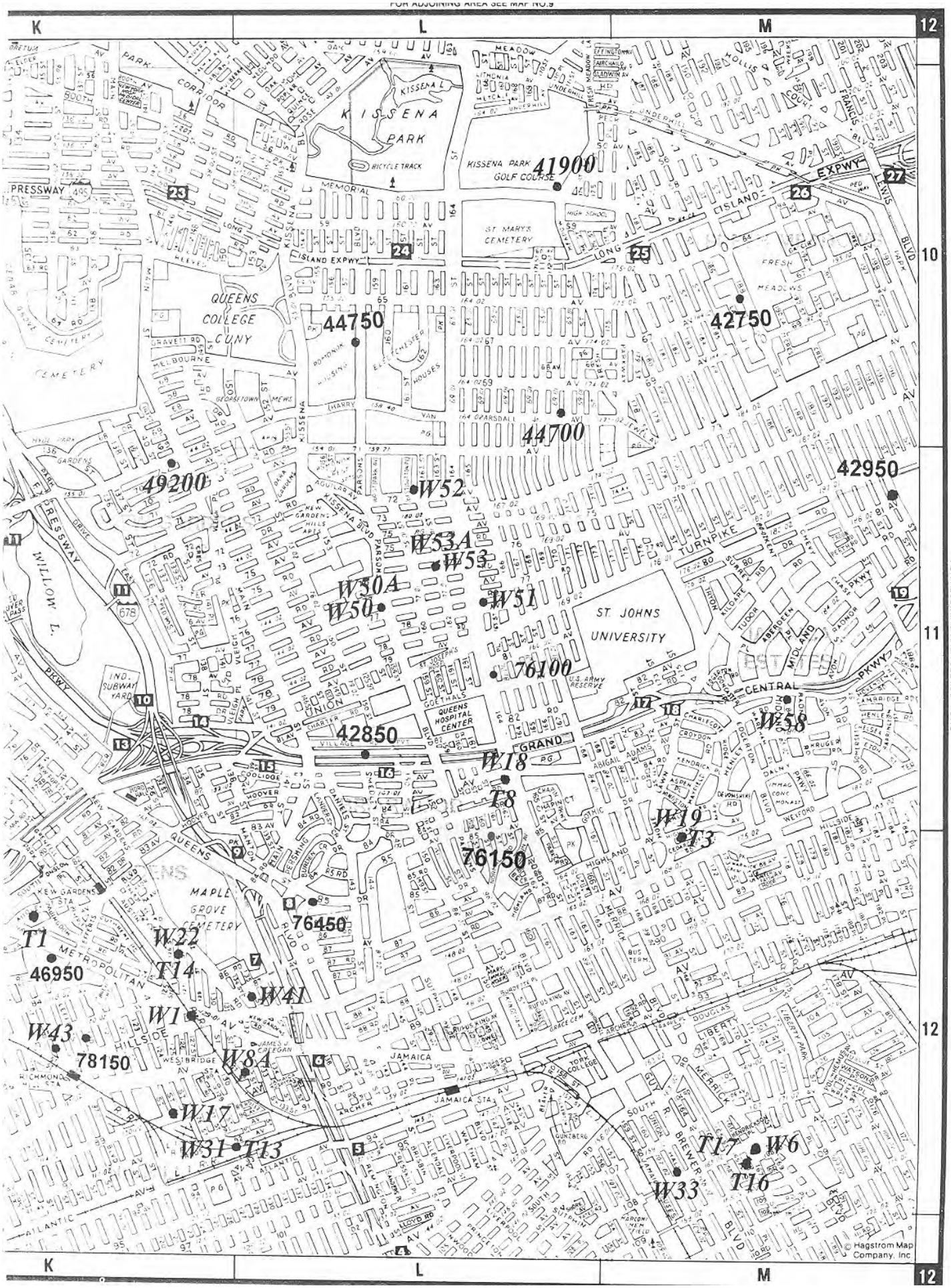
FLUSHING
MEADOWS
CORONA
PARK
MEADOW LAKE
JUNIPER VALLEY PARK
ST JOHN'S CEMETERY
MT. LEBANON CEMETERY
MT CARMEL CEM.
CYPRESS HILLS CEM.
FOREST PARK GOLF COURSE
JAMAICA
LUTHERAN CEM.
METROPOLITAN
QUEENS BLVD
LONG ISLAND EXPWY
INTERBOROUGH
MYRTLE
CENTRAL
FOREST HILLS
© Hagstrom Map Company, Inc


K
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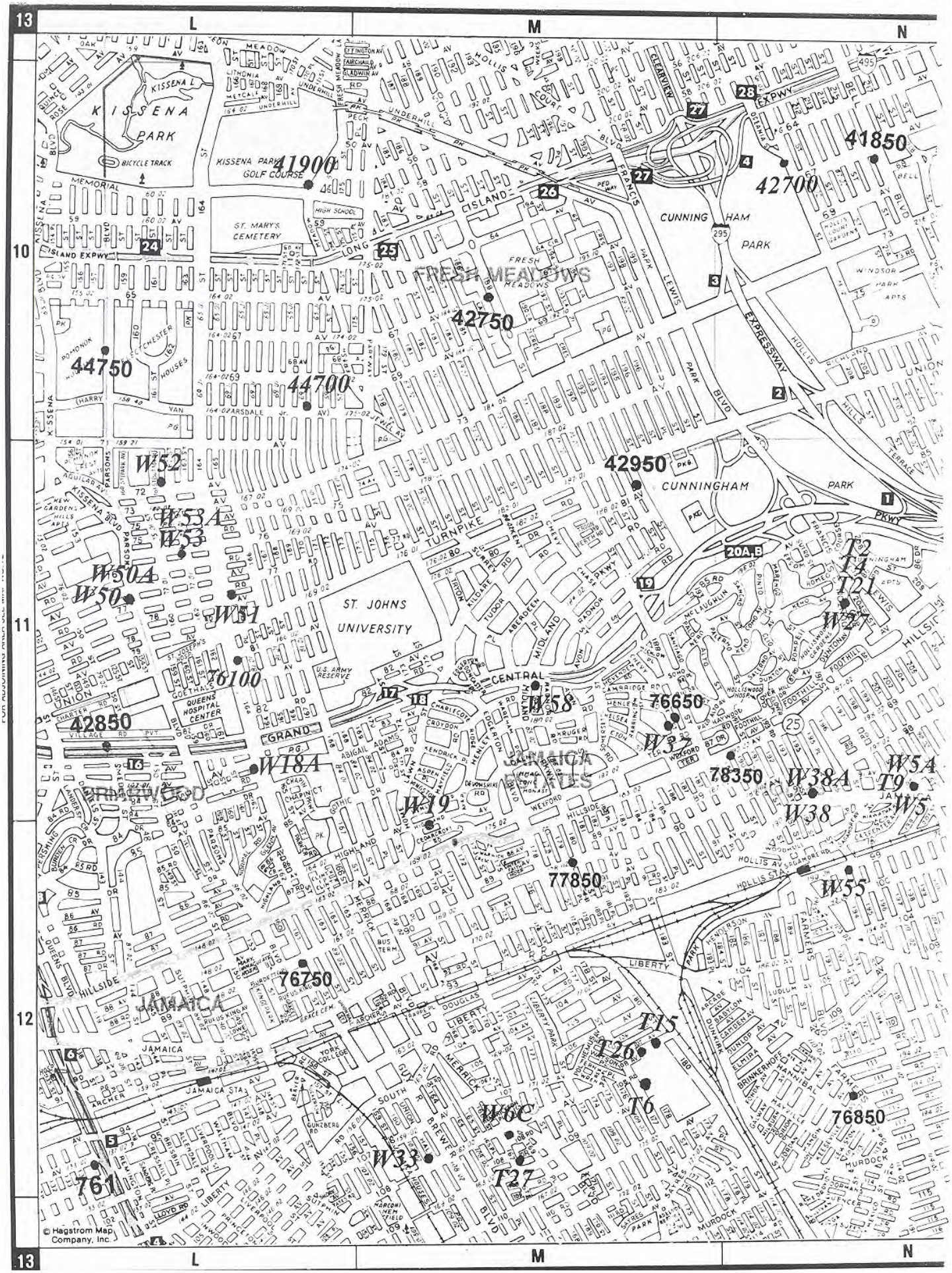
KISSENA PARK
BICYCLE TRACK
KISSENA PARK GOLF COURSE
41900
ST MARYS CEMETERY
QUEENS COLLEGE CUNY
44750
42750
44700
49200
W52
W53A
W53
W50A
W50
W51
42950
ST JOHNS UNIVERSITY
76100
42850
QUEENS HOSPITAL CENTER
W58
W18
T8
W19
T3
76150
76450
T1
46950
W22
T14
W41
W1
W43
78150
W84
W17
W31
T13
T17
W6
T16
W33
© Hagstrom Map Company, Inc
FOR ADJOINING AREA SEE MAP NO.13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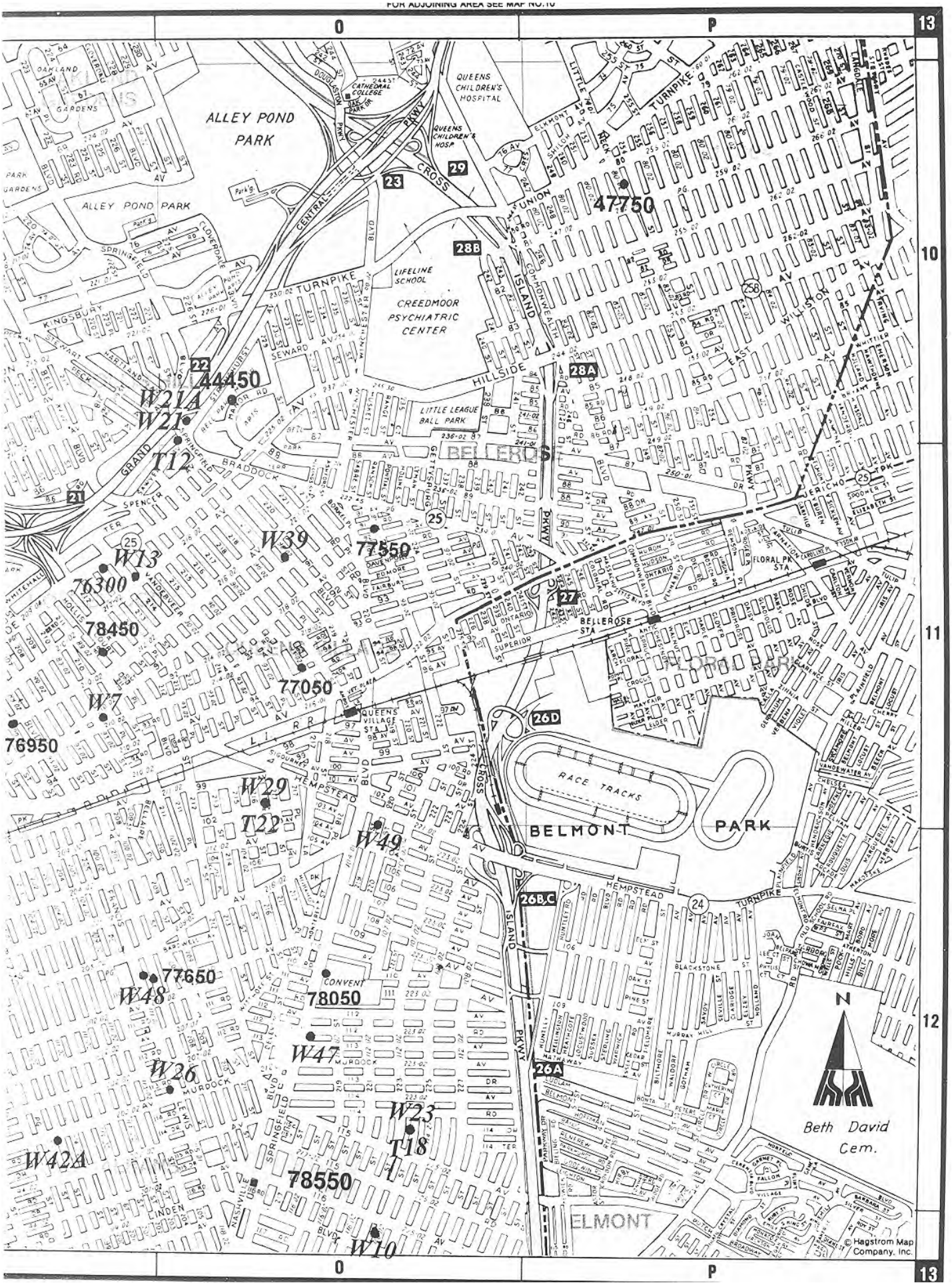
12
KISSENA PARK
BICYCLE TRACK
KISSENA PARK GOLF COURSE
41900
ST. MARY'S CEMETERY
HIGH SCHOOL
MEMORIAL
ISLAND EXPWY
UNDERHILL
CLEARVIEW EXPWY
CUNNINGHAM PARK
41850
42700
FRESH MEADOWS
42750
44750
44700
W52
W53A
W53
W50A
W50
W51
76100
42850
ST. JOHNS UNIVERSITY
U.S. ARMY RESERVE
QUEENS HOSPITAL CENTER
42950
CUNNINGHAM PARK
TURNPIKE
CENTRAL
W58
76650
W33
78350
W38A
W38
T9
W54
W55
W18A
W19
BRIARWOOD
JAMAICA ESTATES
77850
76750
JAMAICA
T15
T26
T6
W6C
W33
T27
76850
761
HILLSIDE
LIBERTY
JAMAICA STA
HOLLIS STA
T2
T4
T21
W27
20A
B
© Hagstrom Map Company, Inc.


FOR ADJOINING AREA SEE MAP NO.10
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12
ALLEY POND PARK
ALLEY POND PARK
CATHEDRAL COLLEGE
QUEENS CHILDREN'S HOSPITAL
QUEENS CHILDREN'S HOSP
LIFELINE SCHOOL
CREEDMOOR PSYCHIATRIC CENTER
LITTLE LEAGUE BALL PARK
BELLEROSE
QUEENS VILLAGE STA
BELLEROSE STA
FLORAL PK STA
RACE TRACKS
BELMONT PARK
CONVENT
Beth David Cem.
ELMONT
CROSS ISLAND PKWY
CENTRAL
UNION TURNPIKE
HEMPSTEAD TURNPIKE
L I R R
47750
44450
77550
76300
78450
77050
76950
77650
78050
78550
W21A
W21
T12
W39
W13
W7
W29
T22
W49
W48
W47
W26
W23
T18
W42A
W10
22
23
29
28B
28A
21
25
27
26D
26B,C
24
26A
N
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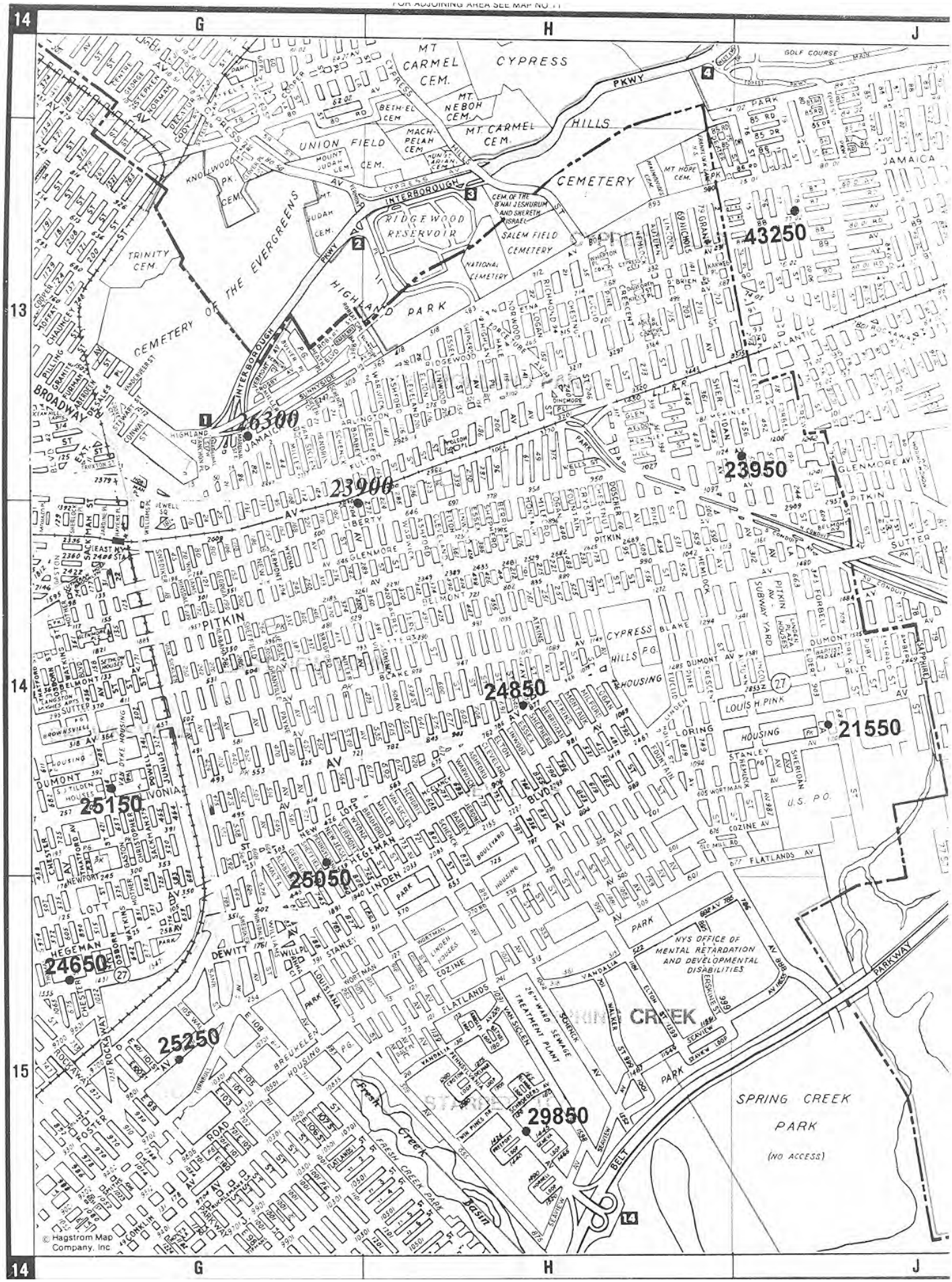
FOR ADJOINING AREA SEE MAP NO 11
14
G
H
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14
15
MT CARMEL CEM.
CYPRESS HILLS CEMETERY
MT. NEBOH CEM.
MT. CARMEL CEM.
UNION FIELD CEM.
BETH-EL CEM
MACH-PELAH CEM
MOUNT JUDAH CEM.
KNOLLWOOD PK. CEM.
MT. JUDAH CEM.
TRINITY CEM.
CEMETERY OF THE EVERGREENS
RIDGEWOOD RESERVOIR
CEM OF THE B'NAI JESHURUM AND SHERETH ISRAEL
SALEM FIELD CEMETERY
NATIONAL CEMETERY
HIGHLAND PARK
MT HOPE CEM.
GOLF COURSE
PKWY
INTERBOROUGH
JAMAICA
BROADWAY
LIBERTY AV
PITKIN AV
GLENMORE AV
SUTTER AV
ATLANTIC AV
FULTON ST
FLATLANDS AV
LINDEN BLVD
CYPRESS HILLS HOUSING
LOUIS H PINK HOUSING
STANLEY HOUSING
SUBWAY YARD
U.S. P.O.
NYS OFFICE OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES
SPRING CREEK PARK
(NO ACCESS)
SPRING CREEK
26TH WARD SEWAGE TREATMENT PLANT
FRESH CREEK
FRESH CREEK PARK
FRESH CREEK BASIN
BELT PKWY
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23900
43250
23950
24850
21550
25150
25050
24650
25250
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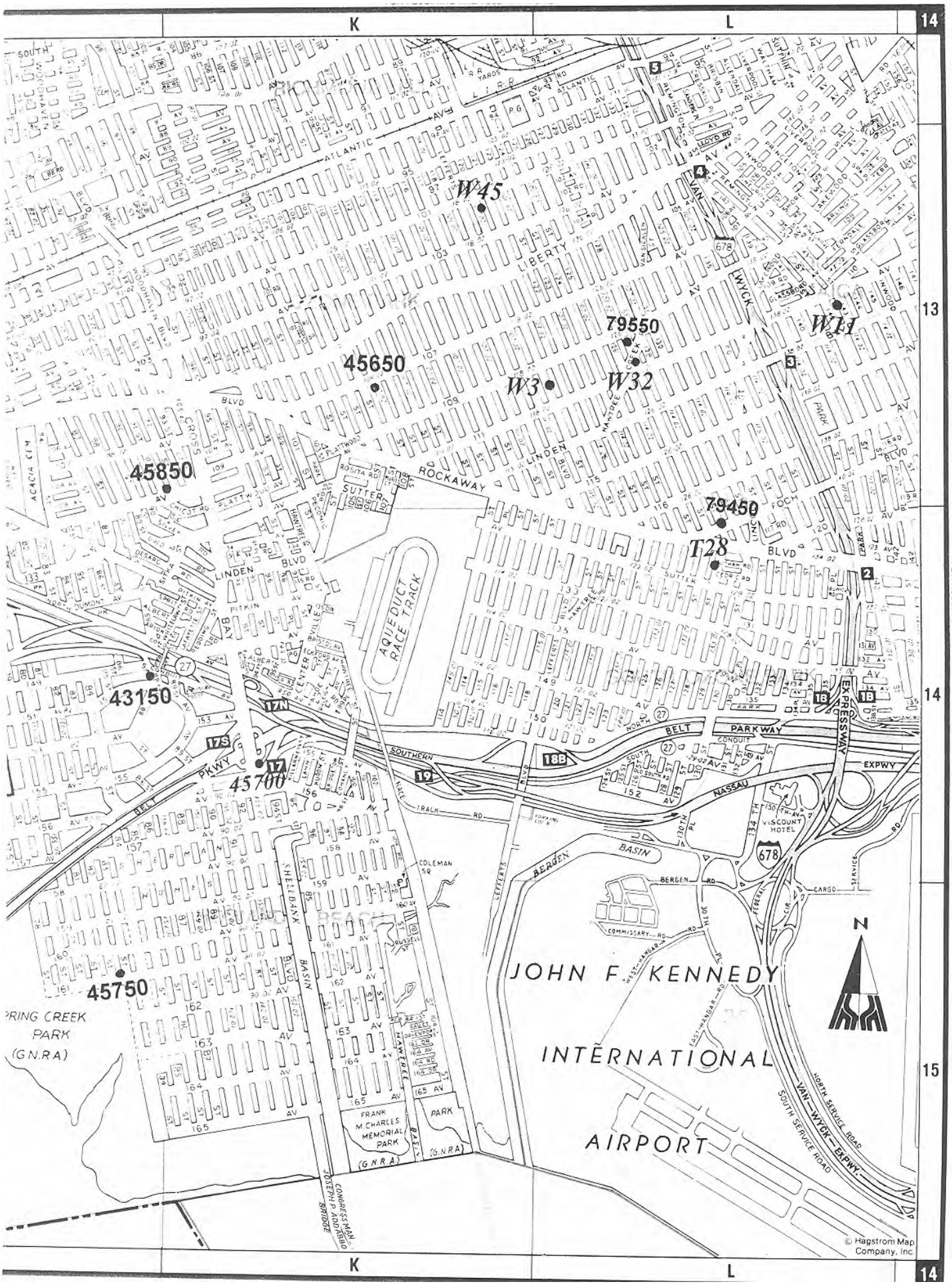
K
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W45
W3
W32
W11
79550
45650
45850
79450
T28
43150
45700
45750
17N
17S
17
AQUEDUCT RACE TRACK
ROCKAWAY
LINDEN BLVD
SUTTER
PITKIN
BELT PARKWAY
SOUTHERN
NASSAU
EXPWY
EXPRESSWAY
VISCOUNT HOTEL
BERGEN BASIN
COLEMAN SQ
SHELDAKA
FRANK M. CHARLES MEMORIAL PARK
(G.N.R.A)
PARK
JOHN F. KENNEDY
INTERNATIONAL
AIRPORT
VAN WYCK EXPWY.
NORTH SERVICE ROAD
SOUTH SERVICE ROAD
CONGRESSMAN JOSEPH P. ADDABBO BRIDGE
SPRING CREEK PARK (G.N.R.A)
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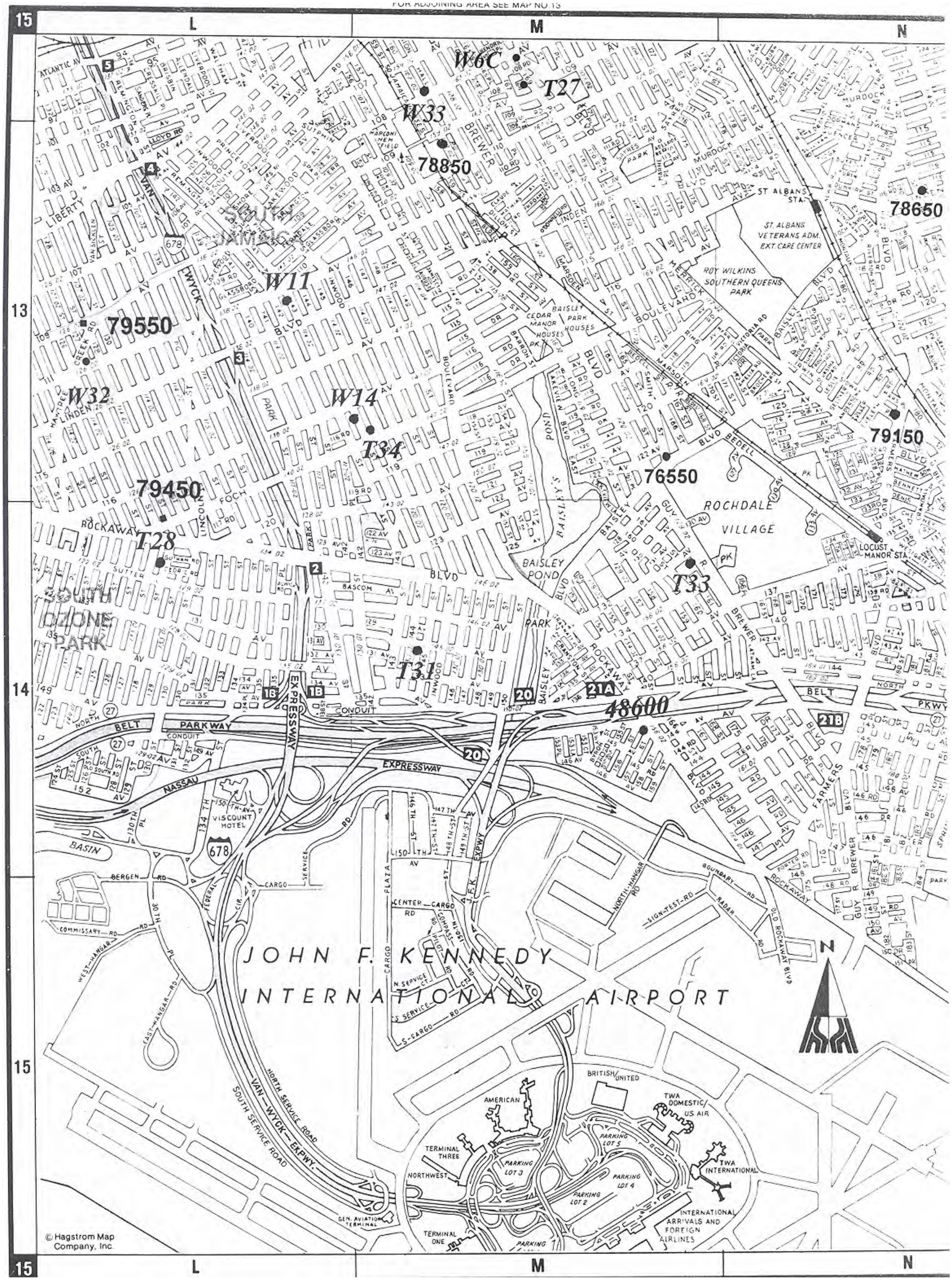
FOR ADJOINING AREA SEE MAP NO 15
L
M
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W6C
T27
W33
78850
78650
W11
79550
W32
W14
T34
79450
T28
76550
79150
T33
T31
48600
SOUTH JAMAICA
SOUTH OZONE PARK
ROCHDALE VILLAGE
ST. ALBANS VETERANS ADM. EXT. CARE CENTER
ROY WILKINS SOUTHERN QUEENS PARK
BAISLEY POND
JOHN F. KENNEDY
INTERNATIONAL AIRPORT
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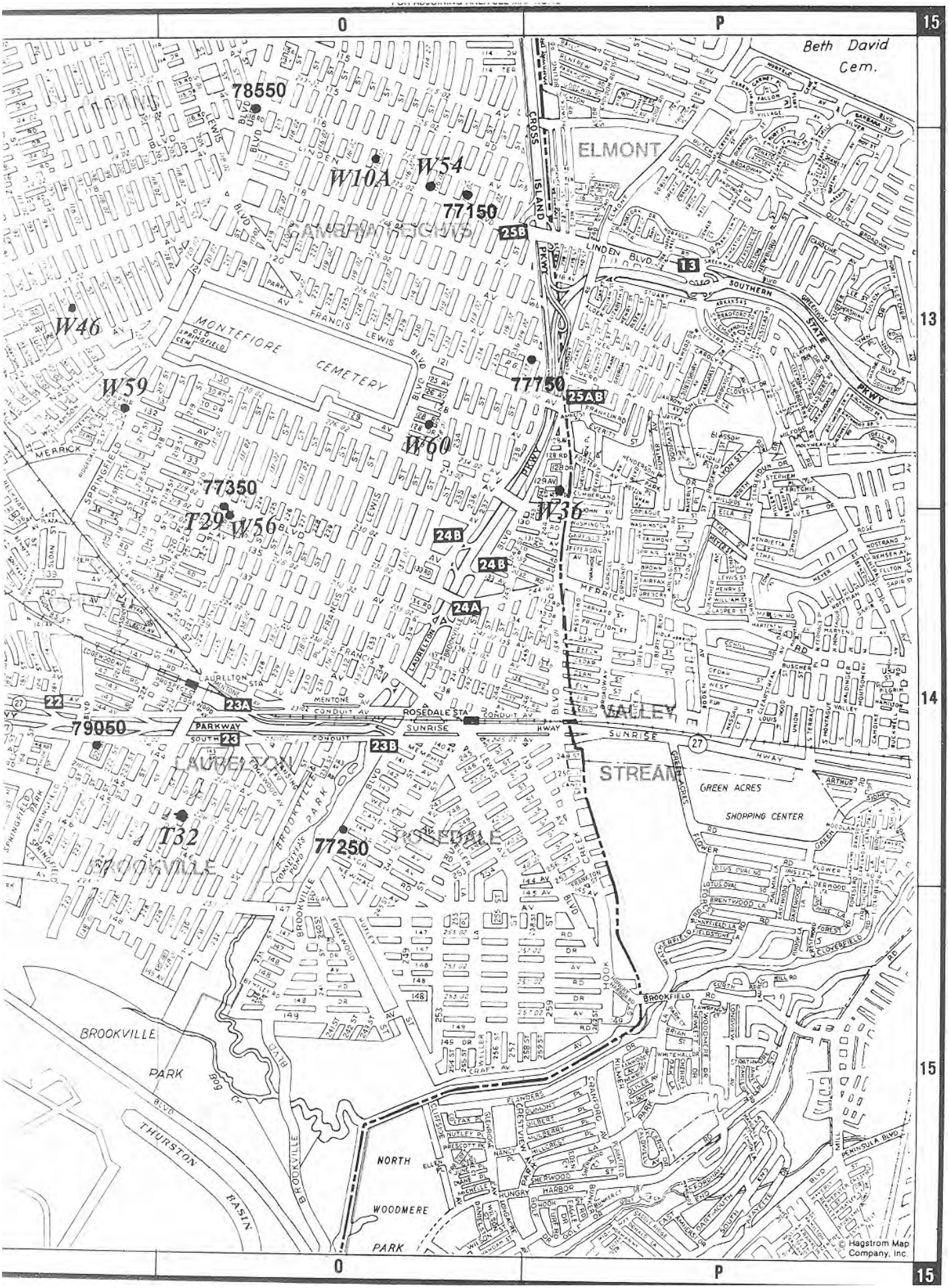
O
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14
15
Beth David Cem.
ELMONT
78550
W10A
W54
77150
25B
LINDEN BLVD
13
SOUTHERN STATE PKWY
W46
MONTEFIORE CEMETERY
OLD SPRINGFIELD CEM
W59
77750
25AB
W60
77350
T29
W56
24B
24A
W36
MERRICK
SPRINGFIELD BLVD
LAURELTON
MENTONE
ROSEDALE
VALLEY STREAM
22
23A
23B
79050
PARKWAY SOUTH
SUNRISE HWAY
27
GREEN ACRES SHOPPING CENTER
T32
77250
BROOKVILLE PARK
BROOKVILLE
BROOKFIELD
HOOK CREEK BLVD
NORTH WOODMERE PARK
THURSTON BASIN
PENINSULA BLVD
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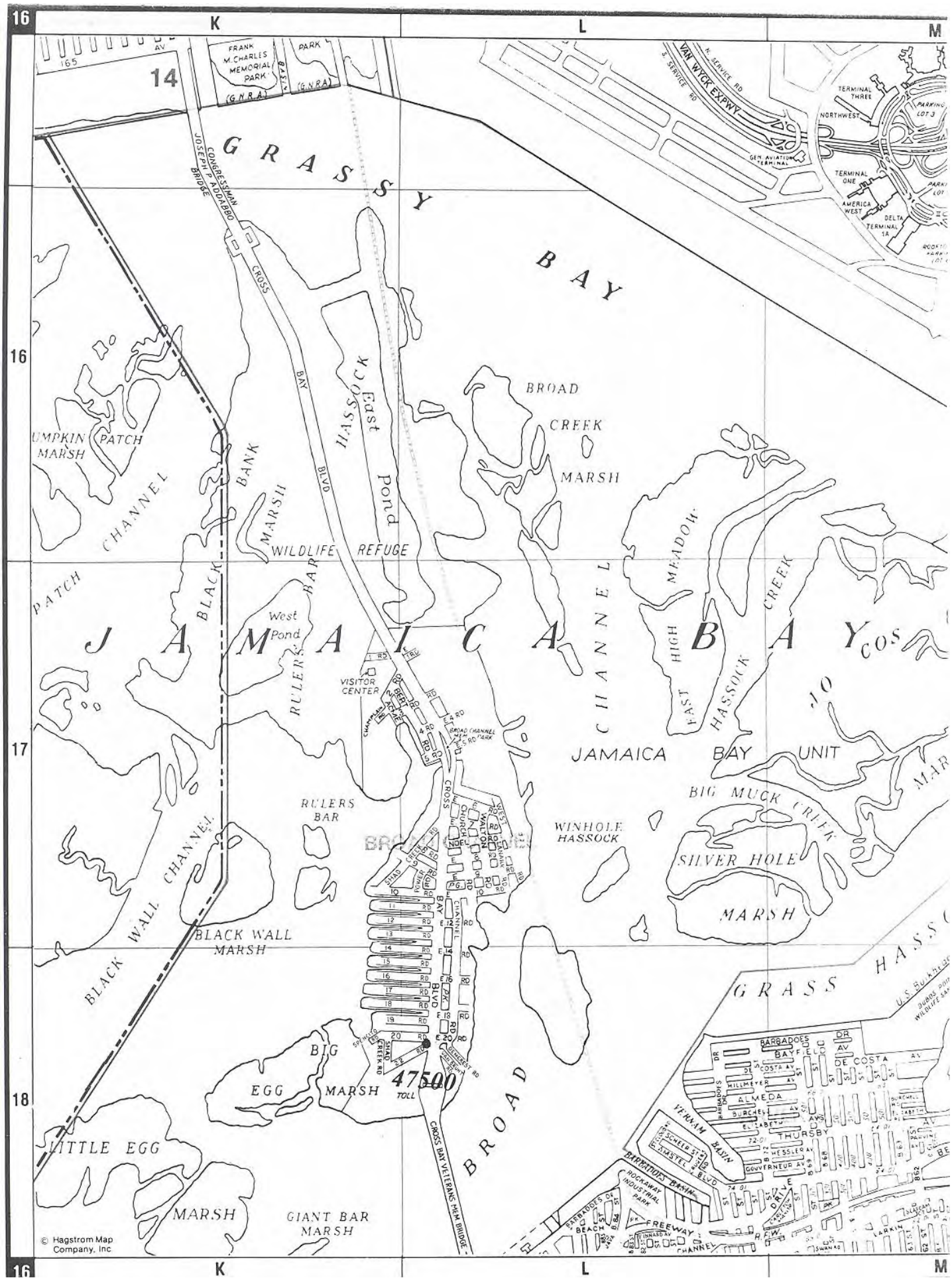
16
K
L
M
14
FRANK M. CHARLES MEMORIAL PARK
(G.N.R.A.)
PARK
(G.N.R.A.)
CONGRESSMAN JOSEPH P. ADDABBO BRIDGE
CROSS BAY BLVD
GRASSY BAY
VAN WYCK EXPWY
TERMINAL THREE
NORTHWEST
PARKING LOT 3
GEN. AVIATION TERMINAL
TERMINAL ONE
AMERICA WEST
DELTA TERMINAL 1A
BROAD CREEK
MARSH
HASSOCK
POND
EAST
PUMPKIN PATCH MARSH
CHANNEL
BANK
MARSH
WILDLIFE REFUGE
BLACK
BAR
West Pond
RULERS BAR
JAMAICA BAY
CHANNEL
MEADOW
HIGH
EAST HASSOCK
CREEK
VISITOR CENTER
JAMAICA BAY UNIT
BIG MUCK CREEK
WINHOLE HASSOCK
SILVER HOLE
MARSH
BLACK WALL CHANNEL
BLACK WALL MARSH
BROAD CHANNEL
CROSS BAY BLVD
BAY
CHANNEL
BIG EGG MARSH
47500
TOLL
LITTLE EGG MARSH
GIANT BAR MARSH
CROSS BAY VETERANS MEM BRIDGE
GRASS HASSOCK
BARBADOES BASIN
VENUM BASIN
ROCKAWAY INDUSTRIAL PARK
FREEWAY
BARBADOES BEACH
ALMEDA
THURSBY
DE COSTA AV
BAYFIELD
© Hagstrom Map Company, Inc
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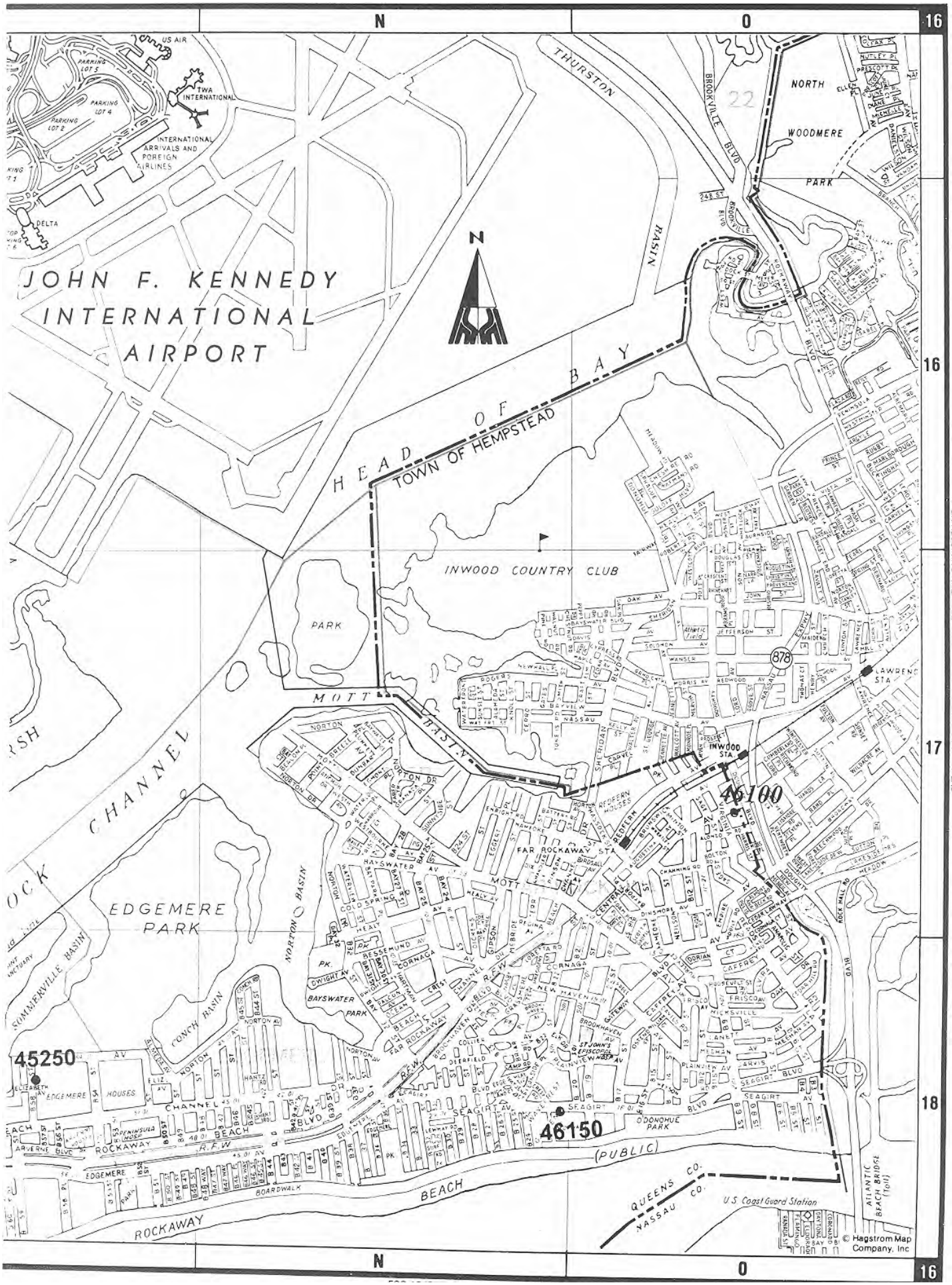
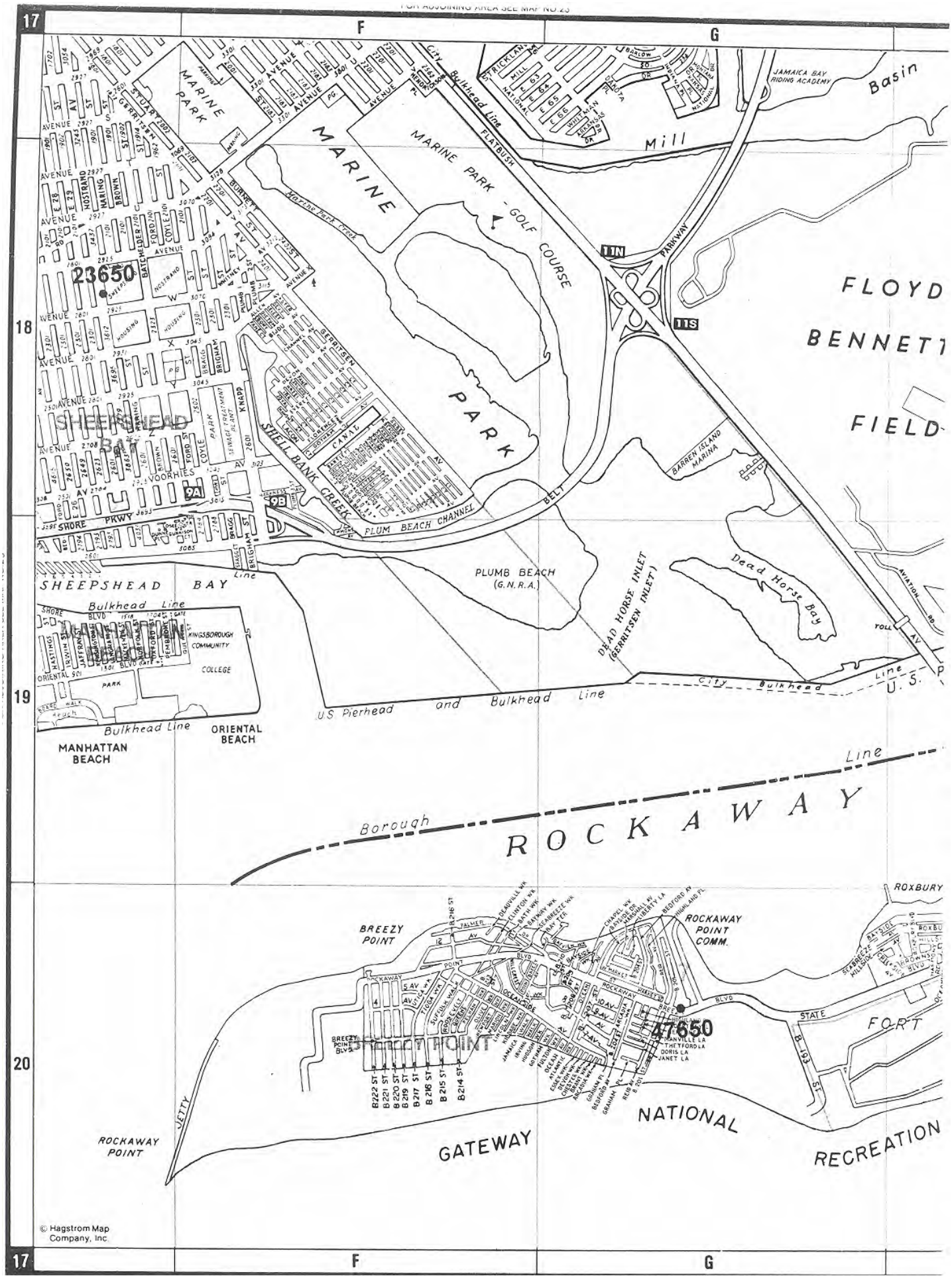

JOHN F. KENNEDY INTERNATIONAL AIRPORT
TOWN OF HEMPSTEAD
HEAD OF BAY
INWOOD COUNTRY CLUB
PARK
MOTT BASIN
CHANNEL
EDGEMERE PARK
NORTON BASIN
SOMMERVILLE BASIN
CONCH BASIN
BAYSWATER PARK
FAR ROCKAWAY STA
INWOOD STA
LAWRENCE STA
ODONOHUE PARK
ROCKAWAY BEACH BOARDWALK (PUBLIC)
ATLANTIC BEACH BRIDGE (Toll)
U.S. Coast Guard Station
QUEENS CO.
NASSAU CO.
45250
46100
46150
THURSTON
BROOKVILLE BLVD
NORTH WOODMERE PARK
TWA INTERNATIONAL
INTERNATIONAL ARRIVALS AND FOREIGN AIRLINES
DELTA
© Hagstrom Map Company, Inc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MARINE PARK
MARINE PARK - GOLF COURSE
Marine Park Creek
Bulkhead Line
FLATBUSH
Mill Basin
JAMAICA BAY RIDING ACADEMY
23650
47650
SHEEPSHEAD BAY
SHELL BANK CREEK
PLUM BEACH CHANNEL
PLUMB BEACH (G.N.R.A.)
DEAD HORSE INLET (GERRITSEN INLET)
Dead Horse Bay
BARREN ISLAND MARINA
BELT PARKWAY
FLOYD BENNETT FIELD
SHORE PKWY
MANHATTAN BEACH
ORIENTAL BEACH
KINGSBOROUGH COMMUNITY COLLEGE
US Pierhead and Bulkhead Line
City Bulkhead Line
U. S. Pierhead and Bulkhead Line
Borough Line
ROCKAWAY
BREEZY POINT
ROCKAWAY POINT COMM.
ROXBURY
ROCKAWAY POINT
JETTY
GATEWAY NATIONAL RECREATION
FORT
STATE
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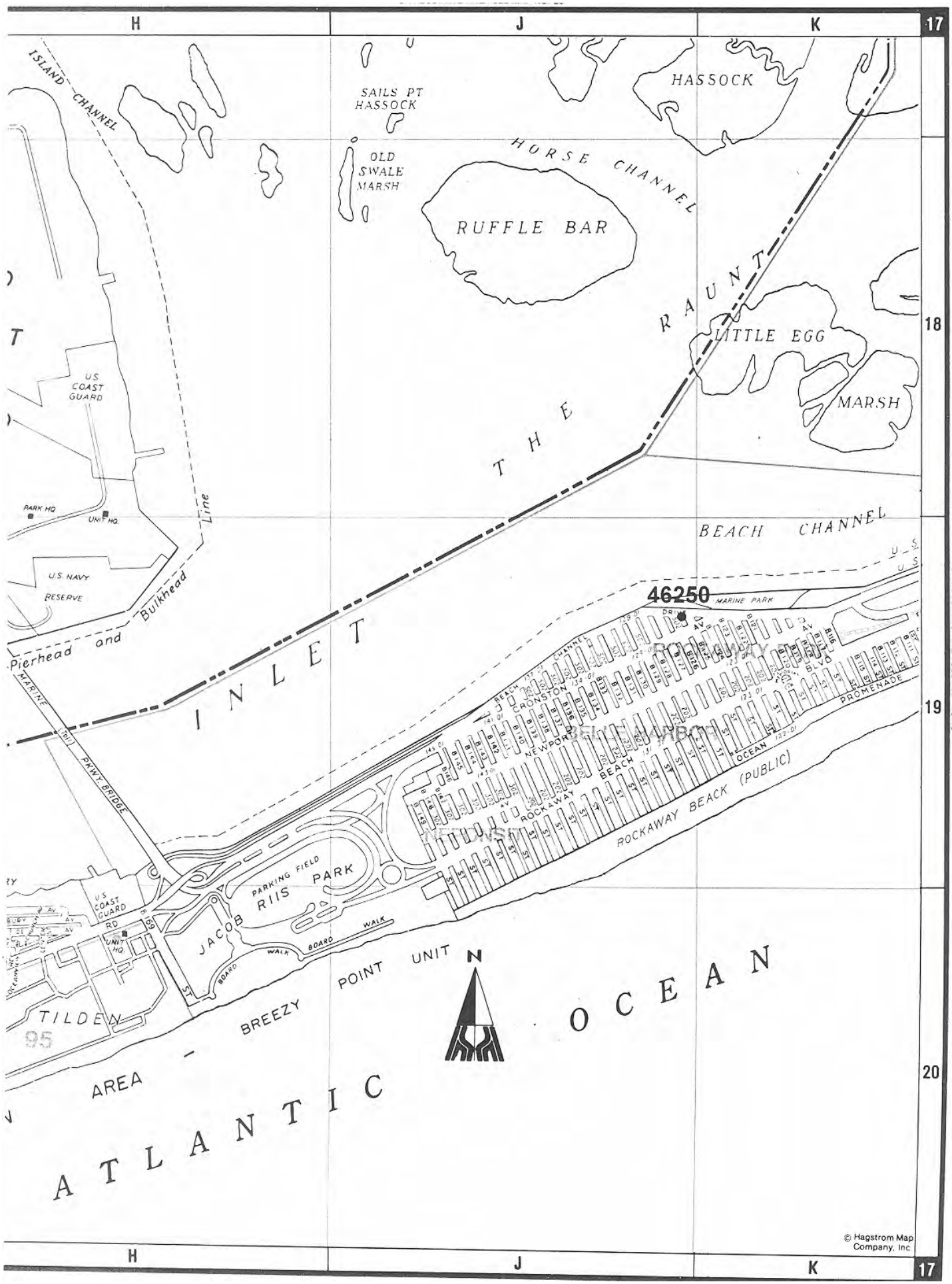
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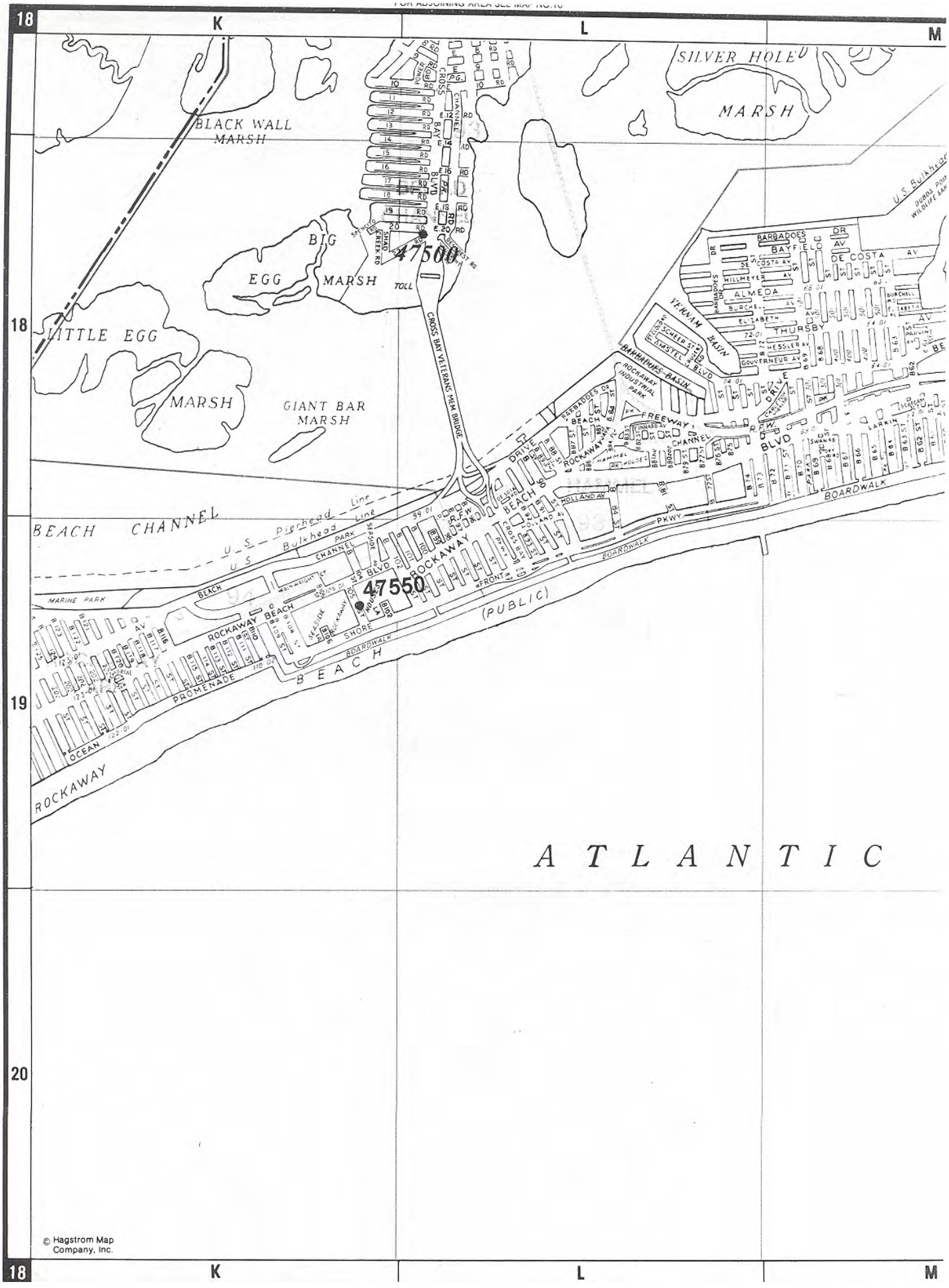
ISLAND CHANNEL
SAILS PT HASSOCK
HASSOCK
OLD SWALE MARSH
HORSE CHANNEL
RUFFLE BAR
THE RAUNT
LITTLE EGG MARSH
US COAST GUARD
PARK HQ
UNIT HQ.
Pierhead and Bulkhead Line
U.S. NAVY RESERVE
BEACH CHANNEL
INLET
46250
MARINE PARK
CRONSTON
NEWPORD
ROCKAWAY BEACH
OCEAN PROMENADE
ROCKAWAY BEACH (PUBLIC)
MARINE PKWY. BRIDGE
PARKING FIELD
JACOB RIIS PARK
US COAST GUARD RD
UNIT HQ.
BOARD WALK
TILDEN
95
BREEZY POINT UNIT
AREA
N
OCEAN
ATLANTIC
© Hagstrom Map Company, Inc.


18
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SILVER HOLE
MARSH
BLACK WALL
MARSH
BIG
EGG
MARSH
47500
TOLL
LITTLE EGG
MARSH
GIANT BAR
MARSH
CROSS BAY VETERANS MEM BRIDGE
BARBADOES
BAYFIELD
DE COSTA
ALMEDA
THURSBY
VERNAM BASIN
BARBADOES-BASIN
ROCKAWAY INDUSTRIAL PARK
FREEWAY
ROCKAWAY BEACH DRIVE
RFW BLVD
BEACH CHANNEL
U.S. Pierhead Line
U.S. Bulkhead Line
47550
ROCKAWAY BEACH
SEASIDE
SHORE
BOARDWALK
(PUBLIC)
PROMENADE
OCEAN
ROCKAWAY
A T L A N T I C
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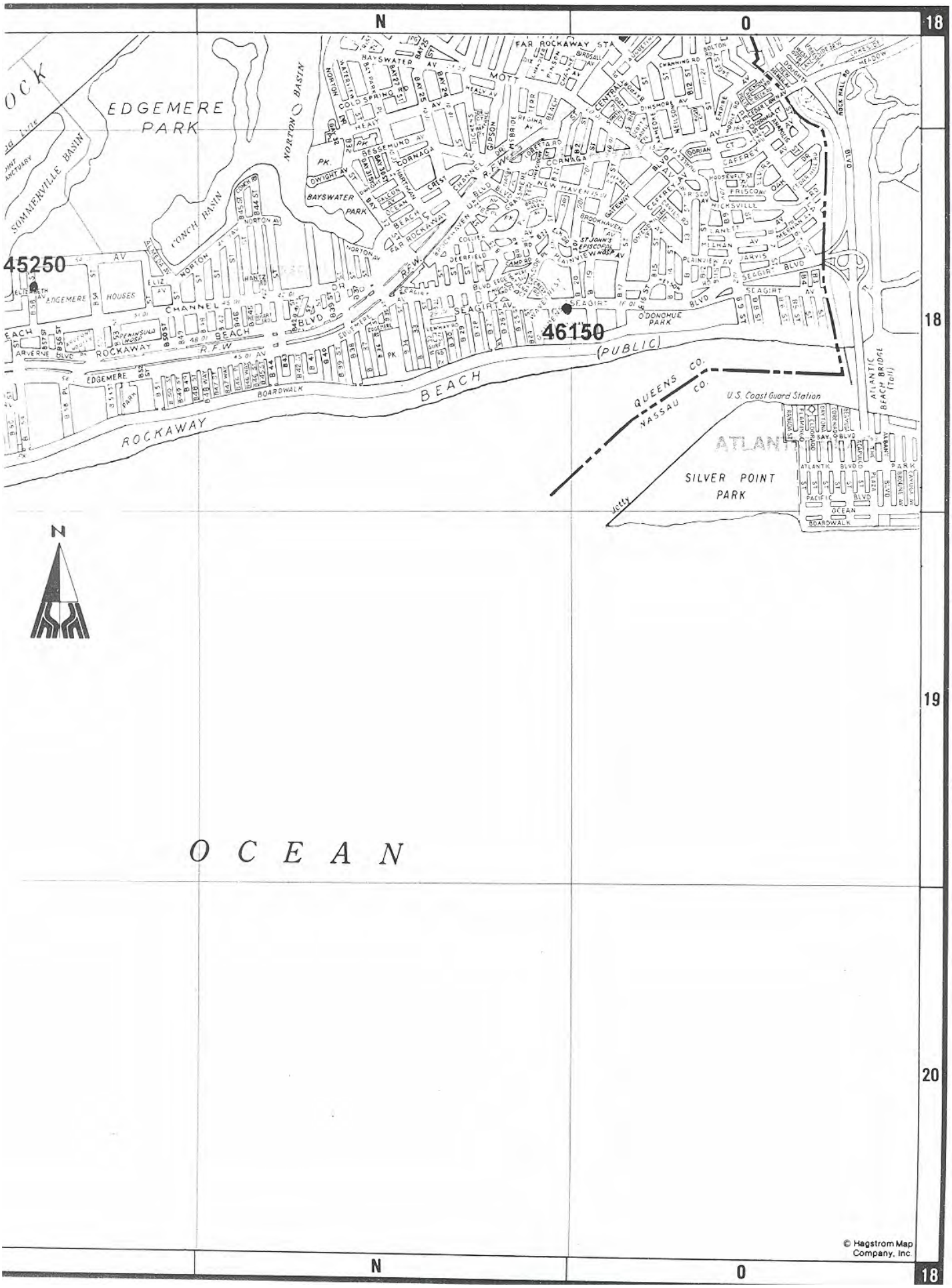
© Hagstrom Map Company, Inc.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EDGEMERE PARK
NORTON BASIN
SUMMERVILLE BASIN
CONCH BASIN
FAR ROCKAWAY STA
MOTT
BAYSWATER PARK
45250
46150
ROCKAWAY BEACH BOARDWALK
(PUBLIC)
QUEENS CO.
NASSAU CO.
U.S. Coast Guard Station
ATLANTIC BEACH BRIDGE (Toll)
SILVER POINT PARK
Jetty
O C E A N
19
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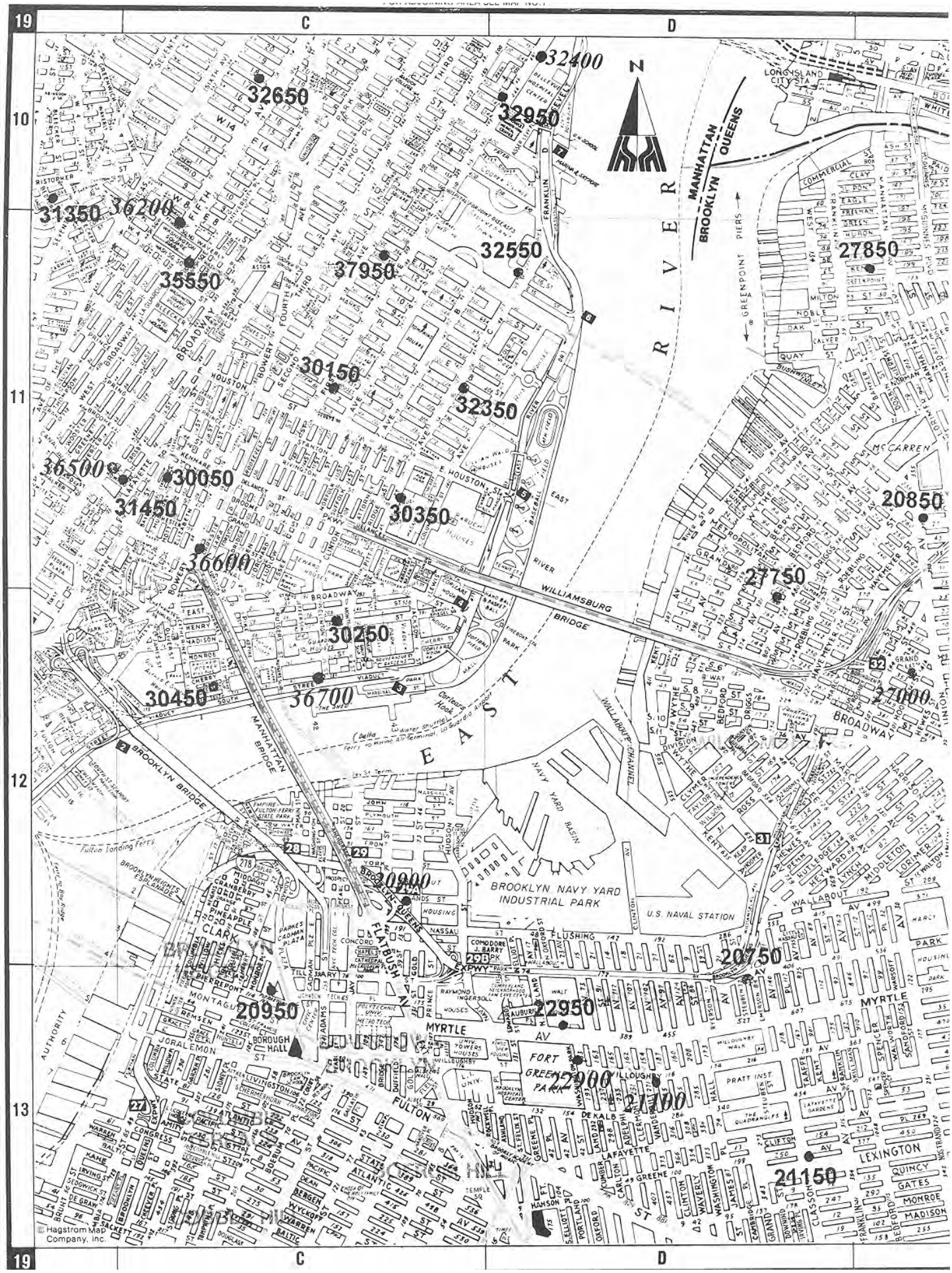
© Hagstrom Map Company, Inc.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20900
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22950
22900
22100
24150
RIVER
EAST
MANHATTAN
BROOKLYN
QUEENS
WILLIAMSBURG
BRIDGE
MANHATTAN BRIDGE
BROOKLYN BRIDGE
BROOKLYN NAVY YARD
INDUSTRIAL PARK
U.S. NAVAL STATION
NAVY YARD BASIN
FLATBUSH AV
MYRTLE AV
FULTON
BROADWAY
FLUSHING
WALLABOUT CHANNEL
BOROUGH HALL
FORT GREENE PARK
LONG ISLAND CITY
GREENPOINT PIERS
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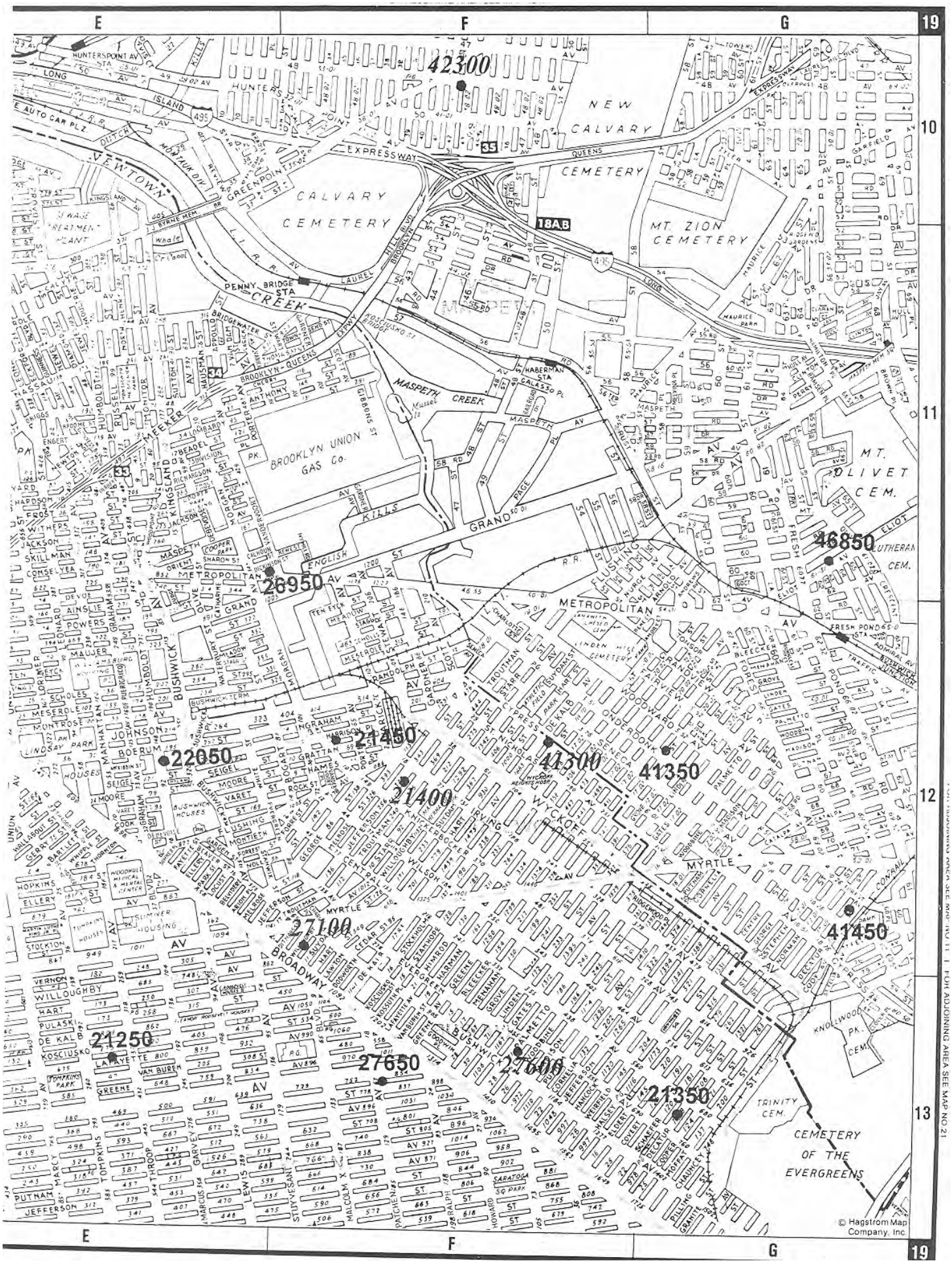
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42300
NEW CALVARY CEMETERY
QUEENS CEMETERY
CALVARY CEMETERY
MT. ZION CEMETERY
18AB
BROOKLYN UNION GAS Co.
MASPETH CREEK
PENNY BRIDGE
GREENPOINT
HUNTERS POINT AV
LONG ISLAND EXPRESSWAY
NEWTOWN CREEK
MASPETH AV
GRAND AV
METROPOLITAN AV
FLUSHING AV
MYRTLE AV
BROADWAY
BUSHWICK AV
KOSCIUSKO
MT. OLIVET CEM.
LUTHERAN CEM.
TRINITY CEM.
CEMETERY OF THE EVERGREENS
KNOLLWOOD PA. CEM.
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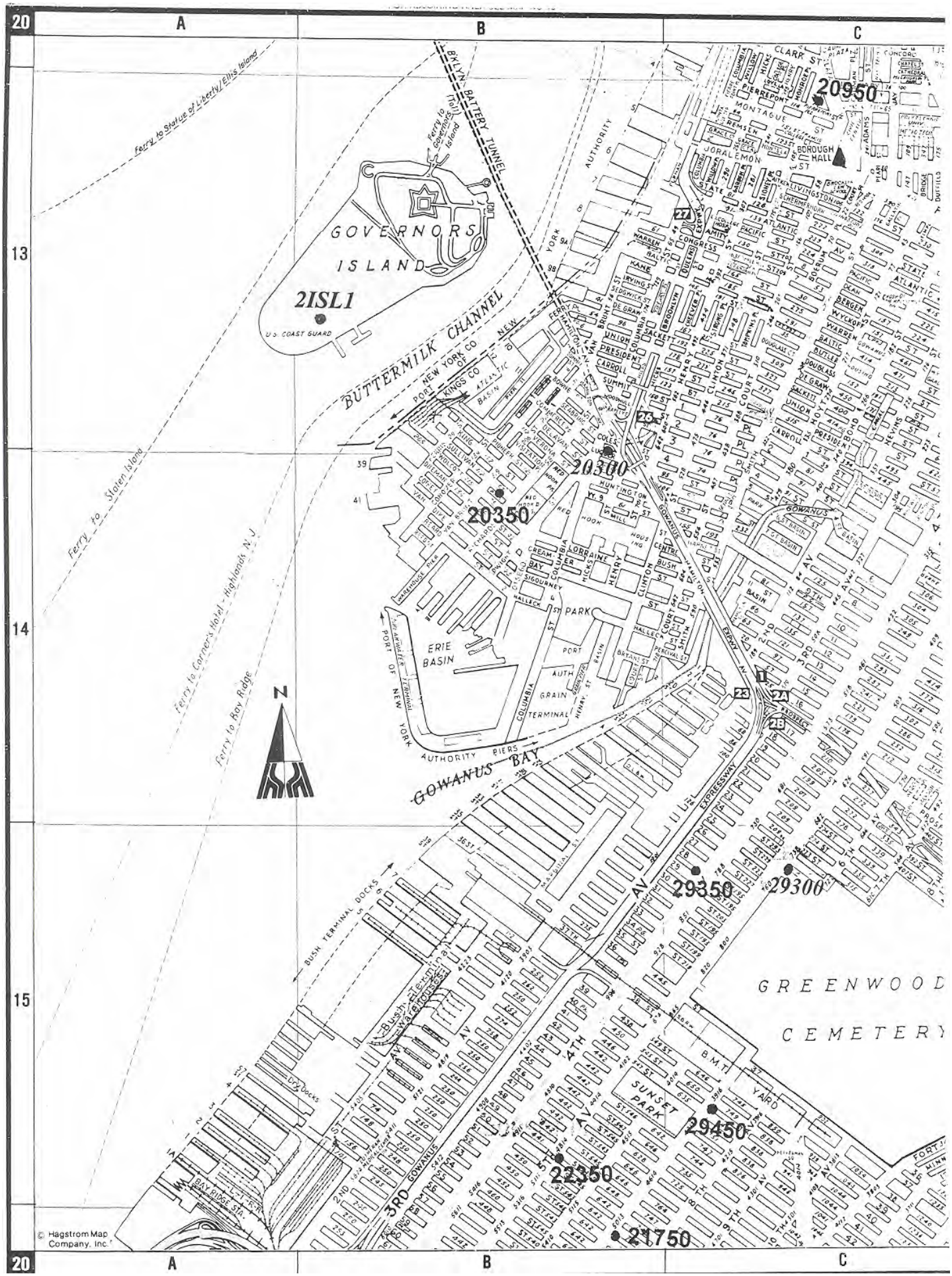
20
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Ferry to Statue of Liberty/Ellis Island
BKLYN-BATTERY TUNNEL
Ferry to Governors Island
GOVERNORS ISLAND
2ISL1
U.S. COAST GUARD
BUTTERMILK CHANNEL
NEW YORK CO
PORT KINGS CO
NEW YORK
ATLANTIC BASIN
Ferry to Staten Island
Ferry to Corner's Hotel - Highlands, N.J.
Ferry to Bay Ridge
N
ERIE BASIN
PORT OF NEW YORK AUTHORITY PIERS
COLUMBIA GRAIN TERMINAL
GOWANUS BAY
BUSH TERMINAL DOCKS
Bush Terminal Warehouses
Dry Docks
BAY RIDGE STA.
GOWANUS EXPRESSWAY
GREENWOOD CEMETERY
SUNSET PARK
B.M.T. YARD
BOROUGH HALL
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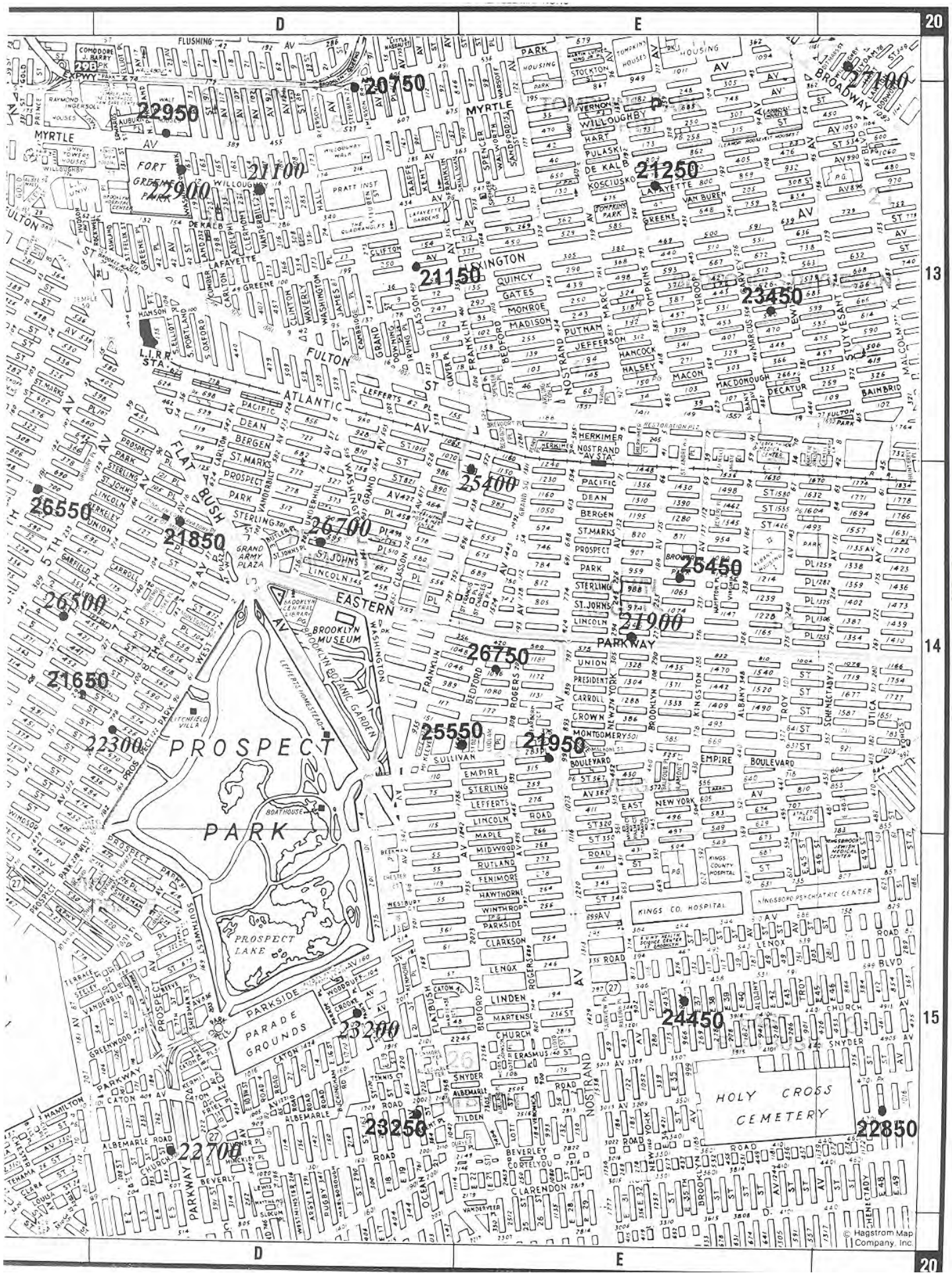
D
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PROSPECT PARK
PROSPECT LAKE
PARADE GROUNDS
BROOKLYN MUSEUM
BROOKLYN BOTANIC GARDEN
FORT GREENE PARK
HOLY CROSS CEMETERY
KINGS CO. HOSPITAL
KINGSBORO PSYCHIATRIC CENTER
KINGS COUNTY HOSPITAL
L.I.R.R. STA.
NOSTRAND AV STA.
FLATBUSH AV
EASTERN PARKWAY
ATLANTIC AV
FULTON ST
MYRTLE AV
BROADWAY
20750
22950
21100
27100
21250
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21150
25400
26550
26700
21850
25450
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26750
21650
22300
25550
21950
24450
23200
23250
22850
22700
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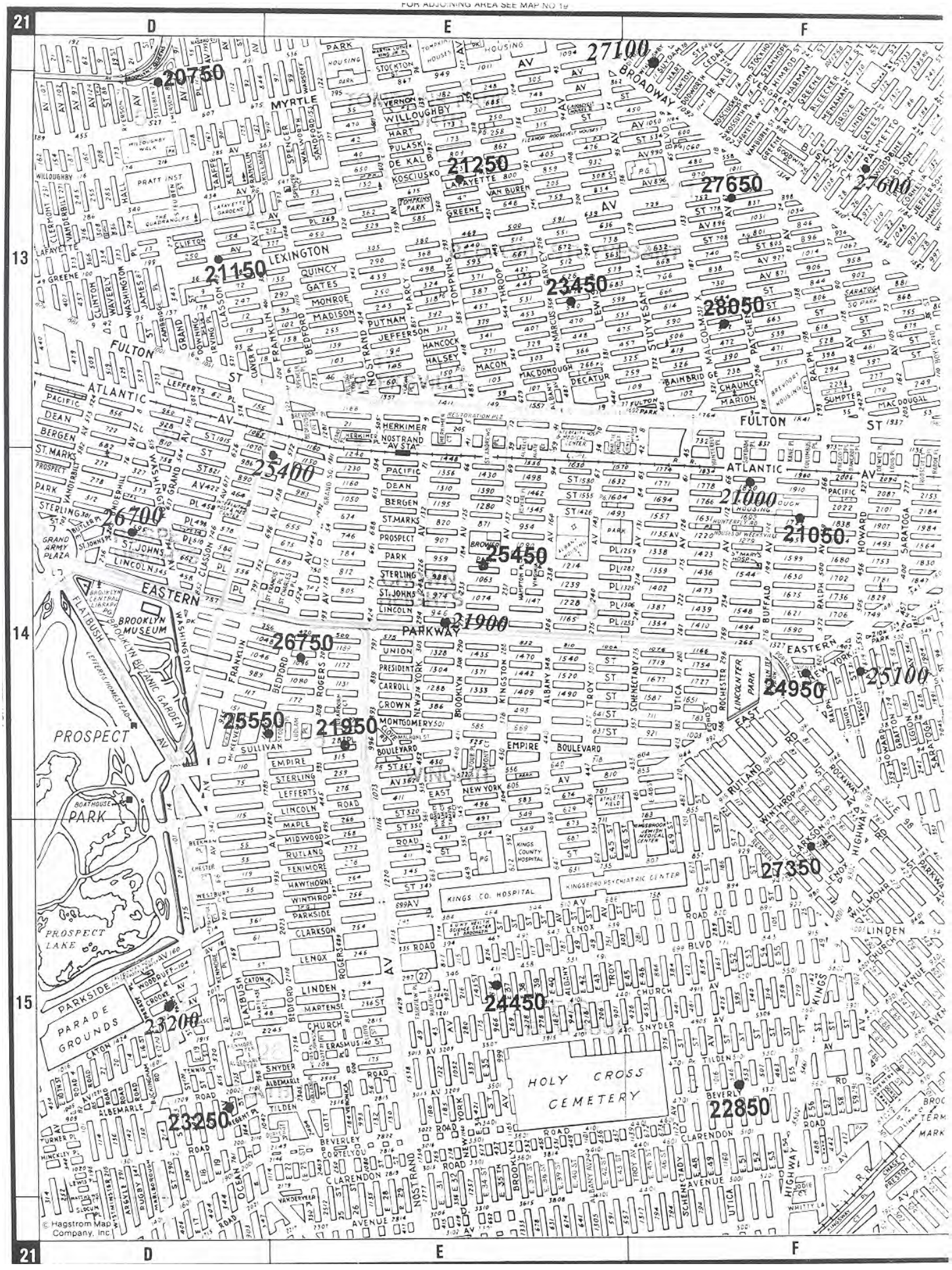
FOR ADJOINING AREA SEE MAP NO 19
21
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14
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20750
27100
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27350
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23200
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22850
HOLY CROSS CEMETERY
PROSPECT PARK
PROSPECT LAKE
PARADE GROUNDS
BROOKLYN MUSEUM
BROOKLYN BOTANIC GARDEN
ATLANTIC AV
FULTON ST
EASTERN PARKWAY
BROADWAY
KINGS CO. HOSPITAL
KINGSBORO PSYCHIATRIC CENTER
KINGS COUNTY HOSPITAL
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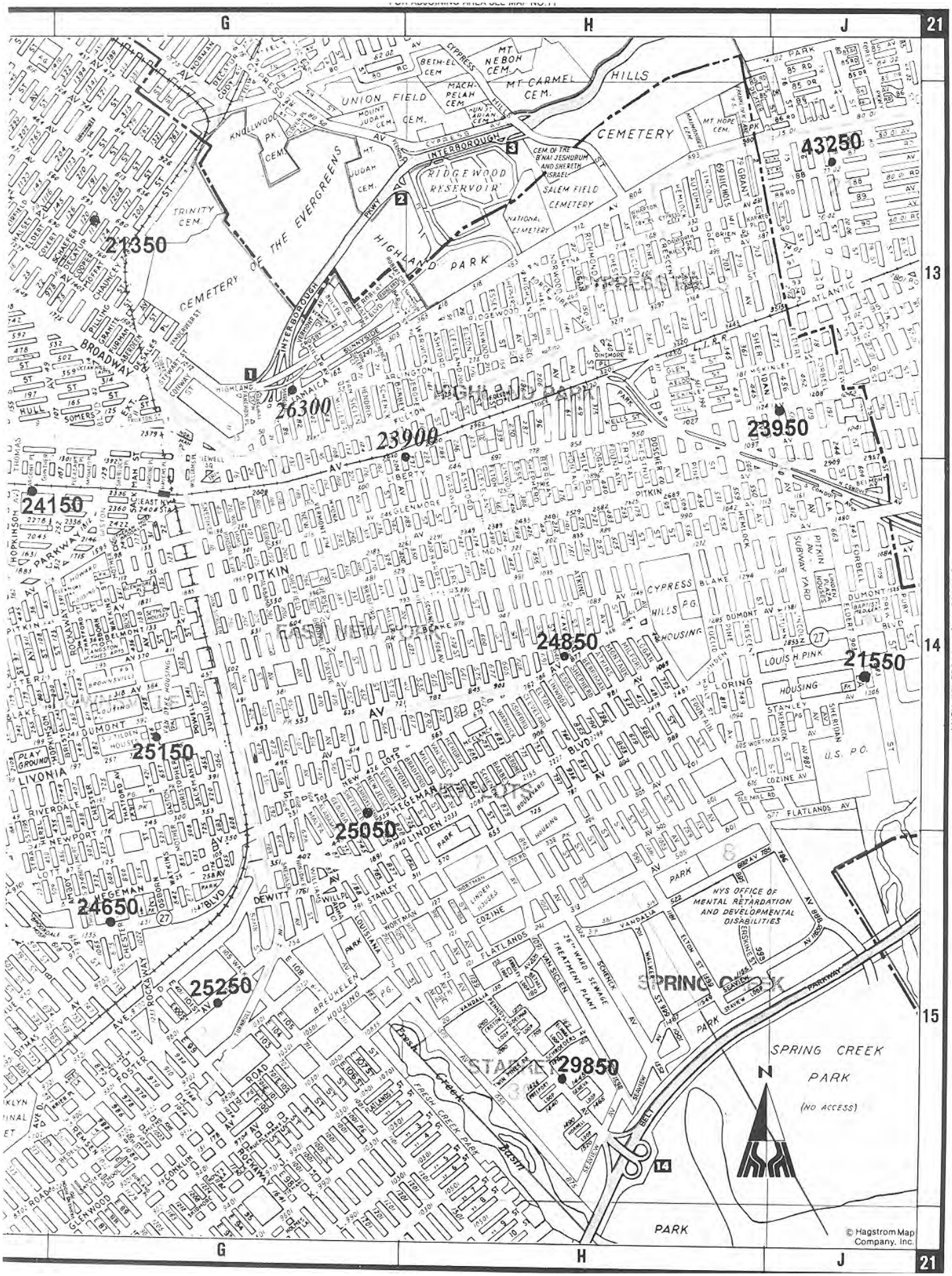
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21350
43250
26300
23900
23950
24150
24850
21550
25150
25050
24650
25250
29850
UNION FIELD CEM.
MT NEBOH CEM.
MT CARMEL CEM.
HILLS CEMETERY
MT HOPE CEM.
BETH-EL CEM
MACH-PELAH CEM
KNOLLWOOD PK. CEM.
MOUNT JUDAH CEM.
MT. JUDAH CEM.
TRINITY CEM.
CEMETERY OF THE EVERGREENS
RIDGEWOOD RESERVOIR
CEM. OF THE B'NAI JESHURUM AND SHERITH ISRAEL
SALEM FIELD CEMETERY
NATIONAL CEMETERY
HIGHLAND PARK
INTERBOROUGH PKWY
JAMAICA
EAST NEW YORK
BROADWAY JUNCTION
CYPRESS HILLS HOUSING
LOUIS H. PINK HOUSING
NYS OFFICE OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES
SPRINGFIELD PARK
SPRING CREEK PARK
(NO ACCESS)
76TH WARD SEWAGE TREATMENT PLANT
FRESH CREEK BASIN
FRESH CREEK PARK
STARRETT CITY
PARK
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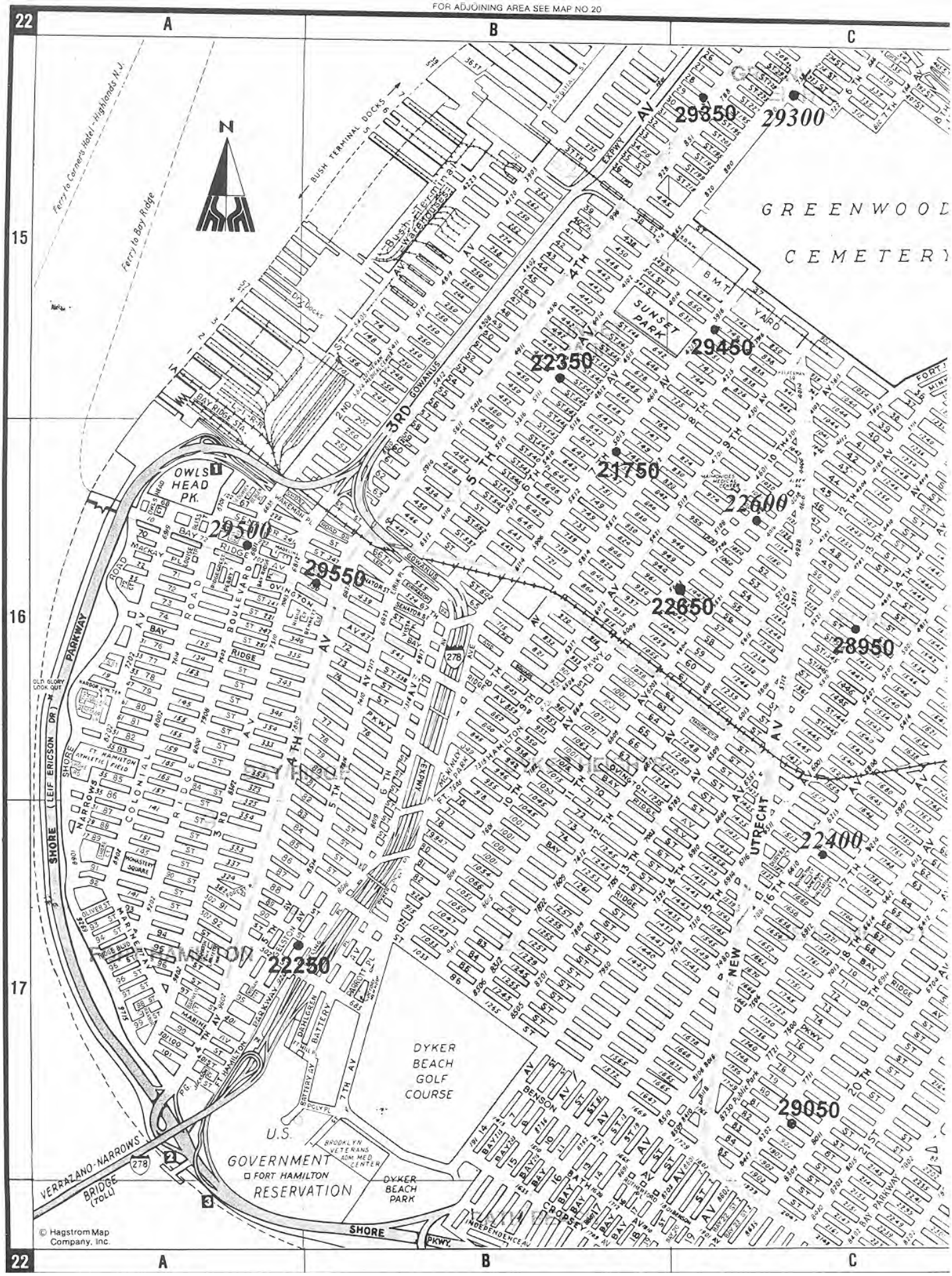
FOR ADJOINING AREA SEE MAP NO 20
22
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N
Ferry to Corner's Hotel - Highlands N.J.
Ferry to Bay Ridge
BUSH TERMINAL DOCKS
Bush Terminal Warehouses
DRY DOCKS
EXPWY
GREENWOOD
CEMETERY
B M T
YARD
SUNSET PARK
3RD
2ND
1ST
GOWANUS
BAY RIDGE STA.
OWLS HEAD PK.
29350
29300
29450
22350
21750
22600
22650
28950
29500
29550
22400
22250
29050
BAY RIDGE PARKWAY
SHORE (LEIF ERICSON DR.)
OLD GLORY LOOK OUT
HARBOR VIEW
FT. HAMILTON ATHLETIC FIELD
NARROWS
COLONIAL
MONASTERY SQUARE
MARINE
FT. HAMILTON PKWY
FT. HAMILTON
DYKER BEACH GOLF COURSE
DYKER BEACH PARK
U.S. GOVERNMENT FORT HAMILTON RESERVATION
BROOKLYN VETERANS ADM. MED. CENTER
VERRAZANO-NARROWS BRIDGE (TOLL)
SHORE PKWY.
INDEPENDENCE
BENSON
UTRECHT
NEW
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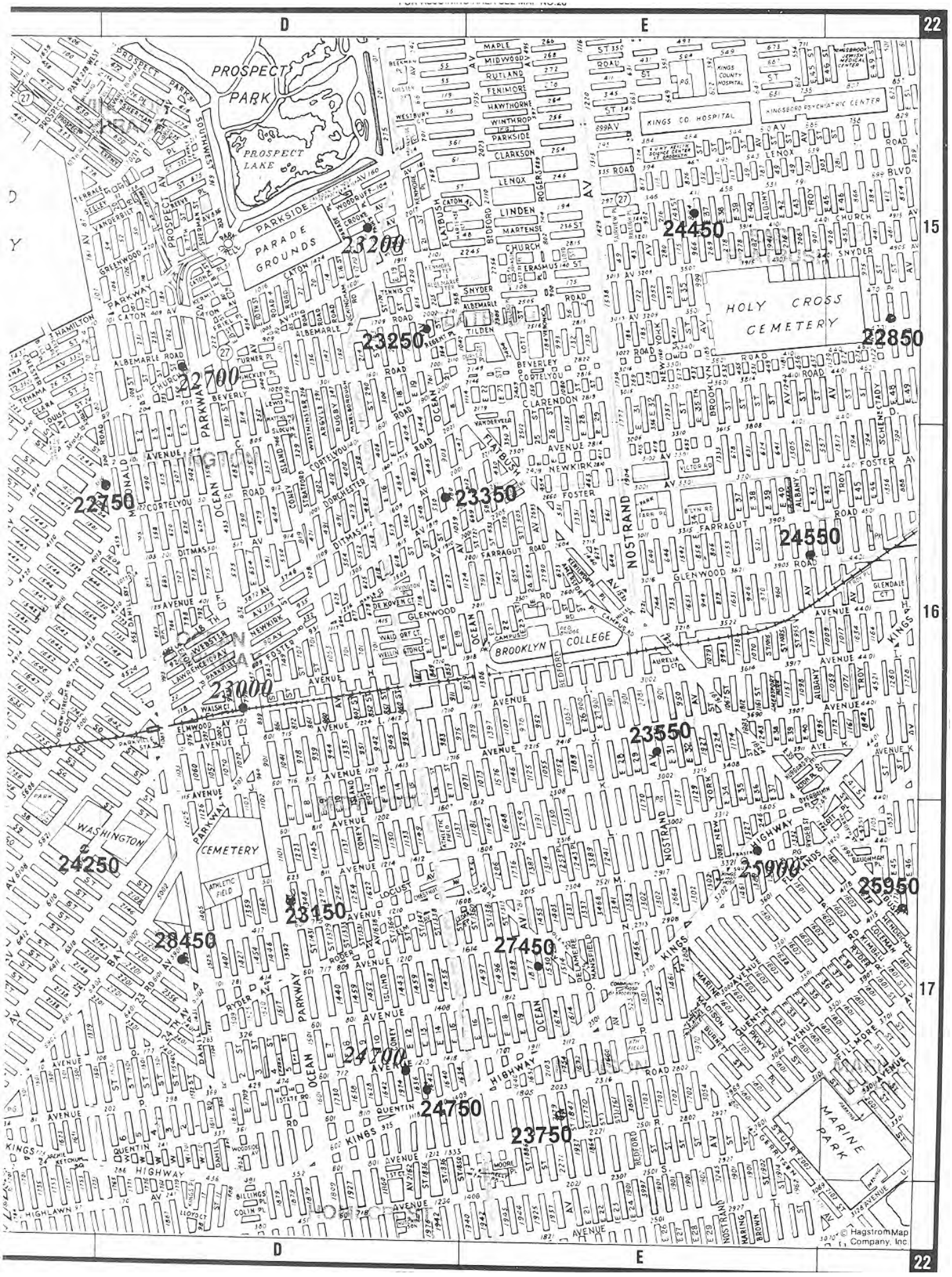
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PROSPECT PARK
PROSPECT LAKE
PARADE GROUNDS
KINGS COUNTY HOSPITAL
KINGS CO. HOSPITAL
KINGSBORO PSYCHIATRIC CENTER
HOLY CROSS CEMETERY
BROOKLYN COLLEGE
CEMETERY
MARINE PARK
23200
24450
23250
22850
22700
22750
23350
24550
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23550
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25900
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23750
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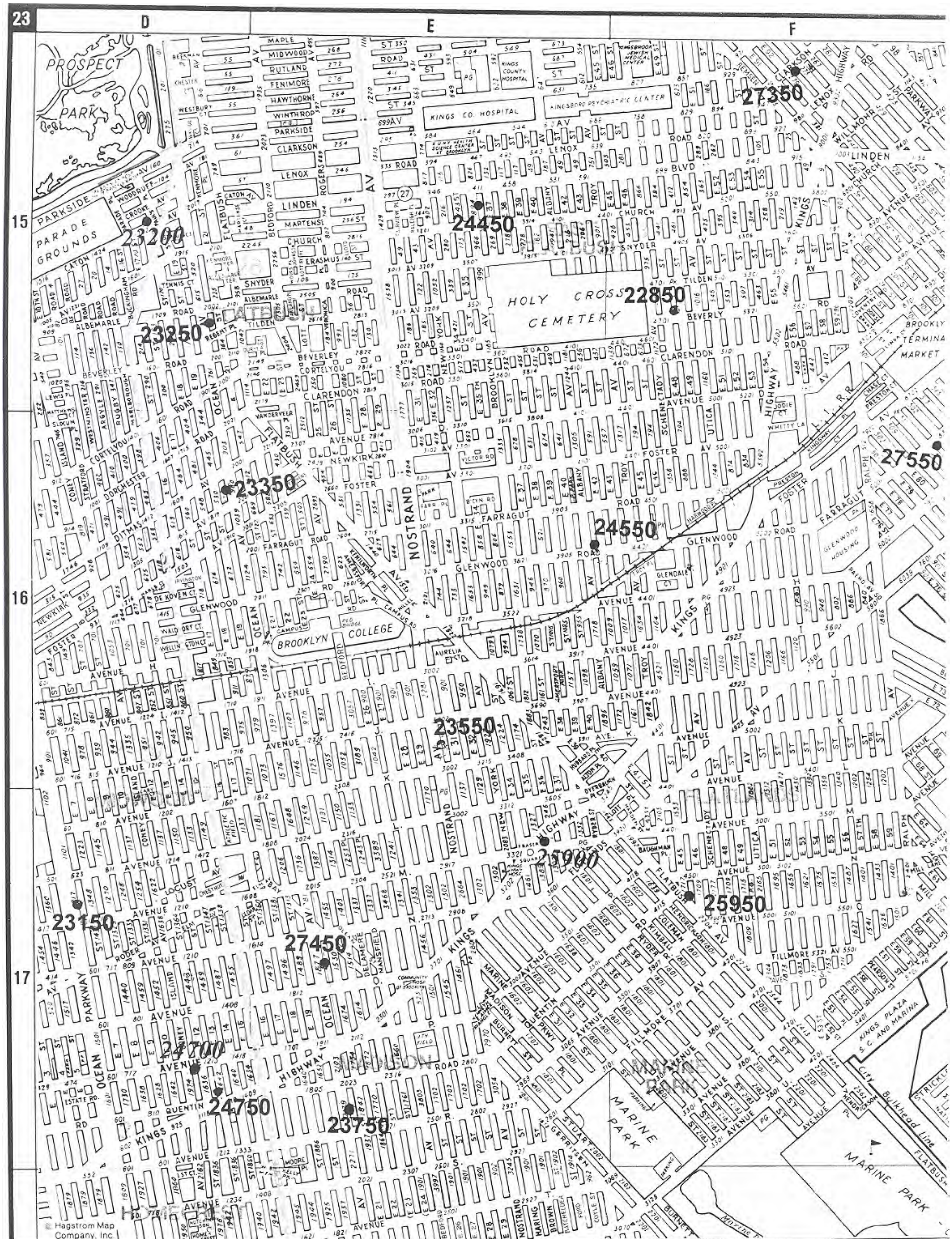
23
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PROSPECT PARK
PARADE GROUNDS
KINGS CO. HOSPITAL
KINGS COUNTY HOSPITAL
KINGSBORO PSYCHIATRIC CENTER
HOLY CROSS CEMETERY
BROOKLYN COLLEGE
FLATBUSH
NOSTRAND
KINGS HIGHWAY
MARINE PARK
BROOKLYN TERMINAL MARKET
GLENWOOD HOUSING
KINGS PLAZA S.C. AND MARINA
FLATBUSH AV
PARKSIDE
CHURCH
LINDEN
FOSTER
FARRAGUT
GLENWOOD
AVENUE
OCEAN
PARKWAY
CLARENDON
BEVERLEY
NEWKIRK
SNYDER
TILDEN
ALBEMARLE
CORTELYOU
DITMAS
LENOX
CLARKSON
FILLMORE
QUENTIN
AVENUE U
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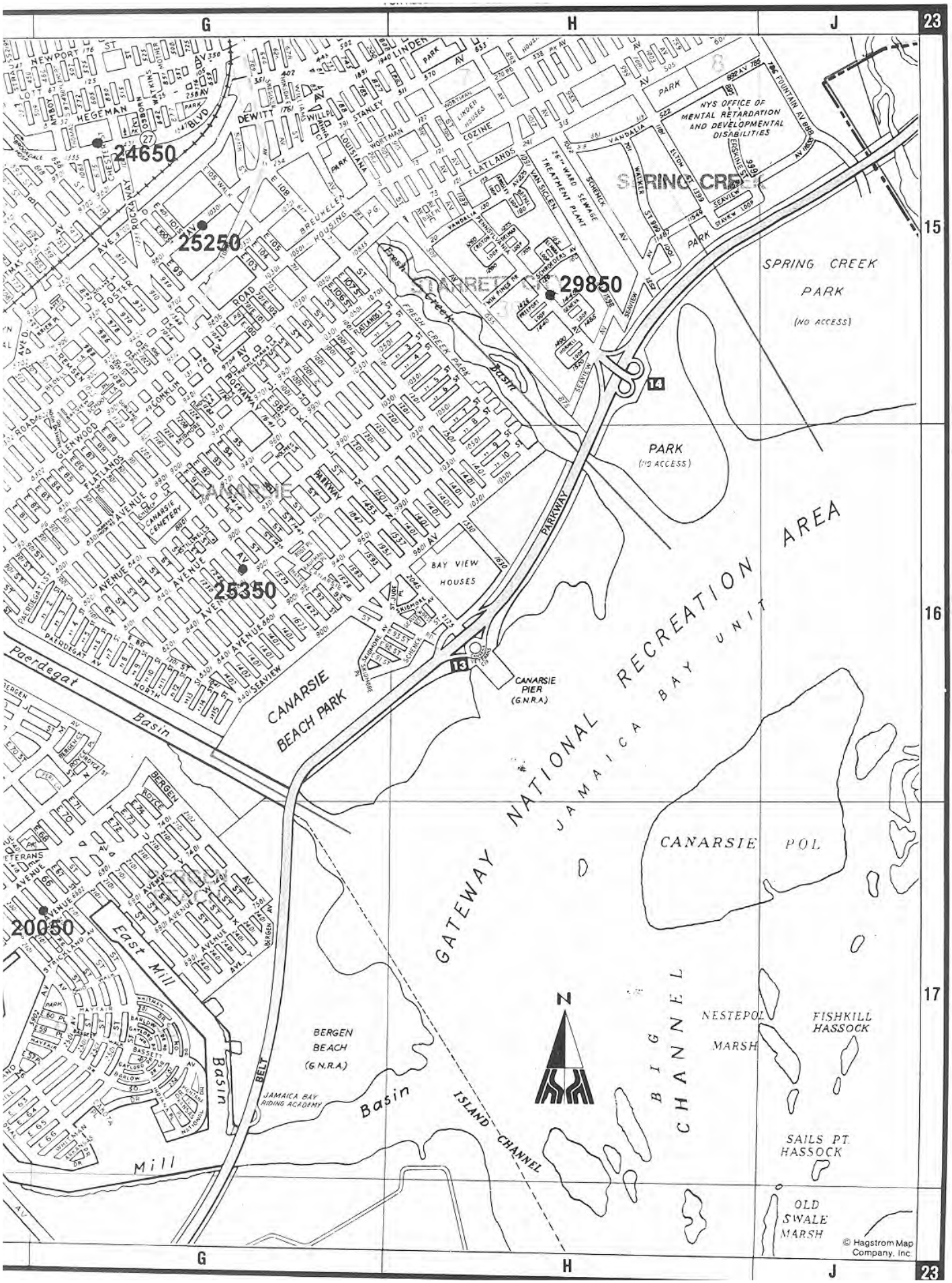
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SPRING CREEK PARK
(NO ACCESS)
PARK
(NO ACCESS)
NYS OFFICE OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES
SPRING CREEK
FRESH CREEK PARK
Fresh Creek Basin
PARKWAY
BAY VIEW HOUSES
CANARSIE BEACH PARK
CANARSIE PIER (G.N.R.A.)
GATEWAY NATIONAL RECREATION AREA
JAMAICA BAY UNIT
CANARSIE POL
Paerdegat Basin
East Mill Basin
Mill Basin
BELT PARKWAY
BERGEN BEACH (G.N.R.A.)
JAMAICA BAY RIDING ACADEMY
ISLAND CHANNEL
BIG CHANNEL
NESTEPOL MARSH
FISHKILL HASSOCK
SAILS PT. HASSOCK
OLD SWALE MARSH
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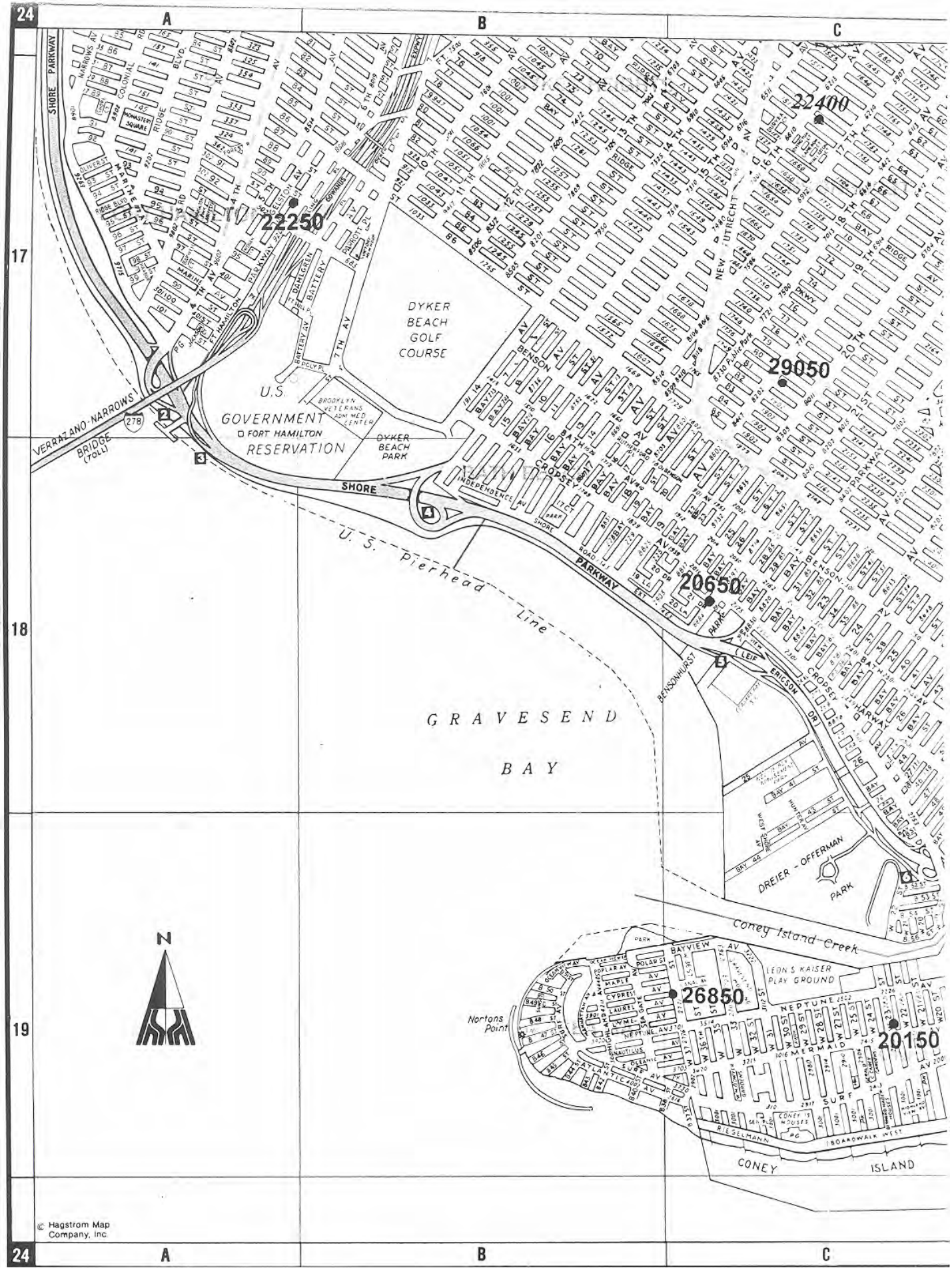
© Hagstrom Map Company, Inc.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DYKER BEACH GOLF COURSE
U.S. GOVERNMENT FORT HAMILTON RESERVATION
BROOKLYN VETERANS ADMIN MED CENTER
DYKER BEACH PARK
VERRAZANO-NARROWS BRIDGE (TOLL)
SHORE PARKWAY
SHORE ROAD PARKWAY
U. S. Pierhead Line
GRAVESEND BAY
DREIER - OFFERMAN PARK
Coney Island Creek
LEON S KAISER PLAY GROUND
Nortons Point
CONEY ISLAND
BOARDWALK WEST
N
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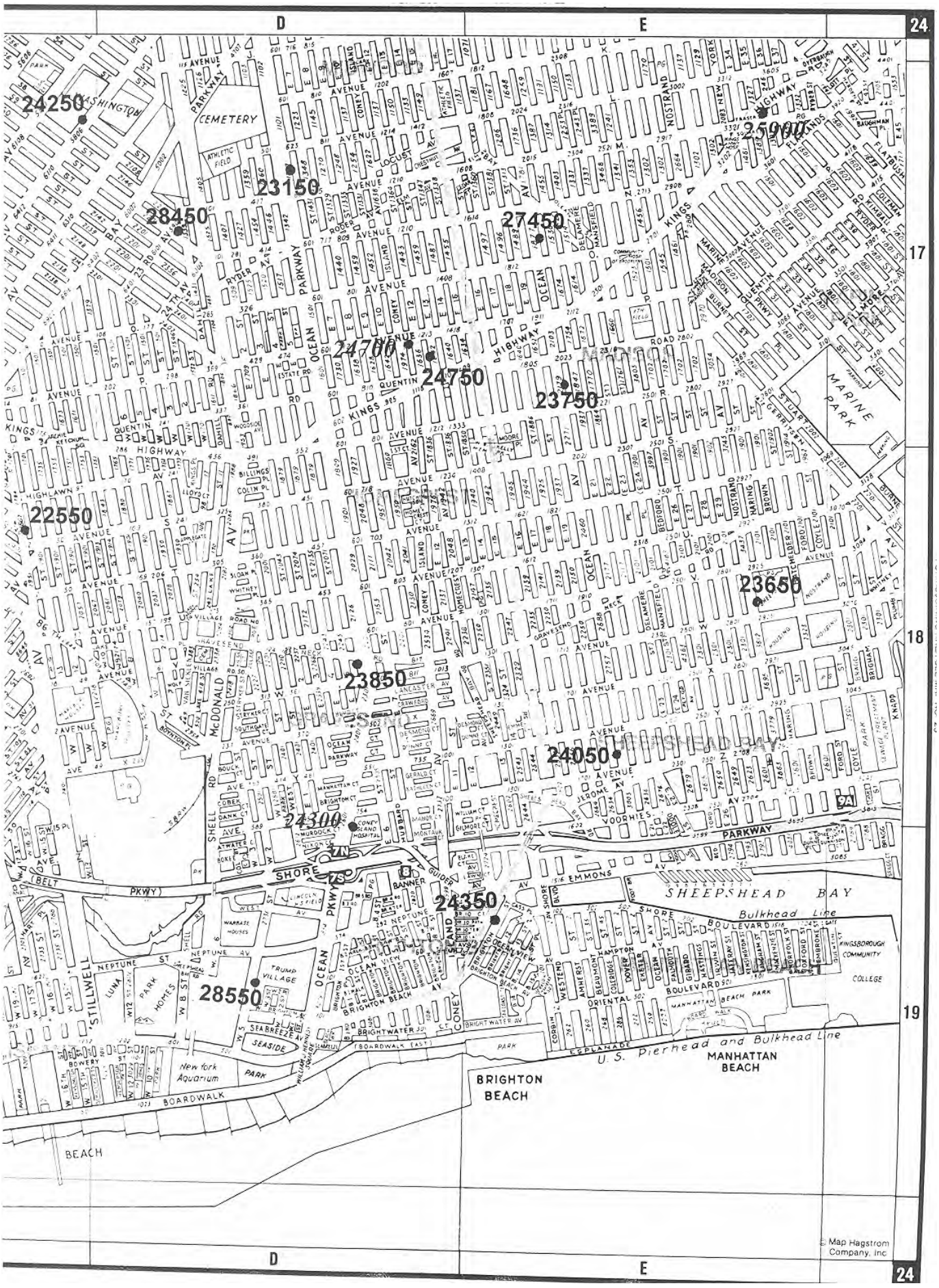
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28550
CEMETERY
ATHLETIC FIELD
MARINE PARK
SHEEPSHEAD BAY
Bulkhead Line
BRIGHTON BEACH
MANHATTAN BEACH
U.S. Pierhead and Bulkhead Line
BOARDWALK
BEACH
PARKWAY
SHORE PKWY (BELT PKWY)
OCEAN PARKWAY
NEPTUNE AVENUE
BRIGHTON BEACH BOULEVARD
MANHATTAN BEACH BOULEVARD
ESPLANADE
SEASIDE
TRUMP VILLAGE
New York Aquarium
LUNA PARK
HOMES
KINGSBOROUGH COMMUNITY COLLEGE
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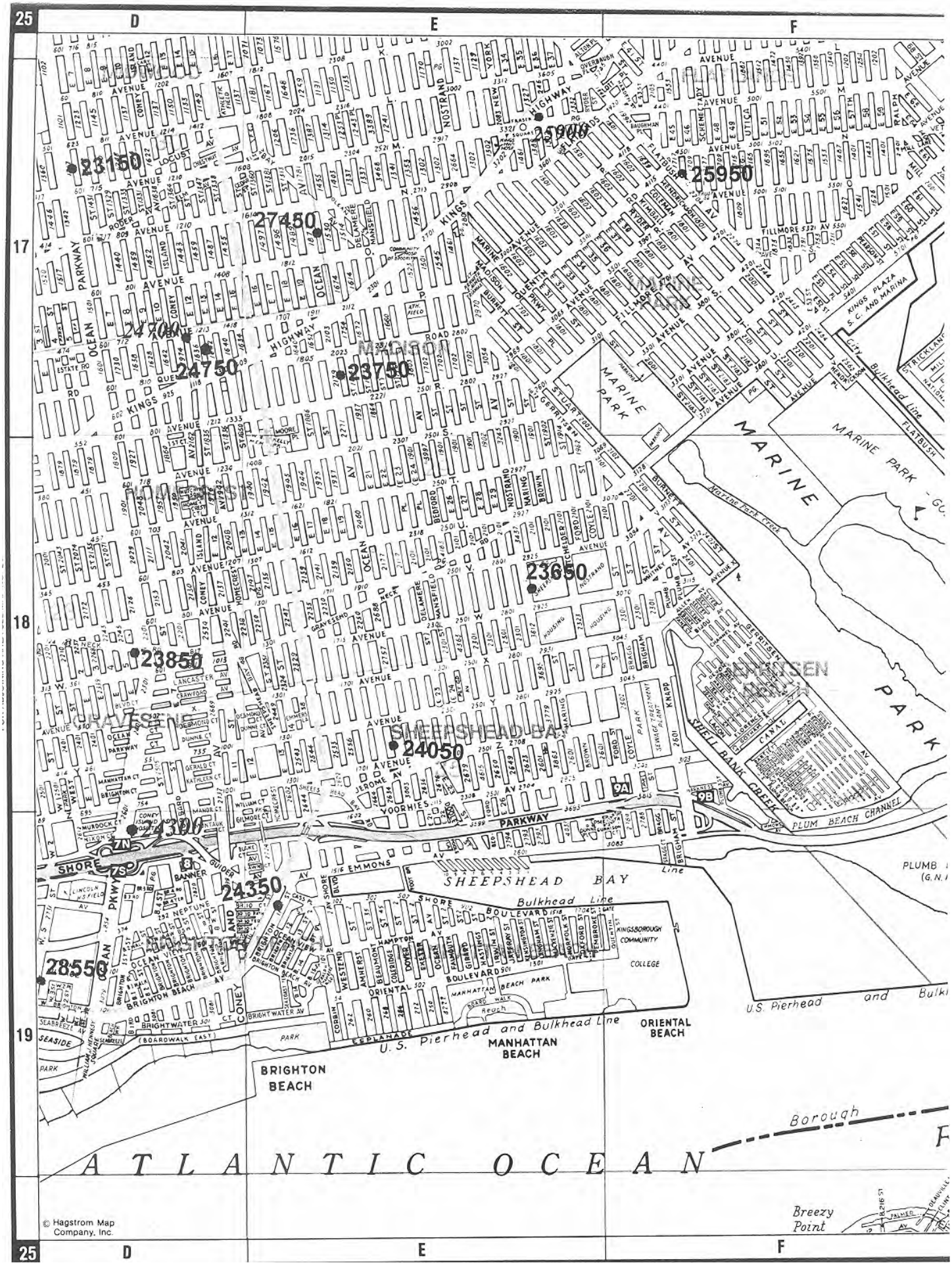
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24350
28550
MARINE PARK
MARINE PARK - GC
MARINE PARK Creek
SHEEPSHEAD BAY
GERRITSEN INLET
GERRITSEN PARK
SHELL BANK CREEK
PLUM BEACH CHANNEL
PARKWAY
SHORE PKWY
Bulkhead Line
U.S. Pierhead and Bulkhead Line
BRIGHTON BEACH
MANHATTAN BEACH
ORIENTAL BEACH
KINGSBOROUGH COMMUNITY COLLEGE
ATLANTIC OCEAN
Borough
Breezy Point
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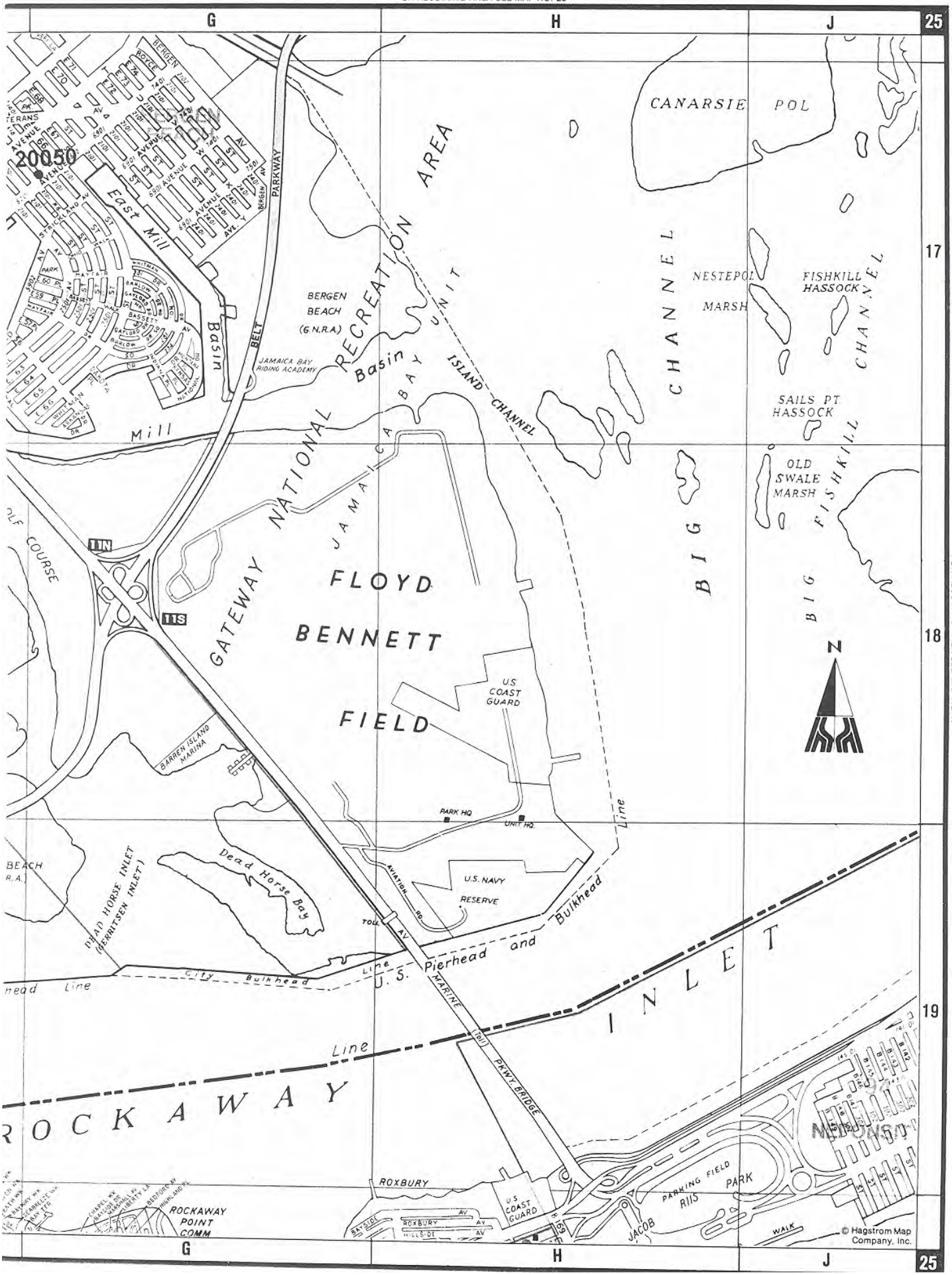
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CANARSIE POL
NESTEPOL MARSH
FISHKILL HASSOCK
SAILS PT HASSOCK
OLD SWALE MARSH
BIG FISHKILL CHANNEL
BIG CHANNEL
ISLAND CHANNEL
JAMAICA BAY
GATEWAY NATIONAL RECREATION AREA
BERGEN BEACH (G.N.R.A.)
JAMAICA BAY RIDING ACADEMY
East Mill Basin
Mill Basin
BELT PARKWAY
BERGEN AVENUE
FLOYD BENNETT FIELD
US COAST GUARD
BARREN ISLAND MARINA
PARK HQ
UNIT HQ.
U.S. NAVY RESERVE
AVIATION RD.
TOLL
Dead Horse Bay
DEAD HORSE INLET (BERRITSEN INLET)
City Bulkhead Line
U.S. Pierhead and Bulkhead Line
MARINE PKWY. BRIDGE
ROCKAWAY INLET
ROCKAWAY
ROXBURY
ROCKAWAY POINT COMM
PARKING FIELD
JACOB RIIS PARK
NEPTUNE
WALK
11N
11S
N
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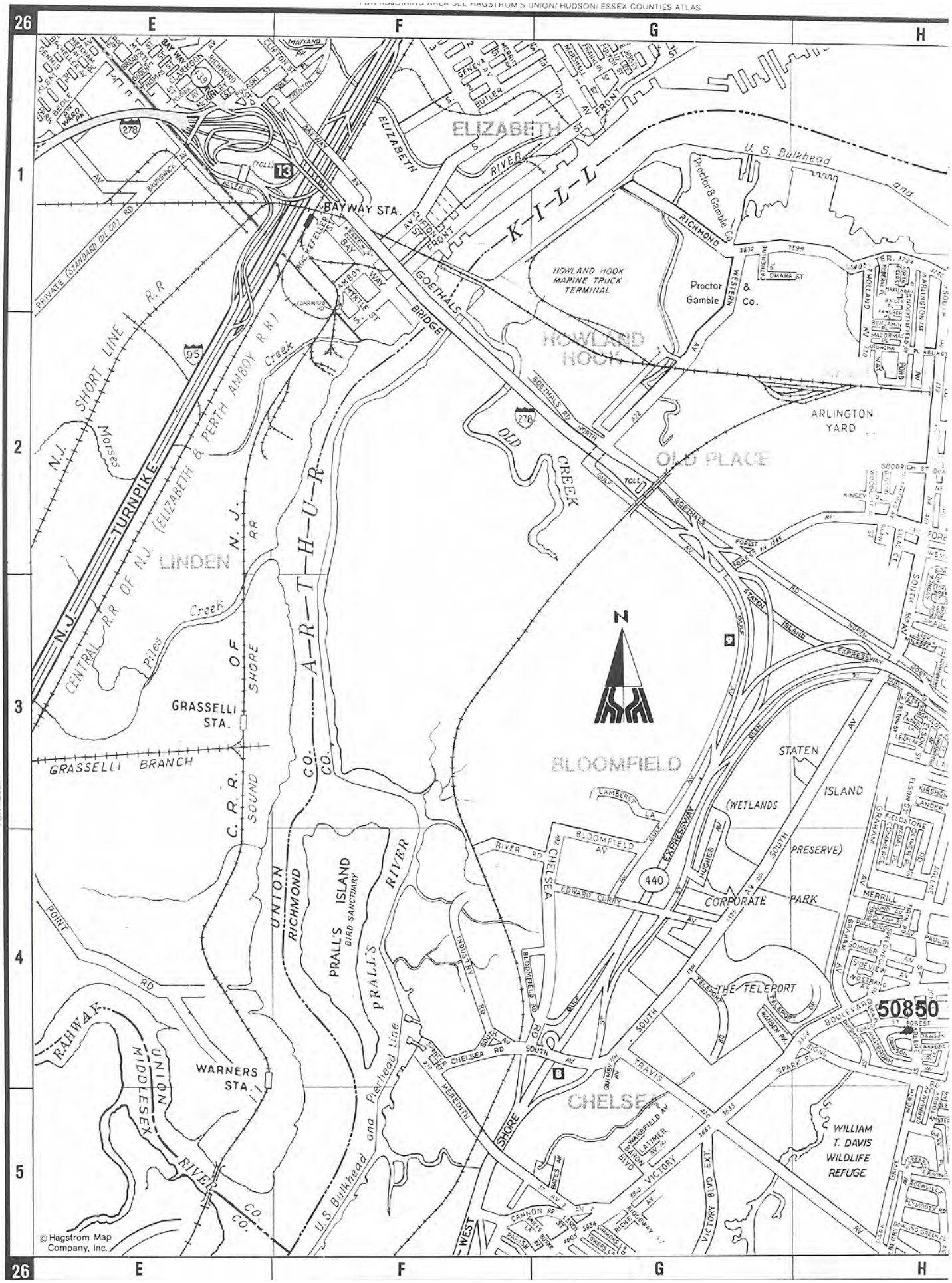
FOR ADJOINING AREA SEE HAGSTROM'S UNION/HUDSON/ESSEX COUNTIES ATLAS
26
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1
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5
ELIZABETH
RIVER
K-I-L-L
U.S. Bulkhead and
Proctor & Gamble Co.
RICHMOND
HOWLAND HOOK MARINE TRUCK TERMINAL
Proctor & Gamble & Co.
HOWLAND HOOK
ARLINGTON YARD
OLD PLACE
BAYWAY STA.
ELIZABETH RIVER
GOETHALS BRIDGE
GOETHALS RD NORTH
OLD CREEK
N.J. TURNPIKE
N.J. SHORT LINE R.R.
CENTRAL R.R. OF N.J. (ELIZABETH & PERTH AMBOY R.R.)
Morses Creek
Piles Creek
LINDEN
N.J. R.R.
A-R-T-H-U-R KILL
GRASSELLI STA.
GRASSELLI BRANCH
C.R.R. OF N.J.
SHORE
SOUND
CO.
CO.
BLOOMFIELD
STATEN ISLAND EXPRESSWAY
(WETLANDS PRESERVE)
CORPORATE PARK
THE TELEPORT
50850
UNION
RICHMOND
PRALL'S ISLAND BIRD SANCTUARY
PRALL'S RIVER
POINT
RAHWAY
MIDDLESEX
RIVER
CO.
WARNERS STA.
U.S. Bulkhead and Pierhead Line
CHELSEA
SOUTH SHORE
WILLIAM T. DAVIS WILDLIFE REFUGE
VICTORY BLVD EXT.
WEST SHORE
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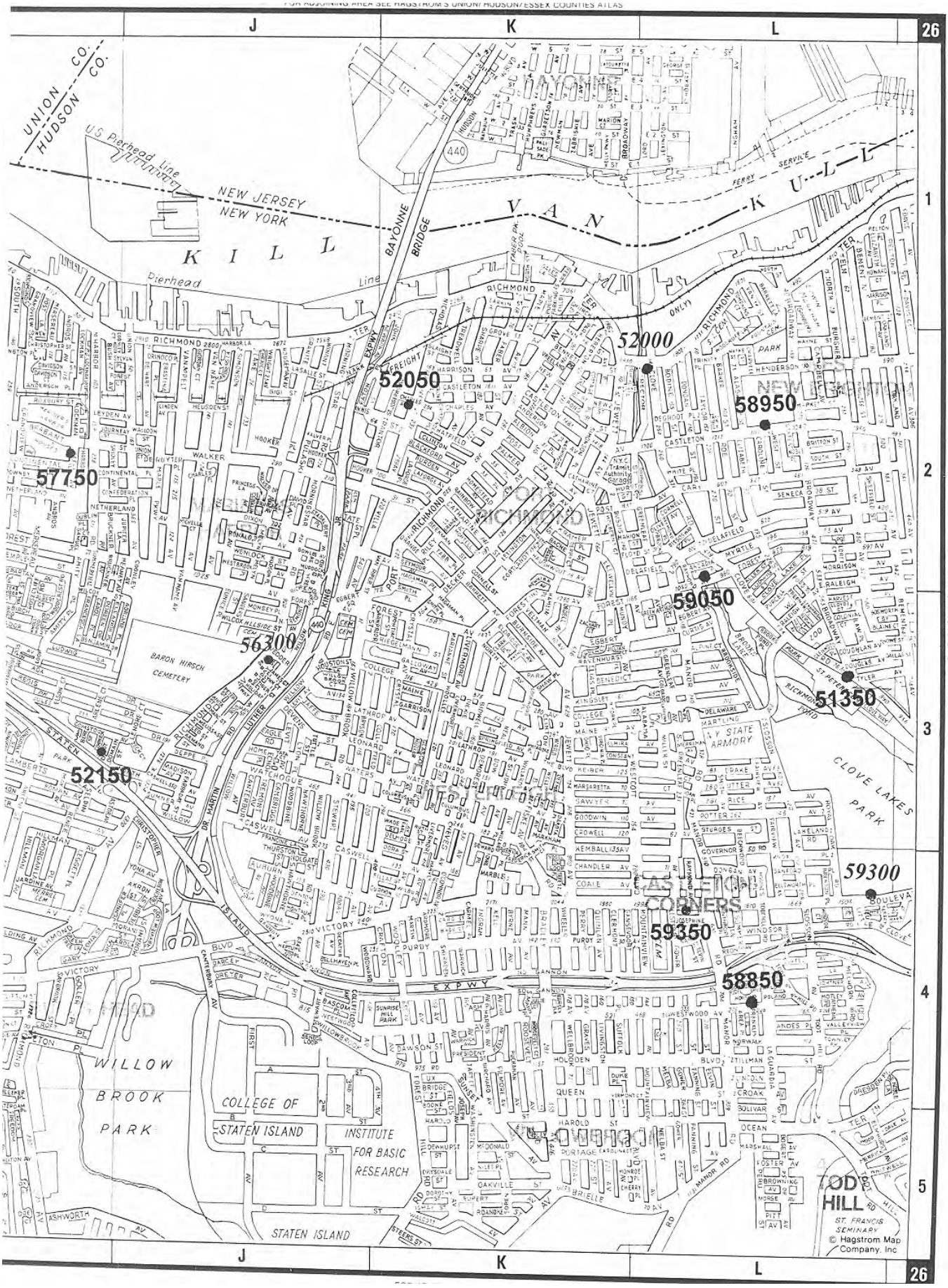
FOR ADJOINING AREA SEE HAGSTROM'S UNION/HUDSON/ESSEX COUNTIES ATLAS
J
K
L
26
UNION CO.
HUDSON CO.
U.S. Pierhead Line
NEW JERSEY
NEW YORK
KILL VAN KULL
BAYONNE BRIDGE
FERRY SERVICE
Pierhead Line
RICHMOND
52000
52050
58950
57750
59050
56300
51350
52150
59300
59350
58850
BARON HIRSCH CEMETERY
CLOVE LAKES PARK
WILLOW BROOK PARK
COLLEGE OF STATEN ISLAND
INSTITUTE FOR BASIC RESEARCH
STATEN ISLAND
EXPWY
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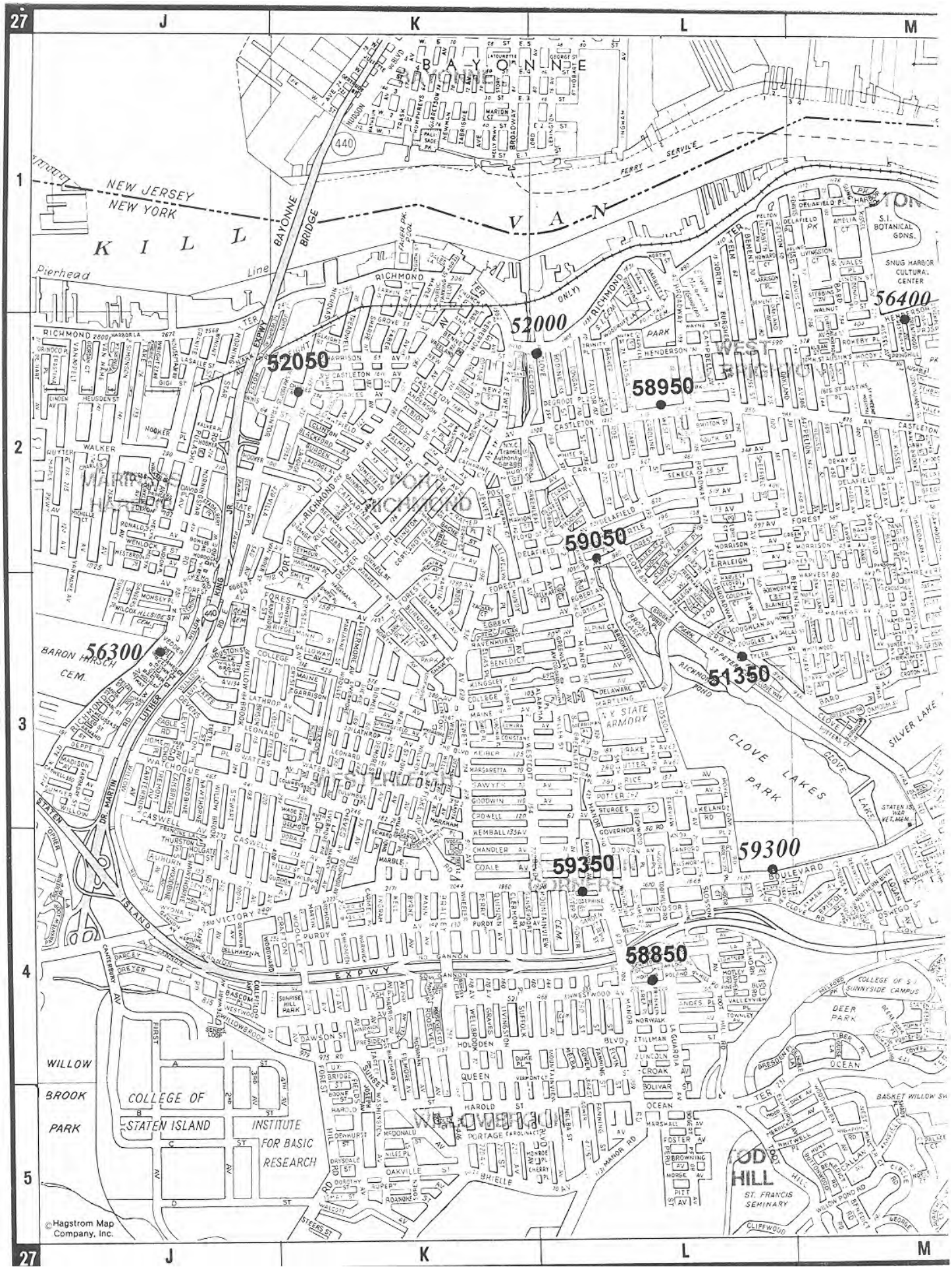
27
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BAYONNE
NEW JERSEY
NEW YORK
KILL VAN
BAYONNE BRIDGE
Pierhead Line
FERRY SERVICE
RICHMOND
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58950
59050
56400
56300
51350
59300
59350
58850
EXPWY
CLOVE LAKES PARK
SILVER LAKE
RICHMOND POND
BARON HIRSCH CEM.
S.I. BOTANICAL GDNS.
SNUG HARBOR CULTURAL CENTER
COLLEGE OF STATEN ISLAND
INSTITUTE FOR BASIC RESEARCH
WILLOW BROOK PARK
ST. FRANCIS SEMINARY
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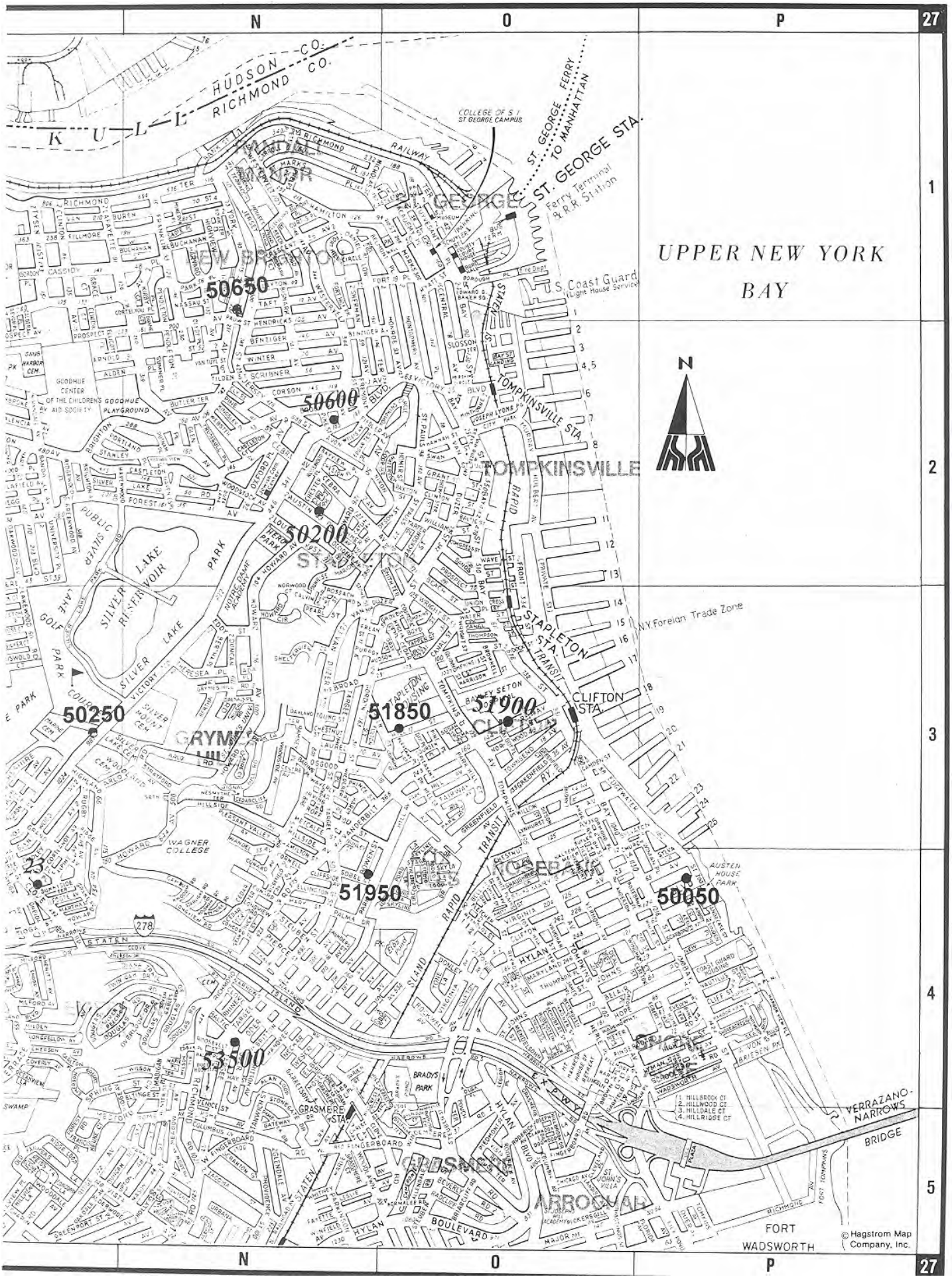
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UPPER NEW YORK BAY
ST. GEORGE STA.
Ferry Terminal & R.R. Station
ST. GEORGE FERRY TO MANHATTAN
COLLEGE OF S.I. ST GEORGE CAMPUS
U.S. Coast Guard (Light House Service)
50650
50600
50200
50250
51850
51900
51950
50050
53500
TOMPKINSVILLE STA.
STAPLETON STA.
CLIFTON STA.
N.Y. Foreign Trade Zone
SILVER LAKE PARK
SILVER LAKE GOLF PARK
WAGNER COLLEGE
AUSTEN HOUSE PARK
VERRAZANO-NARROWS BRIDGE
FORT WADSWORTH
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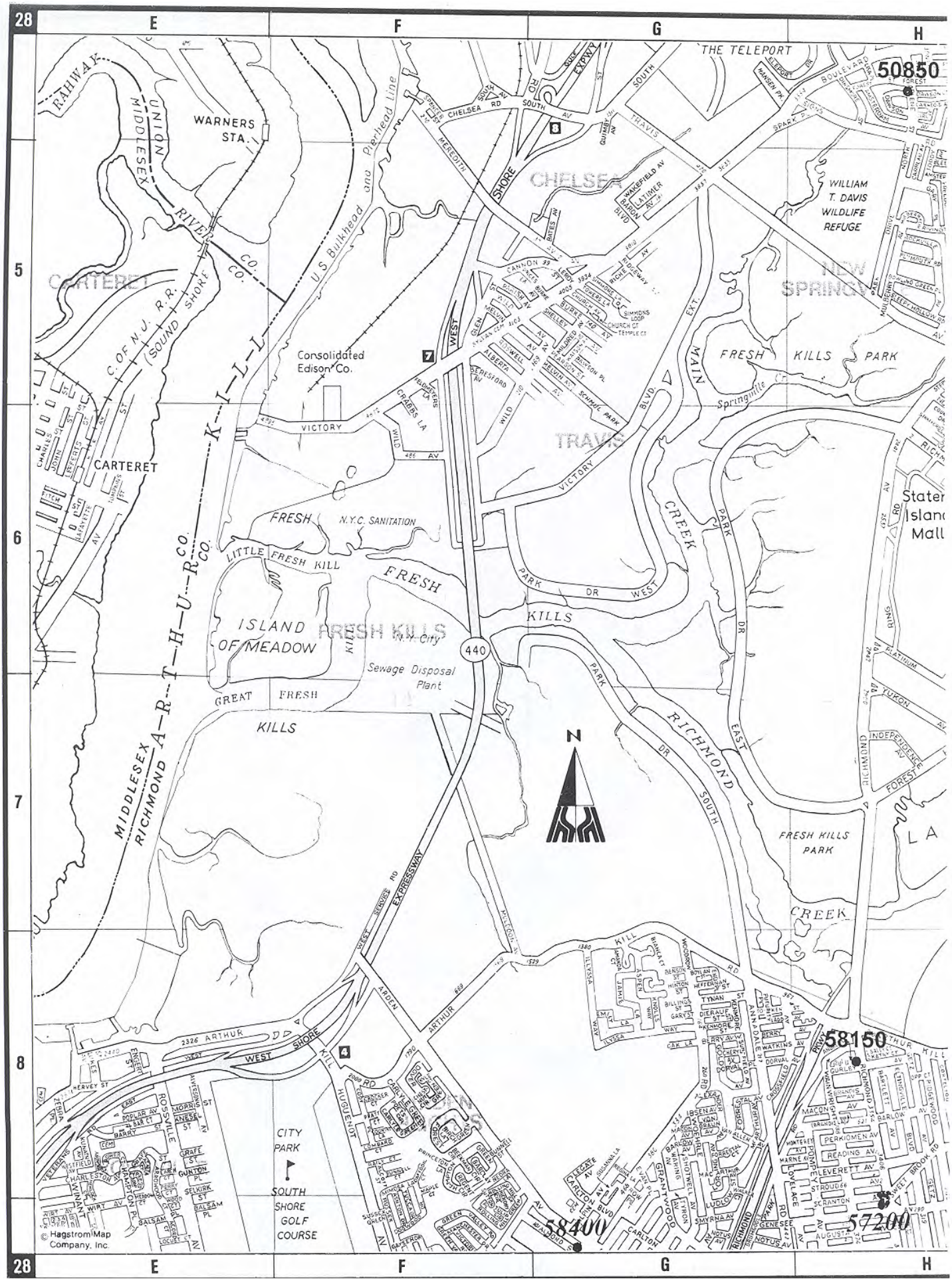
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57200
THE TELEPORT
WARNERS STA.
RAHWAY
MIDDLESEX
UNION
RIVER
CO.
C. OF N.J. R.R. (SOUND SHORE LINE)
U.S. Bulkhead and Pierhead Line
CHELSEA
CARTERET
Consolidated Edison Co.
WILLIAM T. DAVIS WILDLIFE REFUGE
NEW SPRINGVILLE
FRESH KILLS PARK
Springville Ctr
TRAVIS
MAIN
CREEK
PARK DR WEST
PARK DR EAST
RICHMOND DR SOUTH
FRESH
N.Y.C. SANITATION
LITTLE FRESH KILL
ISLAND OF MEADOW
FRESH KILLS
N.Y. City Sewage Disposal Plant
GREAT FRESH KILLS
MIDDLESEX
RICHMOND
ARTHUR KILL
WEST SHORE EXPRESSWAY
440
VICTORY BLVD
CHELSEA RD
SOUTH AV
WEST SHORE
2326 ARTHUR
CITY PARK
SOUTH SHORE GOLF COURSE
Staten Island Mall
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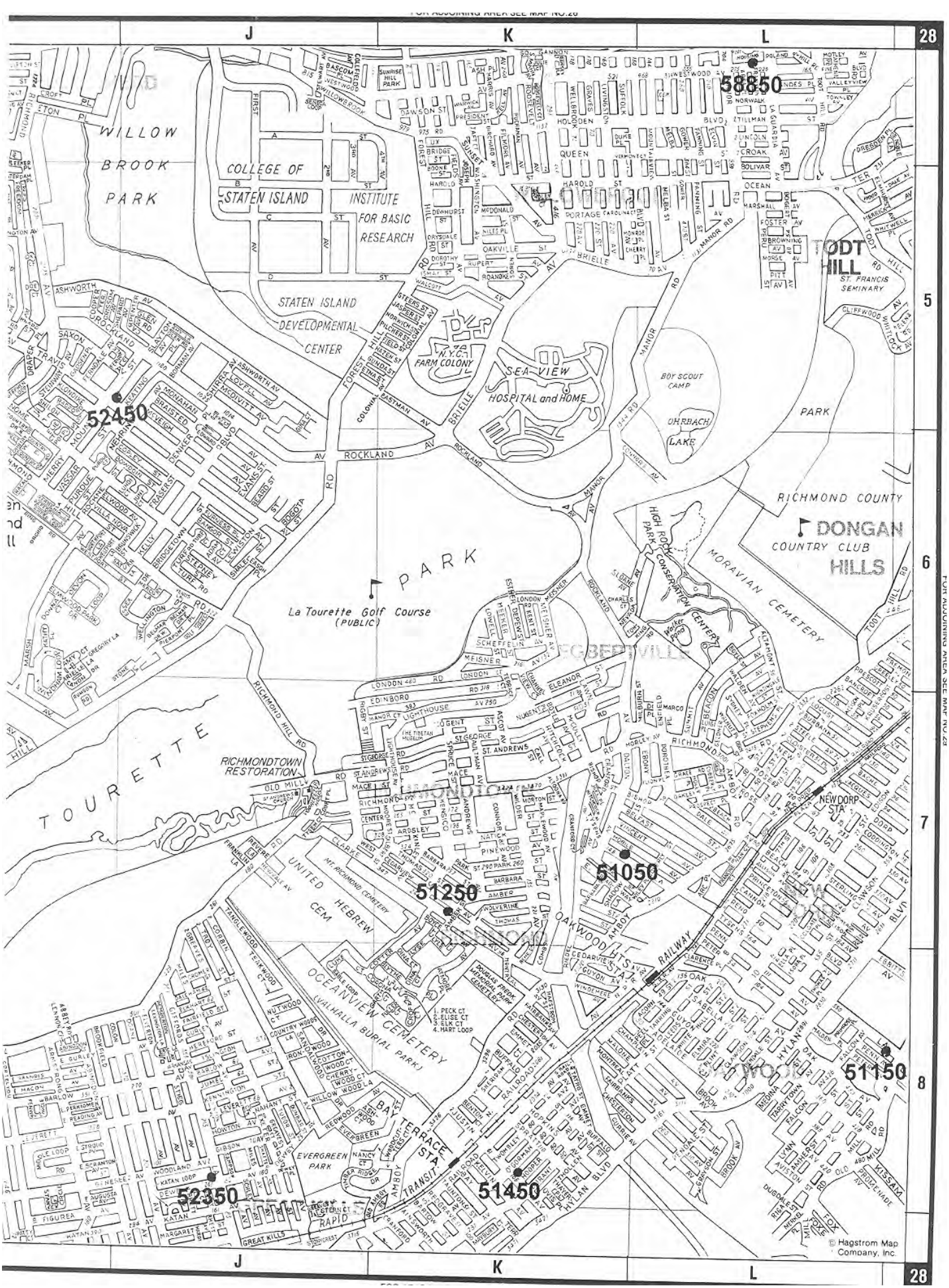
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WILLOW BROOK PARK
COLLEGE OF STATEN ISLAND
INSTITUTE FOR BASIC RESEARCH
STATEN ISLAND DEVELOPMENTAL CENTER
N.Y.C. FARM COLONY
SEA VIEW HOSPITAL and HOME
BOY SCOUT CAMP
OHRBACH LAKE
PARK
TODT HILL
ST. FRANCIS SEMINARY
RICHMOND COUNTY COUNTRY CLUB
DONGAN HILLS
MORAVIAN CEMETERY
HIGH ROCK PARK CONSERVATION CENTER
La Tourette Golf Course (PUBLIC)
TOURETTE PARK
RICHMONDTOWN RESTORATION
UNITED HEBREW CEM
OCEANVIEW CEMETERY (VALHALLA BURIAL PARK)
EVERGREEN PARK
OAKWOOD HEIGHTS
NEW DORP
BAY TERRACE
RAILWAY
TRANSIT
ROCKLAND AV
MANOR RD
RICHMOND HILL RD
OLD MILL RD
LONDON RD
EDINBORO RD
BRIELLE AV
FOREST HILL RD
TODT HILL RD
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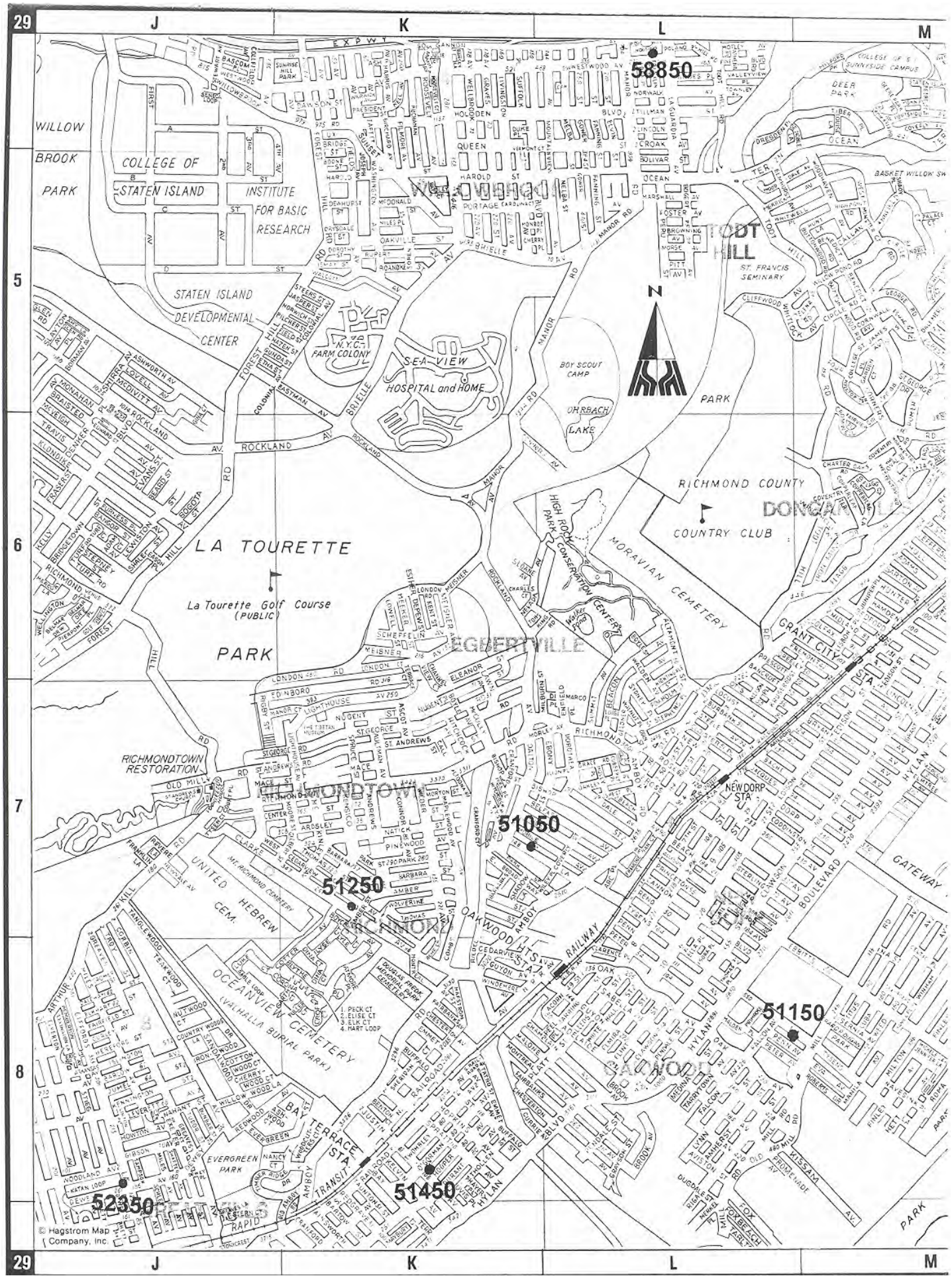
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WILLOW BROOK PARK
COLLEGE OF STATEN ISLAND
INSTITUTE FOR BASIC RESEARCH
STATEN ISLAND DEVELOPMENTAL CENTER
N.Y.C. FARM COLONY
SEA VIEW HOSPITAL and HOME
BOY SCOUT CAMP
OHRBACH LAKE
PARK
TODT HILL
ST. FRANCIS SEMINARY
RICHMOND COUNTY COUNTRY CLUB
LA TOURETTE
La Tourette Golf Course (PUBLIC)
PARK
HIGH ROCK PARK CONSERVATION CENTER
MORAVIAN CEMETERY
EGBERTVILLE
GRANT CITY
RICHMONDTOWN RESTORATION
RICHMONDTOWN
NEW DORP STA
UNITED HEBREW CEM.
OCEANVIEW CEMETERY (VALHALLA BURIAL PARK)
OAKWOOD HTS STA
GATEWAY BOULEVARD
BAY TERRACE STA
EVERGREEN PARK
RAPID TRANSIT RAILROAD
OAKWOOD
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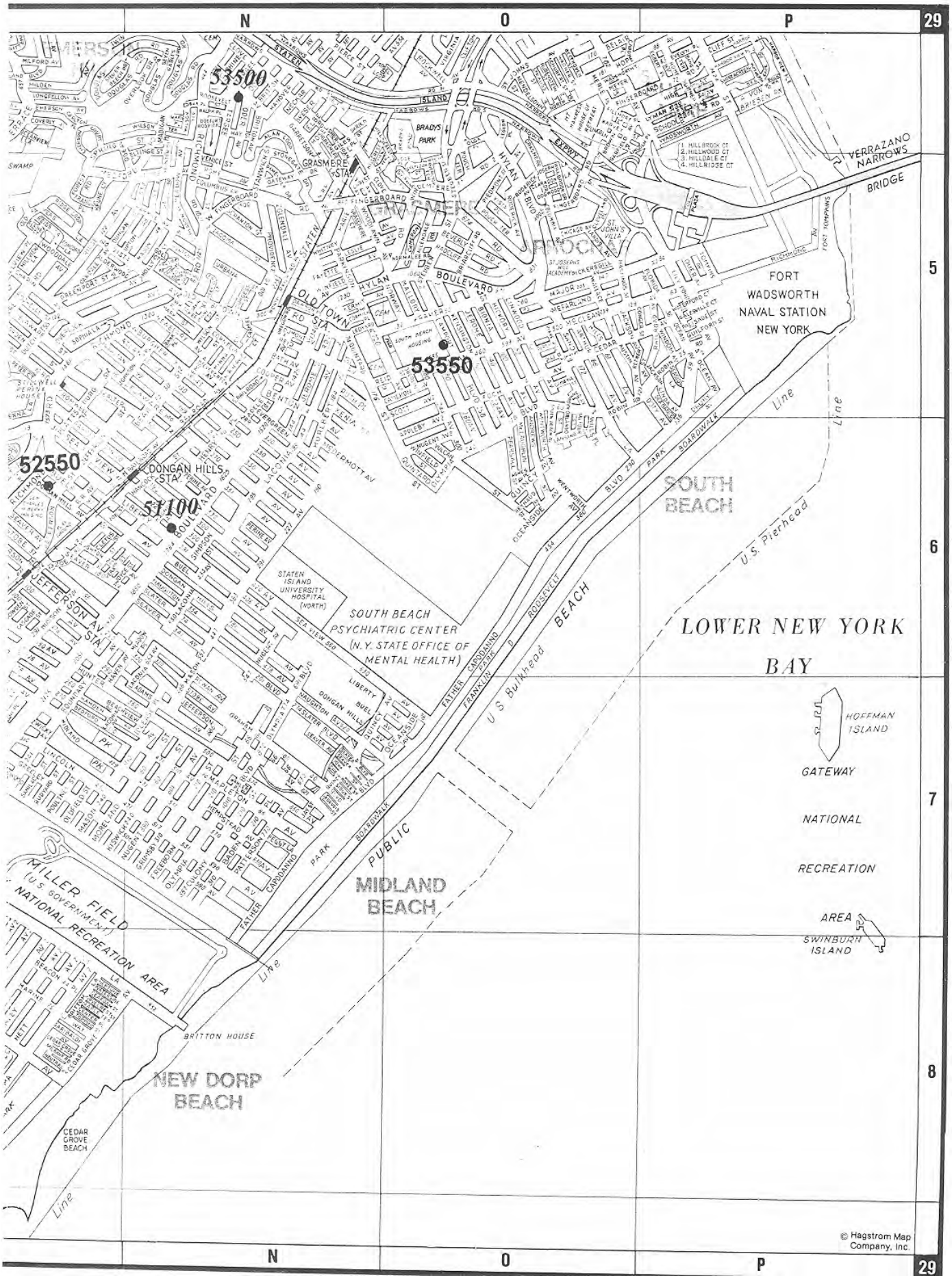
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GRASMERE STA.
OLD TOWN STA.
DONGAN HILLS STA.
JEFFERSON AV STA.
BRADYS PARK
HYLAN BOULEVARD
FORT WADSWORTH NAVAL STATION NEW YORK
VERRAZANO NARROWS BRIDGE
SOUTH BEACH
SOUTH BEACH PSYCHIATRIC CENTER (N.Y. STATE OFFICE OF MENTAL HEALTH)
STATEN ISLAND UNIVERSITY HOSPITAL (NORTH)
LOWER NEW YORK BAY
U.S. Pierhead Line
U.S. Bulkhead Line
BEACH
MIDLAND BEACH
NEW DORP BEACH
MILLER FIELD (U.S. GOVERNMENT) NATIONAL RECREATION AREA
BRITTON HOUSE
CEDAR GROVE BEACH
HOFFMAN ISLAND
SWINBURN ISLAND
GATEWAY NATIONAL RECREATION AREA
PUBLIC PARK
BOARDWALK
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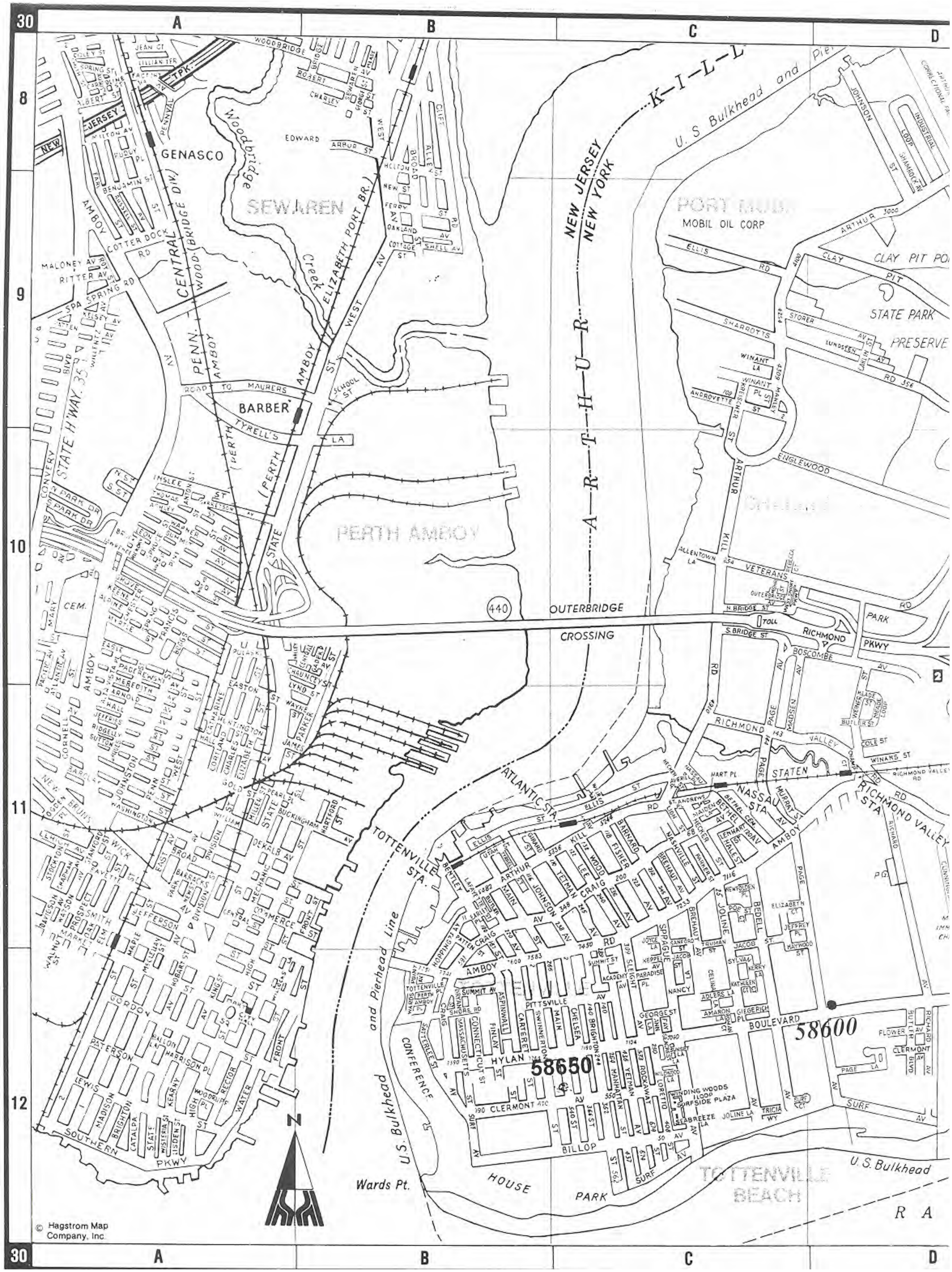
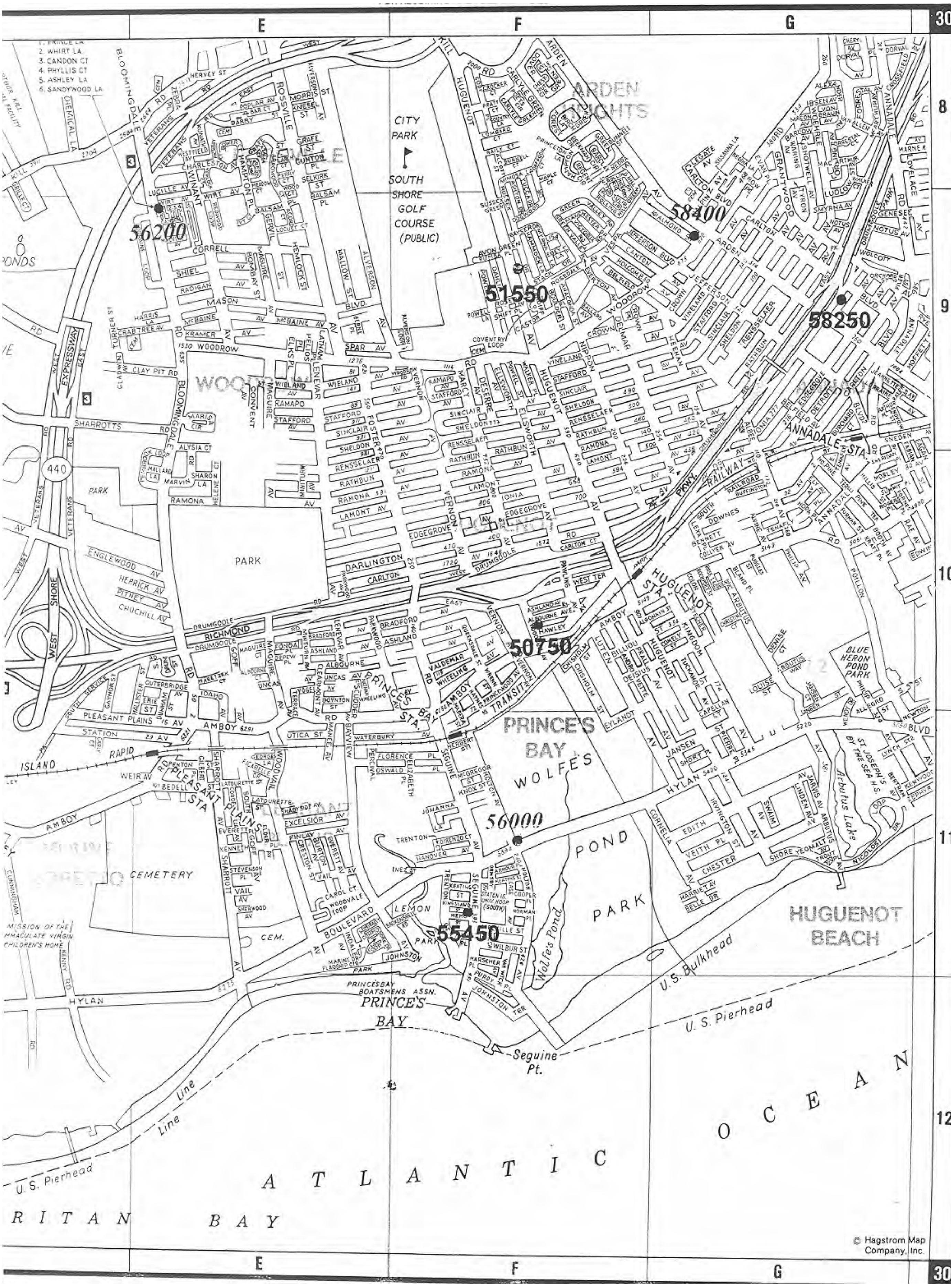
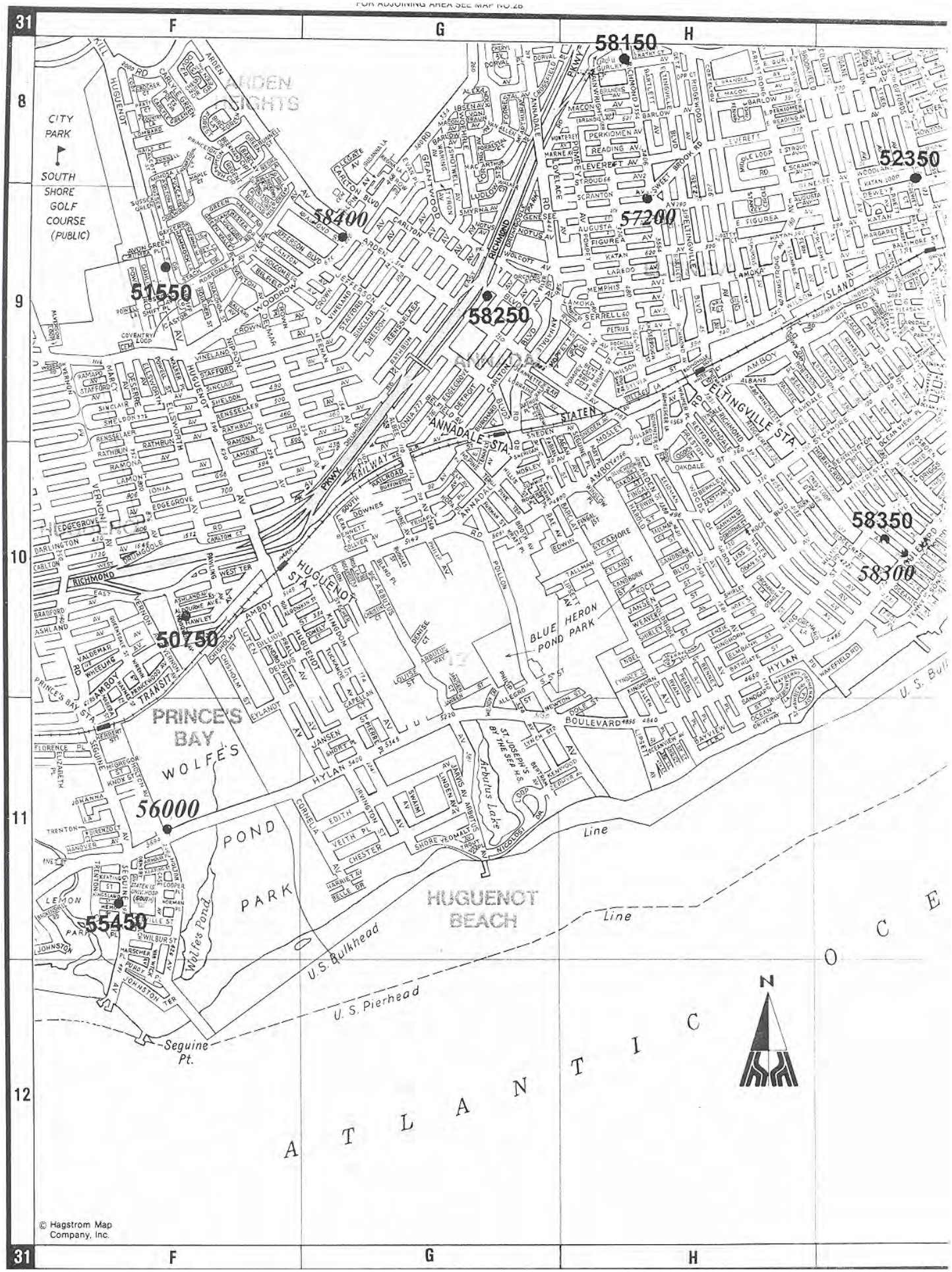

30
A
B
C
D
8
9
10
11
12
GENASCO
SEWAREN
Woodbridge Creek
CENTRAL
ELIZABETH PORT BR.
NEW JERSEY
NEW YORK
A-R-T-H-U-R K-I-L-L
U. S. Bulkhead and Pier
PORT MOBIL
MOBIL OIL CORP
CLAY PIT POND STATE PARK PRESERVE
BARBER
STATE H'WAY 35
PERTH AMBOY
440
OUTERBRIDGE CROSSING
RICHMOND PKWY
ATLANTIC STA.
NASSAU STA.
RICHMOND VALLEY STA.
TOTTENVILLE STA.
U.S. Bulkhead and Pierhead Line
CONFERENCE HOUSE PARK
Wards Pt.
58650
58600
TOTTENVILLE BEACH
U.S. Bulkhead
R A
N
© Hagstrom Map Company, Inc.


E
F
G
30
8
9
10
11
12
56200
58400
51550
58250
50750
56000
55450
CITY PARK
SOUTH SHORE GOLF COURSE (PUBLIC)
ARDEN HEIGHTS
PARK
PRINCE'S BAY
WOLFE'S POND PARK
HUGUENOT BEACH
BLUE HERON POND PARK
CEMETERY
PRINCES BAY BOATSMENS ASSN.
PRINCE'S BAY
Seguine Pt.
U. S. Pierhead
U.S. Bulkhead
A T L A N T I C O C E A N
R I T A N B A Y
ANNADALE STA.
HUGUENOT STA.
PRINCES BAY STA.
PLEASANT PLAINS STA.
STATEN ISLAND RAPID TRANSIT
HYLAN BLVD
AMBOY RD
WOODROW RD
ARDEN AV
WEST SHORE EXPRESSWAY
440
© Hagstrom Map Company, Inc.


FOR ADJOINING AREA SEE MAP NO.28
31
F
G
H
8
9
10
11
12
58150
52350
58400
57200
51550
58250
58350
58300
50750
56000
55450
CITY PARK
SOUTH SHORE GOLF COURSE (PUBLIC)
PRINCES BAY
WOLFES POND PARK
HUGUENOT BEACH
BLUE HERON POND PARK
ANNADALE STA.
HUGUENOT STA.
RICHMOND
TRANSIT
BOULEVARD
Arbutus Lake
St. JOSEPH'S BY THE SEA H.S.
U.S. Bulkhead
U.S. Pierhead
Seguine Pt.
Wolfe's Pond
Line
ATLANTIC OCEAN
N
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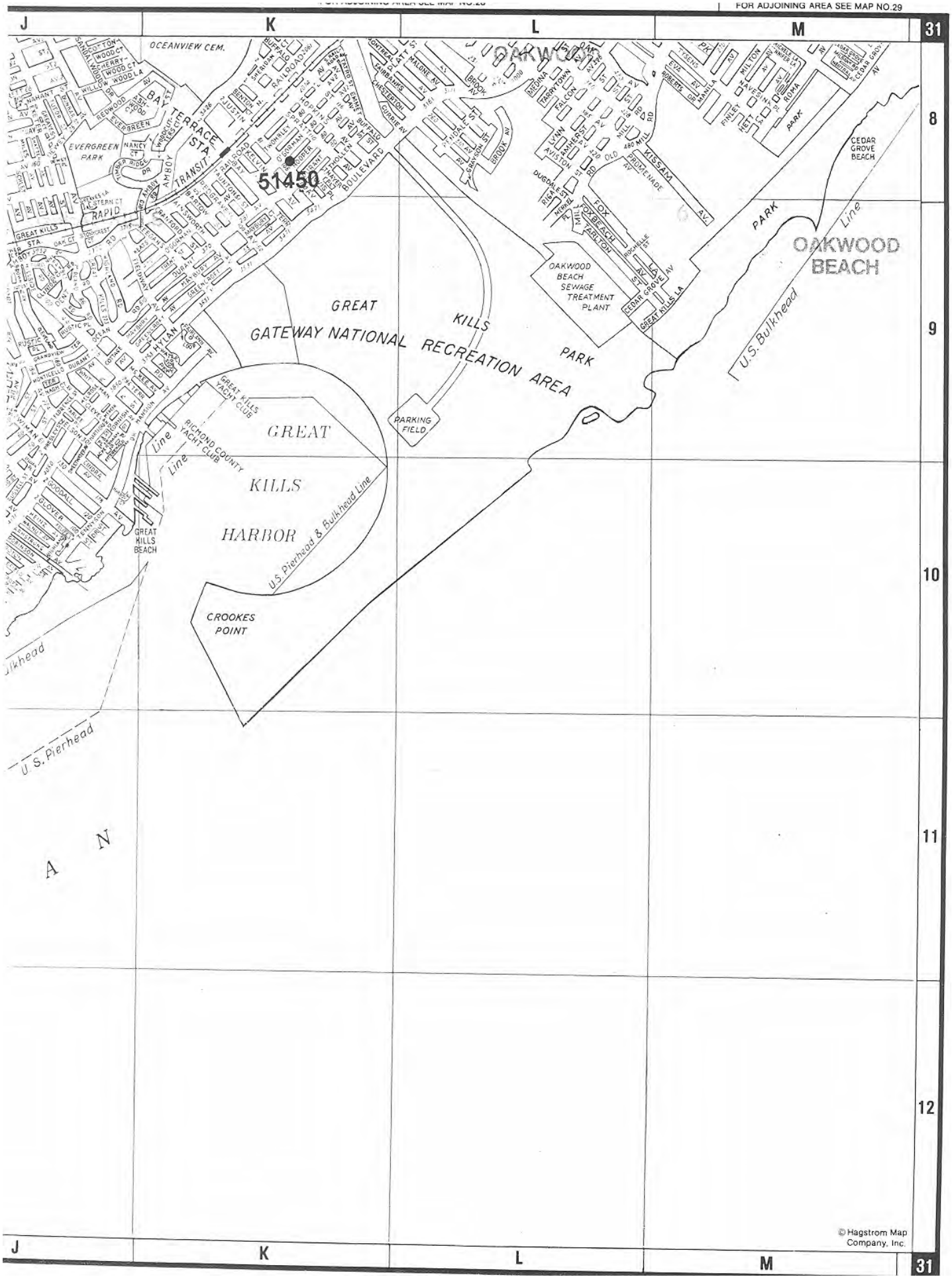
FOR ADJOINING AREA SEE MAP NO.29
J
K
L
M
31
8
9
10
11
12
OCEANVIEW CEM.
OAKWOOD
51450
GREAT KILLS TERRACE STA
TRANSIT
RAPID
EVERGREEN PARK
BAY
BUFFALO RAILROAD
BOULEVARD
MALONE AV
BROOK AV
HARRYTOWN
FALCON
LYNN
AYLSTON
MILL RD
480 MILL
OLD
KISSAM
PROMENADE
CEDAR GROVE BEACH
PARK
OAKWOOD BEACH
FOX BEACH
FARLTON
CEDAR GROVE AV
GREAT KILLS LA
OAKWOOD BEACH SEWAGE TREATMENT PLANT
GREAT KILLS PARK
GATEWAY NATIONAL RECREATION AREA
U.S. Bulkhead
Line
GREAT KILLS YACHT CLUB
RICHMOND COUNTY YACHT CLUB
PARKING FIELD
GREAT KILLS HARBOR
U.S. Pierhead & Bulkhead Line
GREAT KILLS BEACH
CROOKES POINT
U.S. Pierhead
ANCHORAGE
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APPENDIX B

SAMPLE STATIONS BY COMMUNITY BOARDS

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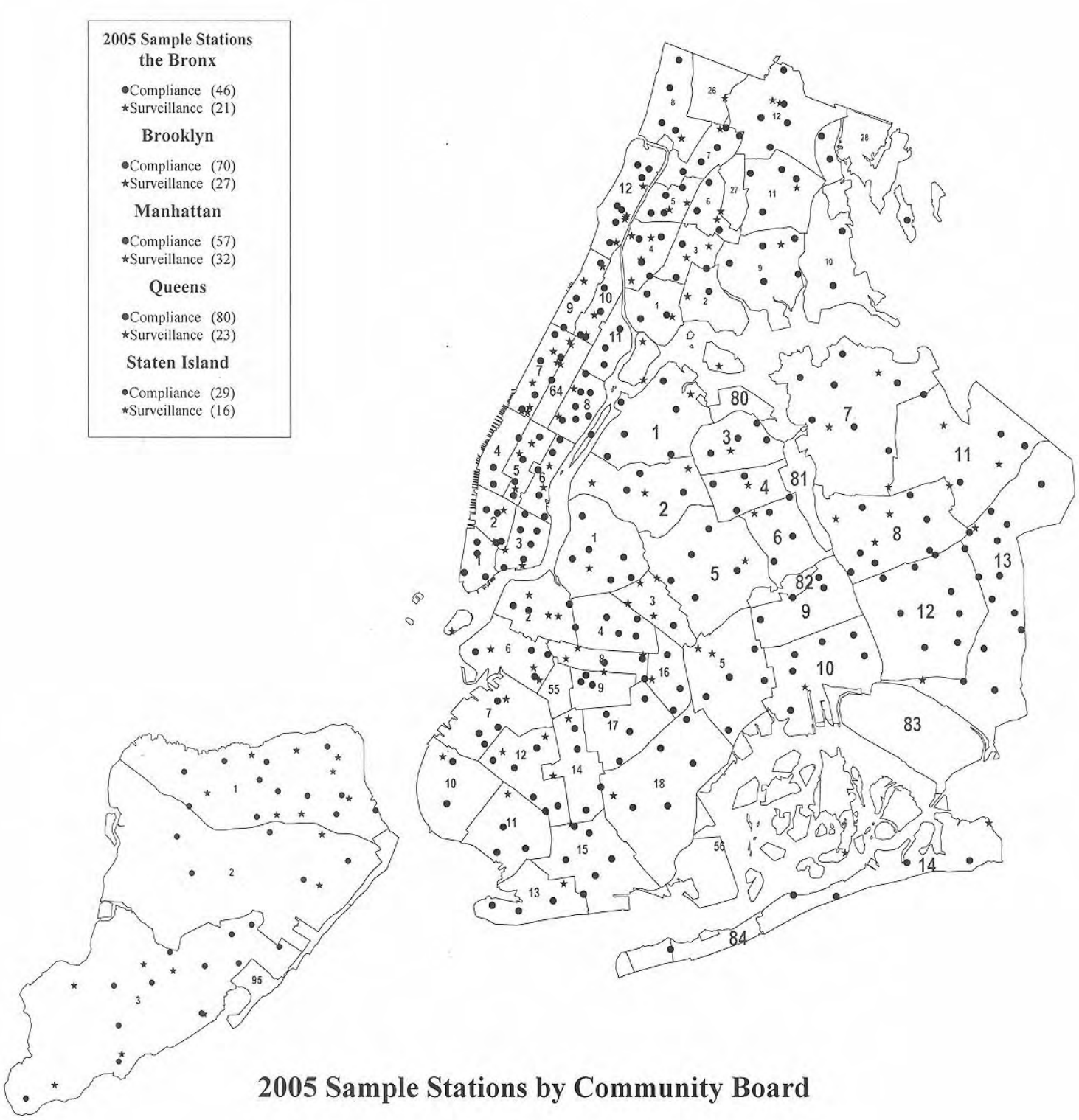

2005 Sample Stations by Community Board

Figure B.1

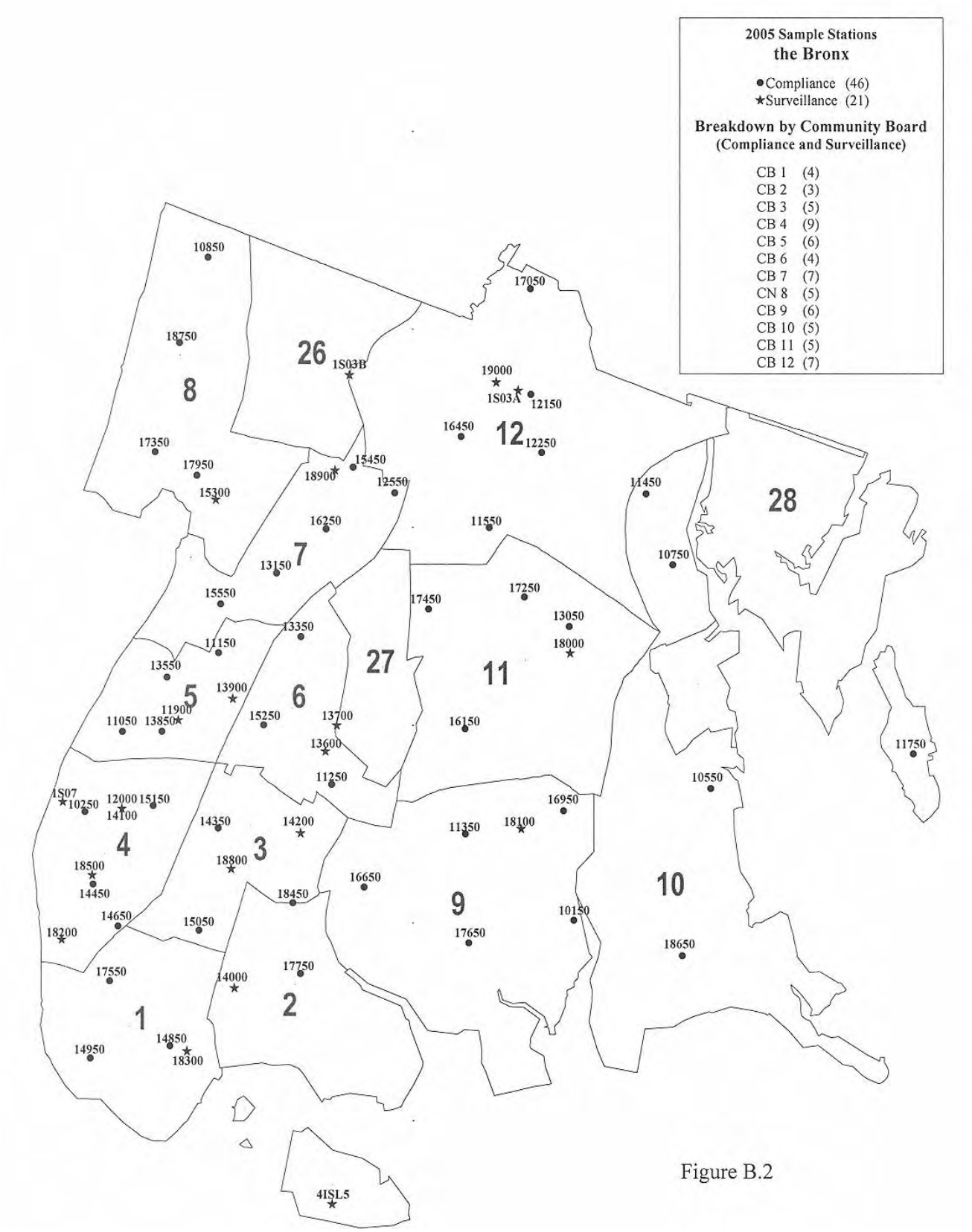
2005 Sample Stations
the Bronx
●Compliance (46)
★Surveillance (21)
Breakdown by Community Board
(Compliance and Surveillance)
CB 1 (4)
CB 2 (3)
CB 3 (5)
CB 4 (9)
CB 5 (6)
CB 6 (4)
CB 7 (7)
CN 8 (5)
CB 9 (6)
CB 10 (5)
CB 11 (5)
CB 12 (7)
10850
18750
17050
26
1S03B
8
19000
1S03A
12150
16450
12
12250
17350
17950
15450
18900
12550
15300
14450
28
16250
11550
10750
7
13150
15550
17450
17250
13050
13350
18000
11150
27
11
13550
5
13900
6
11900
11050
13850
15250
13700
16150
11750
13600
11250
10550
1S07
10250
12000
15150
14100
16950
14350
14200
11350
18100
4
3
18500
18800
16650
14450
18450
10
9
14650
10150
15050
18200
17650
18650
17550
17750
14000
2
1
14850
14950
18300
4ISL5

Figure B.2

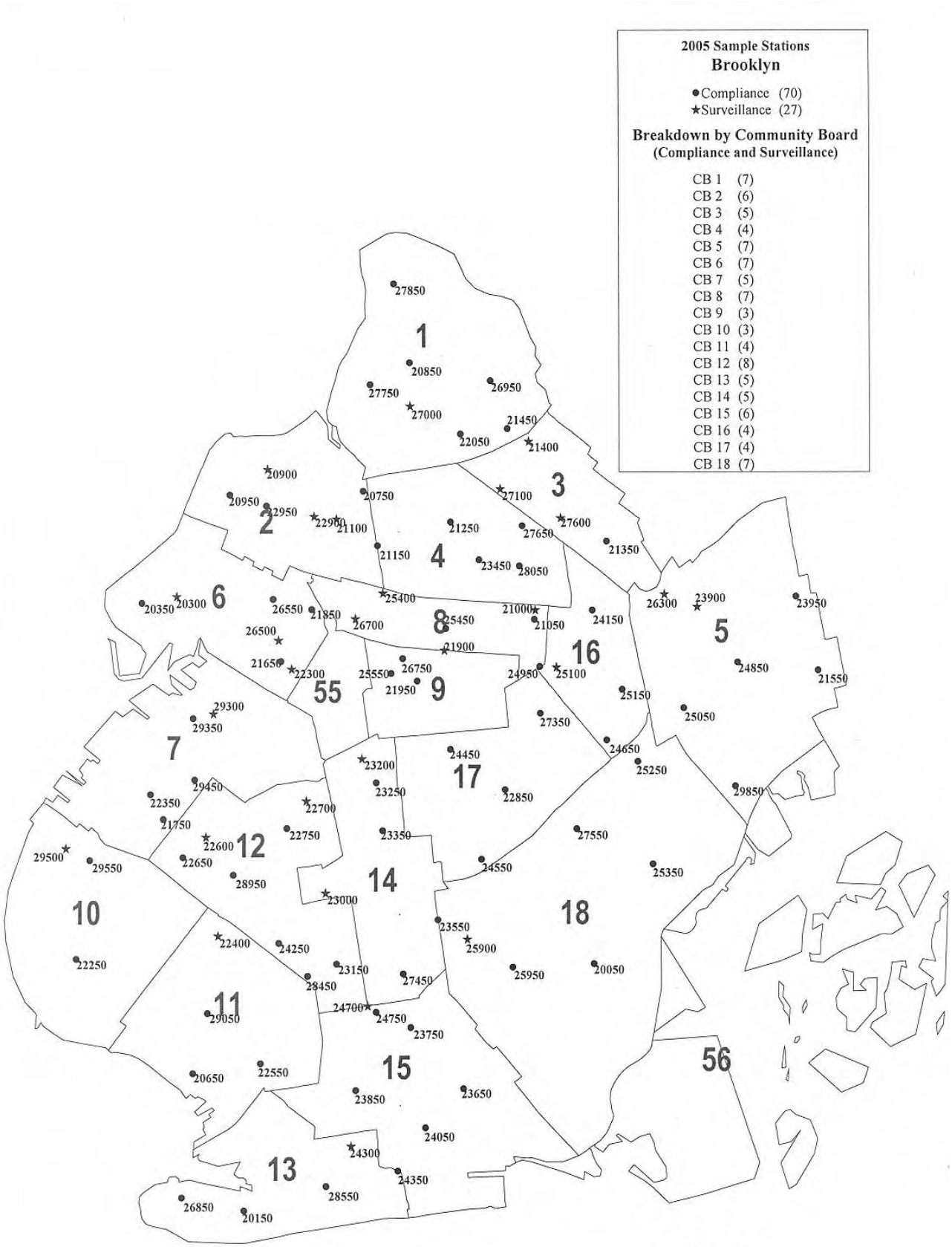
2005 Sample Stations
Brooklyn
●Compliance (70)
★Surveillance (27)
Breakdown by Community Board
(Compliance and Surveillance)
CB 1 (7)
CB 2 (6)
CB 3 (5)
CB 4 (4)
CB 5 (7)
CB 6 (7)
CB 7 (5)
CB 8 (7)
CB 9 (3)
CB 10 (3)
CB 11 (4)
CB 12 (8)
CB 13 (5)
CB 14 (5)
CB 15 (6)
CB 16 (4)
CB 17 (4)
CB 18 (7)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
55
56
27850
20850
27750
27000
26950
21450
22050
21400
20900
20950
20750
27100
22950
22950
21100
21250
27600
27650
21350
21150
23450
28050
20350
20300
25400
26550
21850
26700
25450
21000
21050
24150
26300
23900
23950
26500
21900
21650
22300
25550
26750
21950
24950
25100
24850
21550
25150
25050
29300
29350
27350
24650
25250
24450
23200
23250
22850
29850
29450
22350
22700
21750
22600
22750
23350
27550
29500
29550
22650
28950
24550
25350
23000
22400
24250
23550
25900
22250
23150
28450
27450
25950
20050
24700
24750
23750
29050
20650
22550
23850
23650
24050
24300
24350
28550
26850
20150

Figure B.3

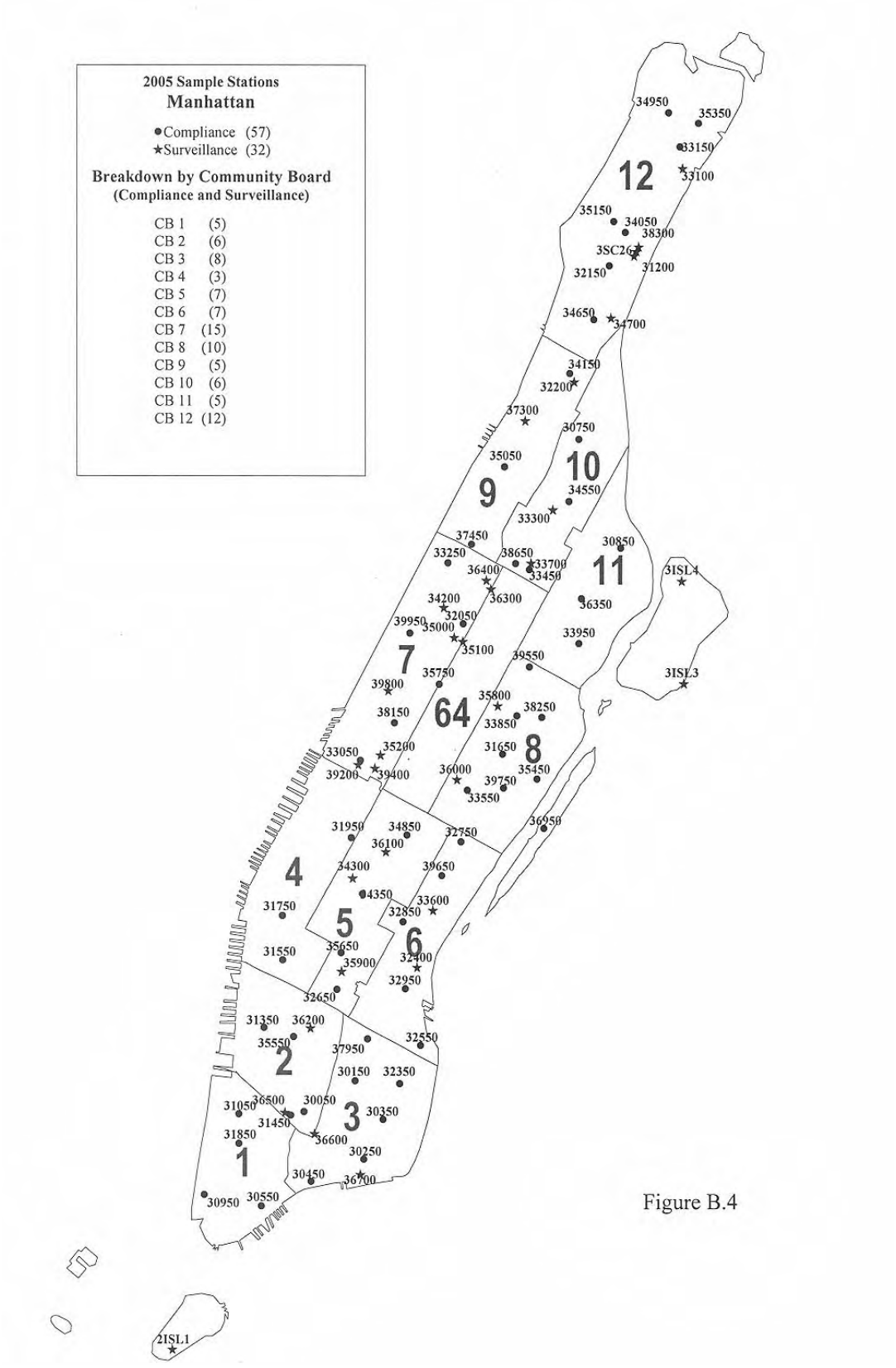
2005 Sample Stations
Manhattan
●Compliance (57)
★Surveillance (32)
Breakdown by Community Board
(Compliance and Surveillance)
CB 1 (5)
CB 2 (6)
CB 3 (8)
CB 4 (3)
CB 5 (7)
CB 6 (7)
CB 7 (15)
CB 8 (10)
CB 9 (5)
CB 10 (6)
CB 11 (5)
CB 12 (12)
12
11
10
9
7
64
8
4
5
6
2
3
1
34950
35350
33150
33100
35150
34050
38300
3SC26
31200
32150
34650
34700
34150
32200
37300
30750
35050
34550
33300
37450
30850
33250
38650
33700
33450
36400
3ISL4
36300
36350
34200
32050
39950
35000
33950
35100
39550
3ISL3
35750
39800
35800
38250
38150
33850
31650
35200
33050
39200
39400
36000
35450
39750
33550
36950
31950
34850
32750
36100
34300
39650
34350
33600
31750
32850
35650
31550
32400
35900
32950
32650
31350
36200
35550
37950
32550
30150
32350
31050
36500
30050
30350
31450
31850
36600
30250
30450
36700
30950
30550
2ISL1

Figure B.4

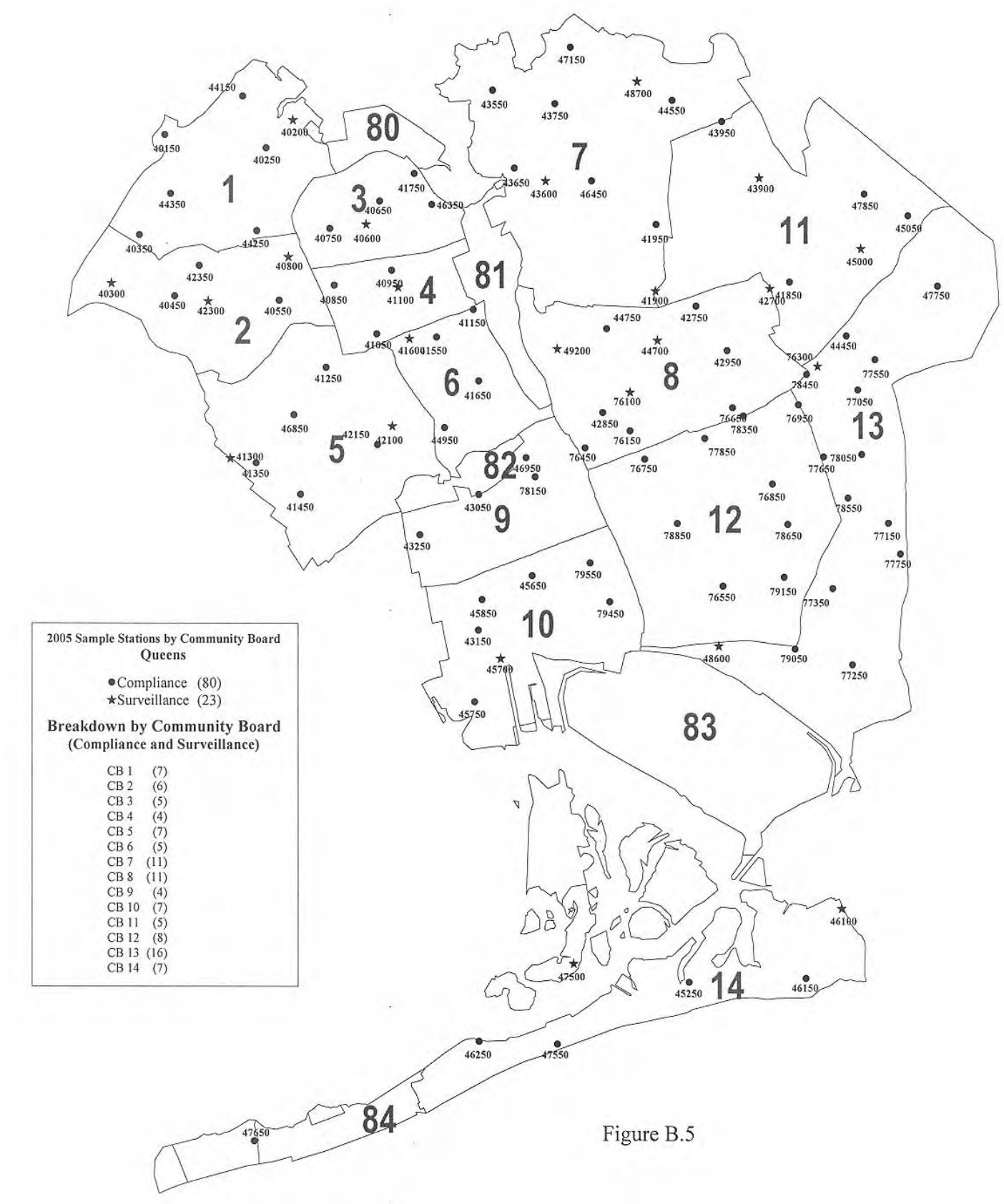
2005 Sample Stations by Community Board
Queens
●Compliance (80)
★Surveillance (23)
Breakdown by Community Board
(Compliance and Surveillance)
CB 1 (7)
CB 2 (6)
CB 3 (5)
CB 4 (4)
CB 5 (7)
CB 6 (5)
CB 7 (11)
CB 8 (11)
CB 9 (4)
CB 10 (7)
CB 11 (5)
CB 12 (8)
CB 13 (16)
CB 14 (7)
80
7
1
3
11
81
4
2
6
8
13
5
82
12
9
10
83
14
84

Figure B.5

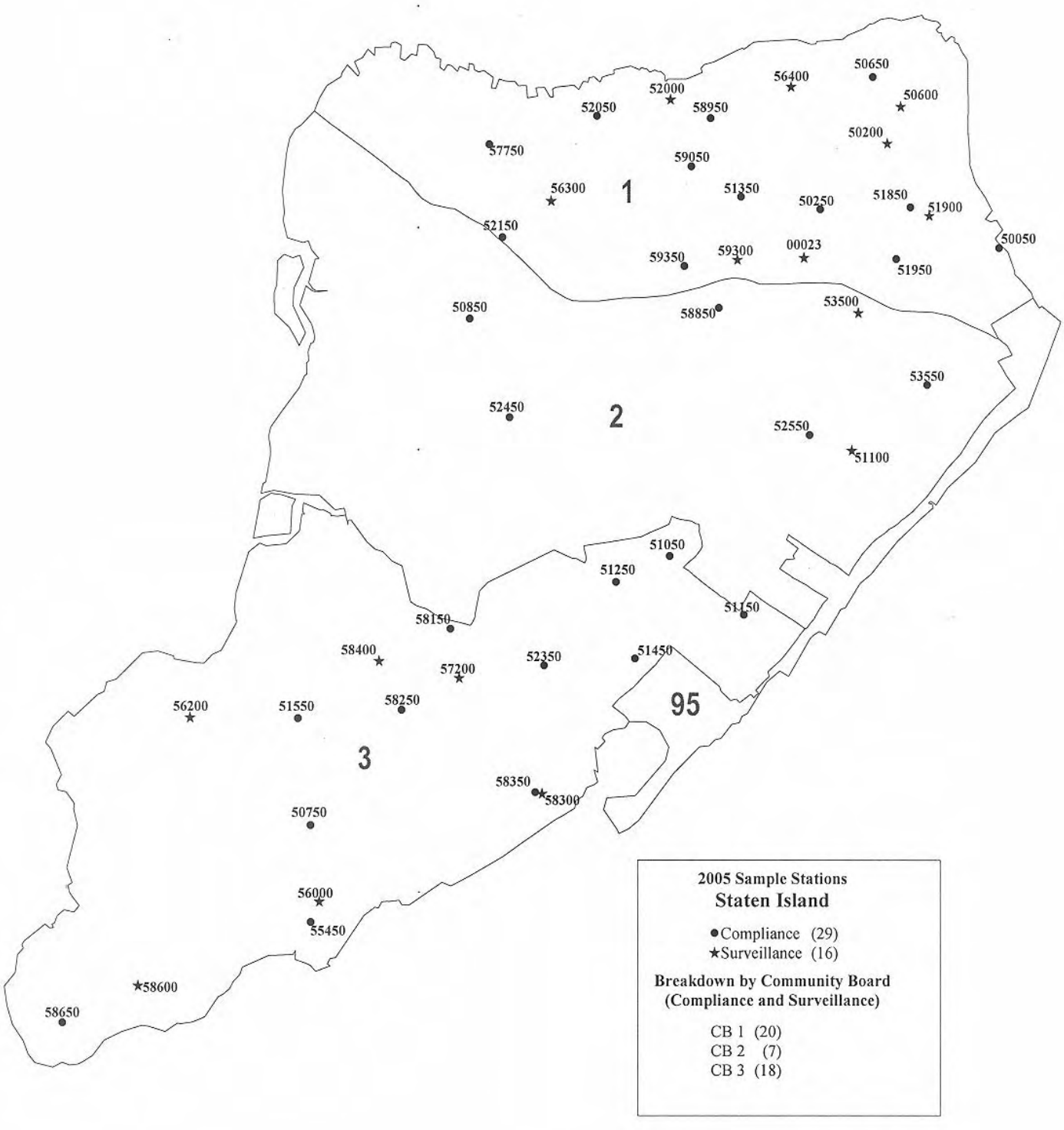
50650
56400
52000
50600
52050
58950
50200
57750
59050
56300
1
51350
50250
51850
51900
52150
50050
59350
59300
00023
51950
50850
58850
53500
53550
52450
2
52550
51100
51050
51250
51150
58150
58400
52350
51450
57200
56200
51550
58250
95
3
58350
58300
50750
56000
55450
58600
58650
2005 Sample Stations
Staten Island
Compliance (29)
Surveillance (16)
Breakdown by Community Board
(Compliance and Surveillance)
CB 1 (20)
CB 2 (7)
CB 3 (18)

Figure B.6

APPENDIX C

DISTRIBUTION RESERVOIR LIMNOLOGICAL SURVEY LOCATIONS

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Figure C.1

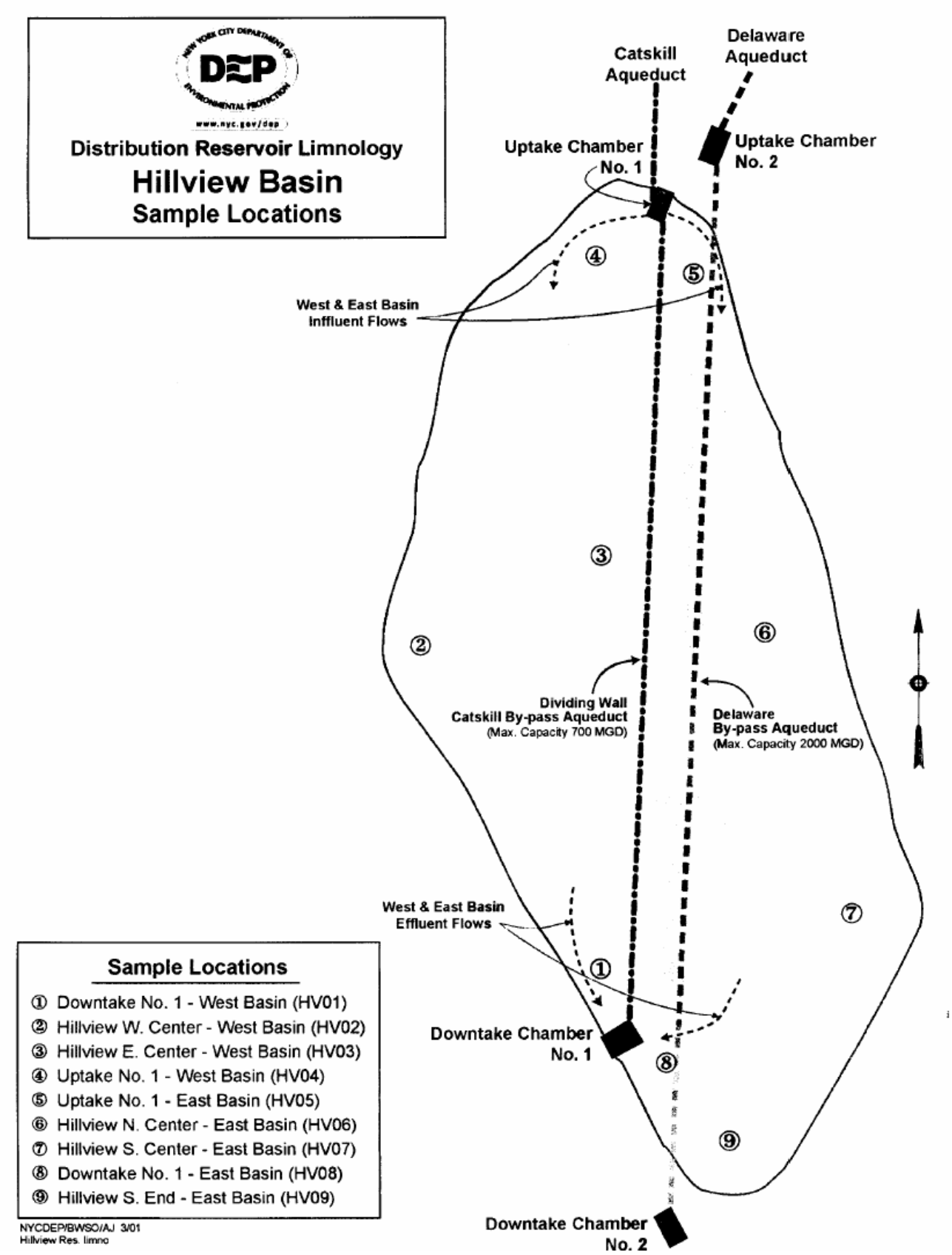
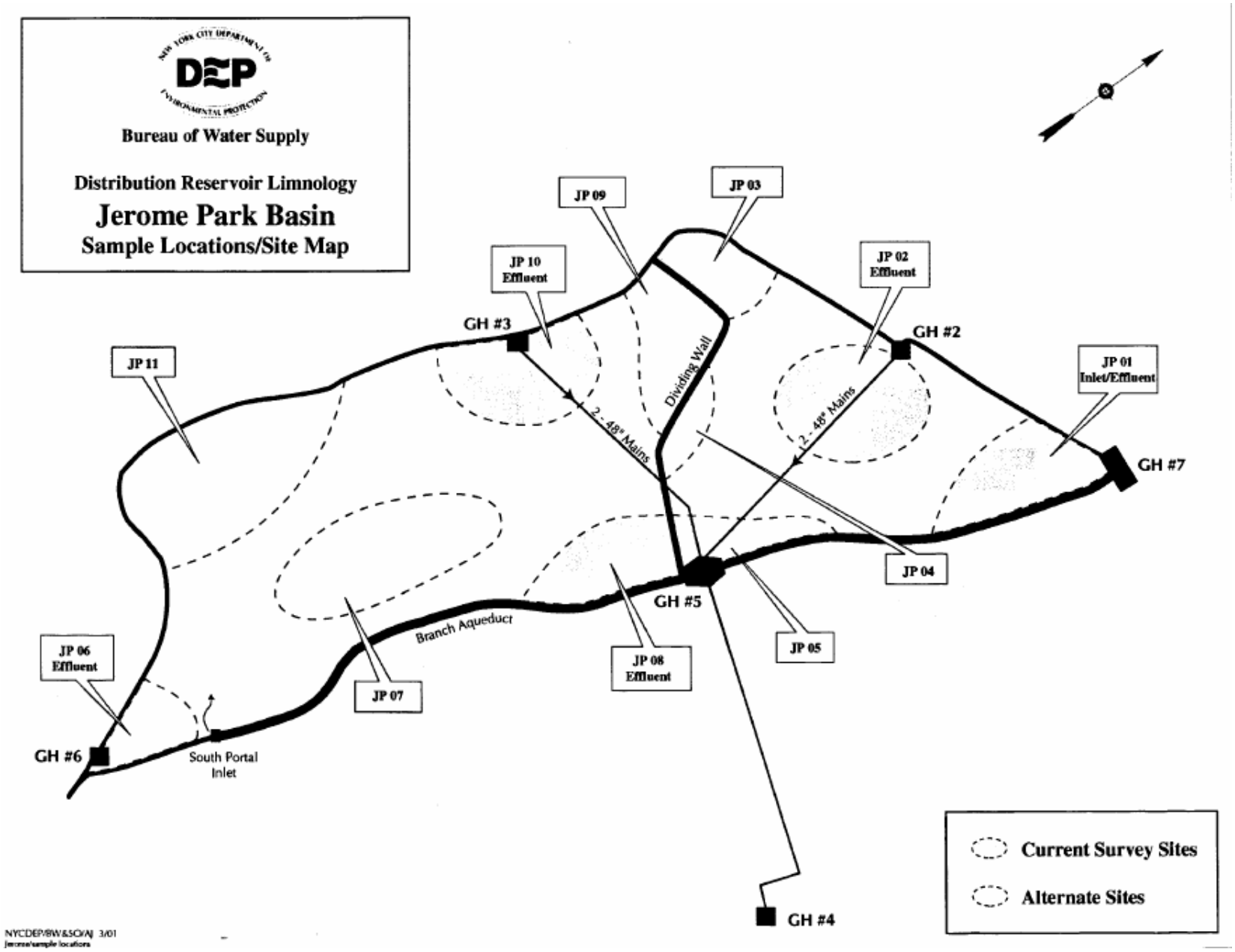

Distribution Reservoir Limnology
Hillview Basin
Sample Locations
Catskill Aqueduct
Delaware Aqueduct
Uptake Chamber No. 1
Uptake Chamber No. 2
West & East Basin Inffluent Flows
Dividing Wall Catskill By-pass Aqueduct (Max. Capacity 700 MGD)
Delaware By-pass Aqueduct (Max. Capacity 2000 MGD)
West & East Basin Effluent Flows
Downtake Chamber No. 1
Downtake Chamber No. 2
Sample Locations
① Downtake No. 1 - West Basin (HV01)
② Hillview W. Center - West Basin (HV02)
③ Hillview E. Center - West Basin (HV03)
④ Uptake No. 1 - West Basin (HV04)
⑤ Uptake No. 1 - East Basin (HV05)
⑥ Hillview N. Center - East Basin (HV06)
⑦ Hillview S. Center - East Basin (HV07)
⑧ Downtake No. 1 - East Basin (HV08)
⑨ Hillview S. End - East Basin (HV09)
NYCDEP/BWSO/AJ 3/01
Hillview Res. limno

Figure C.2


Bureau of Water Supply
Distribution Reservoir Limnology
Jerome Park Basin
Sample Locations/Site Map
JP 09
JP 03
JP 10 Effluent
JP 02 Effluent
GH #3
GH #2
JP 11
JP 01 Inlet/Effluent
Dividing Wall
2 - 48" Mains
2 - 48" Mains
GH #7
JP 04
GH #5
Branch Aqueduct
JP 06 Effluent
JP 07
JP 08 Effluent
JP 05
GH #6
South Portal Inlet
GH #4
Current Survey Sites
Alternate Sites
NYCDEP/BW&SC/AJ 3/01

APPENDIX D

DAILY BOROUGH SAMPLING ROUTES AND SAMPLE STATIONS OVER PRESSURE ZONE MAP

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Table D.1 2005 Sampling Routes

Bronx Routes: 6-7 compliance samples per day.

Bx-1	Bx-2	Bx-3	Bx-4	Bx-5	Bx-6	Bx-7	Bx-8	Bx-9
1S07	1S07	1S07	1S07	1S07	1S07	1S07	1S07	1S07
1S03A	1S03A	1S03A	1S03A	1S03A	1S03A	1S03A	1S03A	1S03A
1S03B	1S03B	1S03B	1S03B	1S03B	1S03B	1S03B	1S03B	1S03B
11350	13150	10250	10150	13850	10850	10550	11250	11150
11550	*14000*	*11900*	10750	15050	11050	12250	11750	11450
13050	15150	13350	*12000*	15550	*14200*	13550	12550	14650
14100	17250	14850	12150	16150	14950	*13600*	*13900*	16650
15250	17350	17450	*13700*	16450	16950	*15300*	14350	17950
18300	17650	*18500*	16250	*18100*	17750	17050	14450	*18000*
18750	*18900*	18650	17550	*18200*	*19000*	18450	15450	*18800*
10	10	10	10	10	10	10	10	10

Total Sampling Sites: 66 (compliance: 46)

Brooklyn Routes: 5 compliance samples per day.

Bk-1	Bk-2	Bk-3	Bk-4	Bk-5	Bk-6	Bk-7	Bk-8	Bk-9	Bk-10	Bk-11	Bk-12	Bk-13	Bk-14
20850	20050	*20900*	*20900*	*20900*	*20900*	*20900*	20150	20350	20650	*20300*	*20900*	*20900*	*20900*
20900	20750	20950	23850	*21100*	21150	21050	*20900*	*20900*	*20900*	*20900*	21750	*21900*	21450
22600	*20900*	21550	25150	21850	21250	21950	*21000*	22350	*21400*	22550	22050	23950	22250
22850	*22700*	22650	26750	*22400*	21350	*22300*	22750	*23200*	21650	25350	*23900*	*25900*	22950
22900	24950	*23000*	*27000*	23350	23550	24650	23450	25050	23150	25550	24750	26850	23250
24050	*26500*	24450	27550	23650	*24300*	*24700*	24550	*27000*	24350	26550	*25400*	*27000*	23750
24250	*27000*	*26700*	*27600*	24150	*27000*	25950	24850	28450	25450	*27000*	*27000*	27650	*25100*
27000	27750	*27000*	29450	25250	*29300*	26950	*27000*	28550	*26300*	*27100*	27350	27850	*27000*
28050	29050	27450		*27000*	29850	*27000*	*29500*		*27000*	28950	29350	29550	
9	9	9	8	9	9	9	9	8	9	9	9	9	8

Total Sampling Sites: 97 (compliance: 70)

Manhattan Routes: 4-5 compliance samples per day.

Mn-1	Mn-2	Mn-3	Mn-4	Mn-5	Mn-6	Mn-7	Mn-8	Mn-9	Mn-10	Mn-11	Mn-12
31750	30950	30450	30250	30150	31450	30350	31050	31550	32950	31350	30050
31850	*31200*	30750	30550	31650	32050	*33600*	*34300*	*32200*	33050	32350	30850
31950	32550	35350	34850	32150	*33300*	35050	34550	32750	33250	33450	32650
33100	32850	35550	35150	*32400*	33950	*35900*	35650	35450	34950	34050	33150
34150	33550	*36100*	*35800*	*36300*	*34700*	*36000*	37450	*36500*	*35100*	*34200*	33850
35750	*33700*	*36400*	36350	*38400*	*38300*	38250	*38400*	*36700*	*36600*	34350	*35000*
36200	34650	38150	*37300*	39650	*38400*	*38400*	*39400*	*38400*	37950	*35200*	*38400*
38400	*38400*	*38400*	*38400*	*39800*	39750	38650	39950	39550	*38400*	*38400*	*39200*
8	8	8	8	8	8	8	8	8	8	8	8

Total Sampling Sites: 85 (compliance: 57)

Queens Routes: 5-6 compliance samples per day.

Qn-1	Qn-2	Qn-3	Qn-4	Qn-5	Qn-6	Qn-7	Qn-8	Qn-9	Qn-10
40200	*40200*	*40200*	*40200*	*40200*	36950	*40200*	*40200*	*40200*	*40200*
40250	*40800*	*40600*	40350	40750	40150	*40300*	*42100*	40450	41250
40850	*41100*	41050	40650	41150	*40200*	40950	43550	40550	41750
41900	41450	41650	*41300*	41350	*41600*	42950	44350	41550	44550
42350	43750	42150	42750	41850	*42300*	44950	44750	43050	*44700*
45250	44150	*42700*	43950	41950	42850	*45700*	*46100*	*43900*	*45000*
45850	46250	43150	44450	*43600*	43650	46150	46950	45750	45650
46850	47850	43250	47650	*47500*	44250	46450	47150	*48700*	47550
76100	77750	46350	*76300*	76750	45050	76850	47750	*49200*	76950
78650	78150	76150	78850	77550	*48600*	77050	76550	76450	77150
79050	79150	77850	79450	78550	76650	77250	77350	77650	78350
		79550			78050			78450	
11	11	12	11	11	12	11	11	12	11

Total Sampling Sites: 103 (compliance: 80)

Staten Is Routes: 3-4 compliance samples per day.

SI-1	SI-2	SI-3	SI-4	SI-5	SI-6	SI-7	SI-8	SI-9
00023	*00023*	*00023*	*00023*	*00023*	*00023*	*00023*	*00023*	*00023*
50200	50050	*50200*	*50200*	*50200*	*50200*	*50200*	*50200*	*50200*
51100	*50200*	*50600*	50250	51150	50650	*51900*	53550	51050
51350	51250	50750	50850	52350	*52000*	52050	55450	51550
58250	51850	51450	52450	52550	*53500*	52150	*57200*	*53500*
58650	*56000*	51950	*58300*	*56200*	58150	*58400*	57750	*56400*
59300	59050	*53500*	*58600*	*56300*	58350	59350	58950	58850
7	7	7	7	7	7	7	7	7

Total Sampling Sites: 45 (compliance: 29)

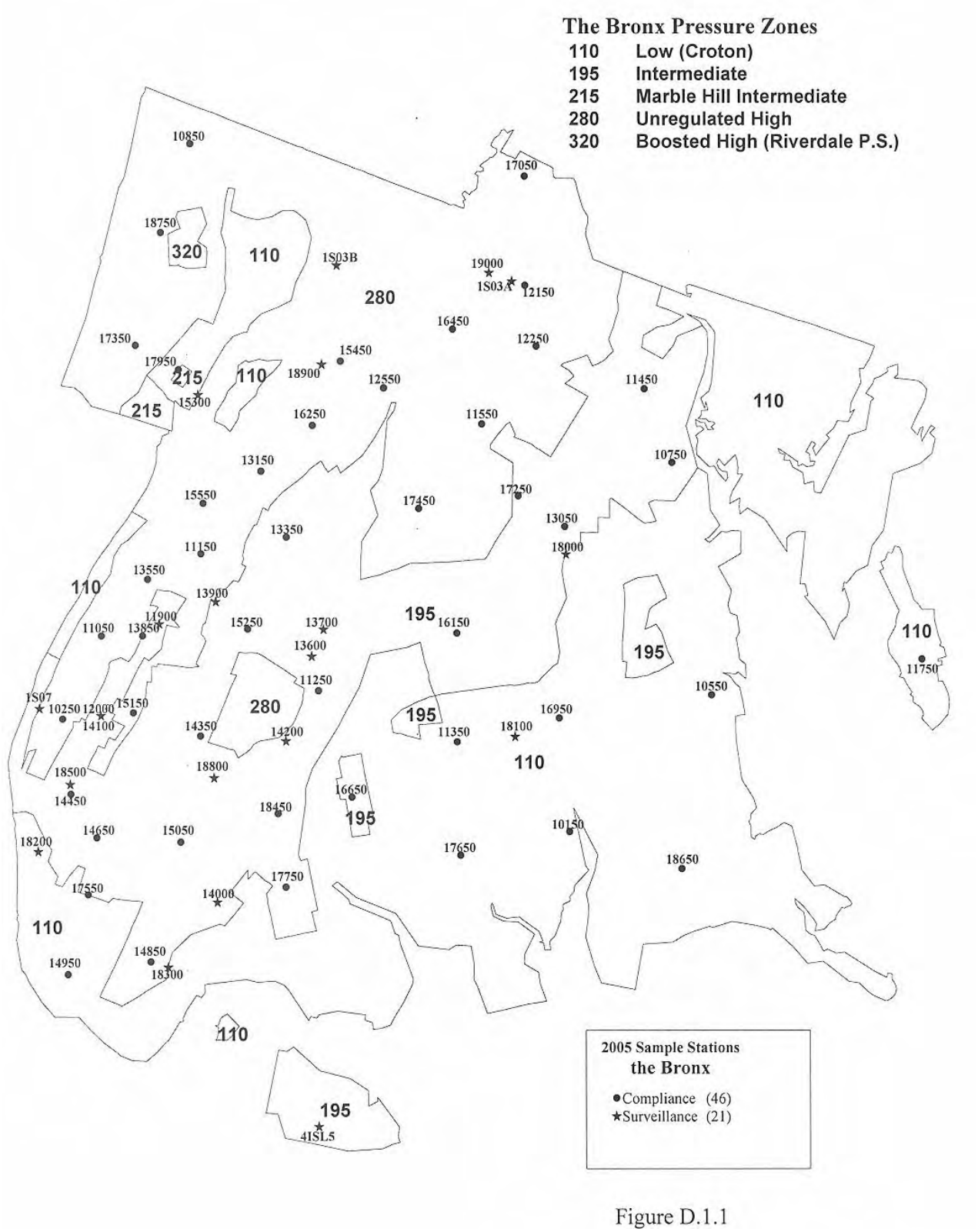

The Bronx Pressure Zones
110 Low (Croton)
195 Intermediate
215 Marble Hill Intermediate
280 Unregulated High
320 Boosted High (Riverdale P.S.)
2005 Sample Stations
the Bronx
Compliance (46)
Surveillance (21)

Figure D.1.1

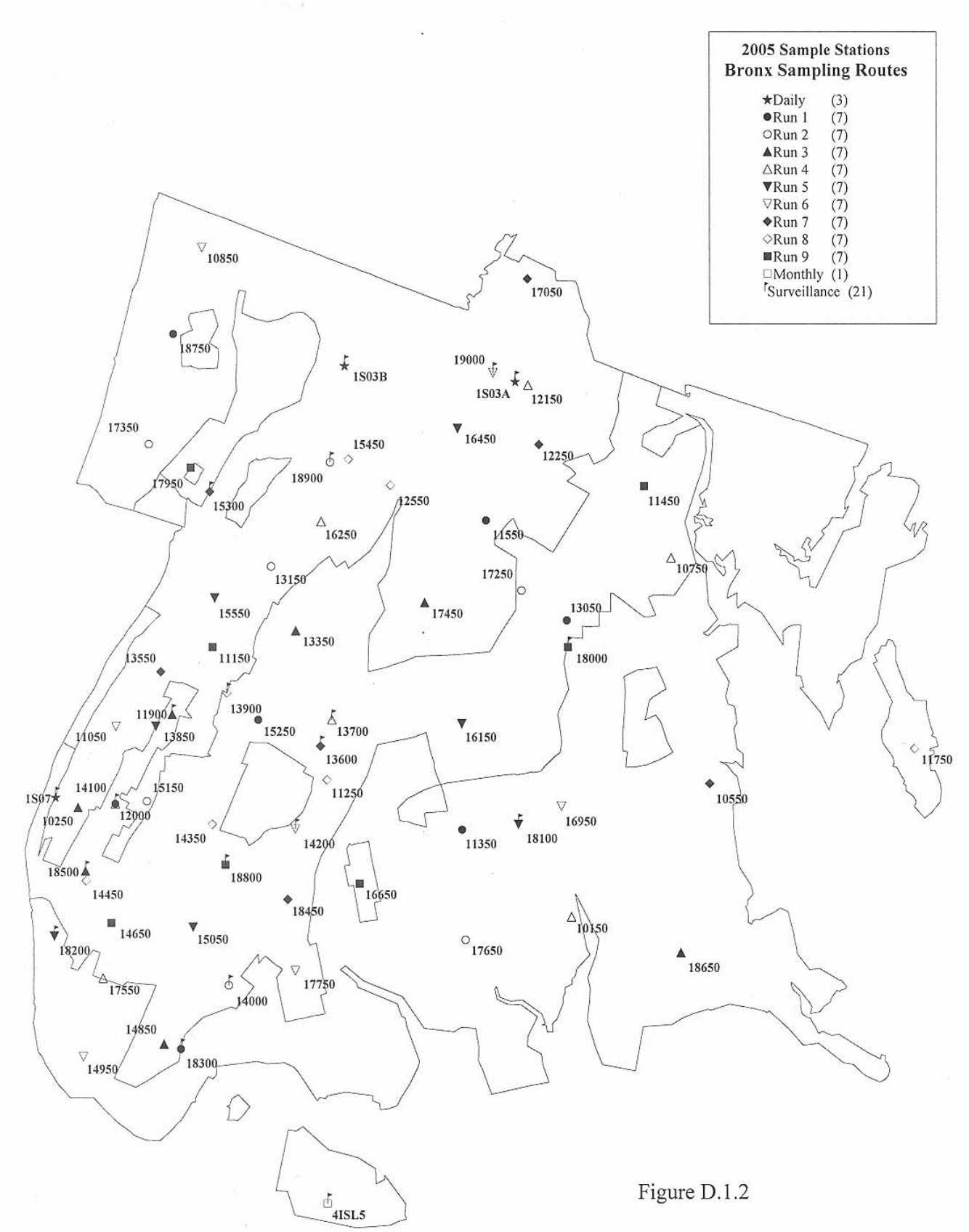
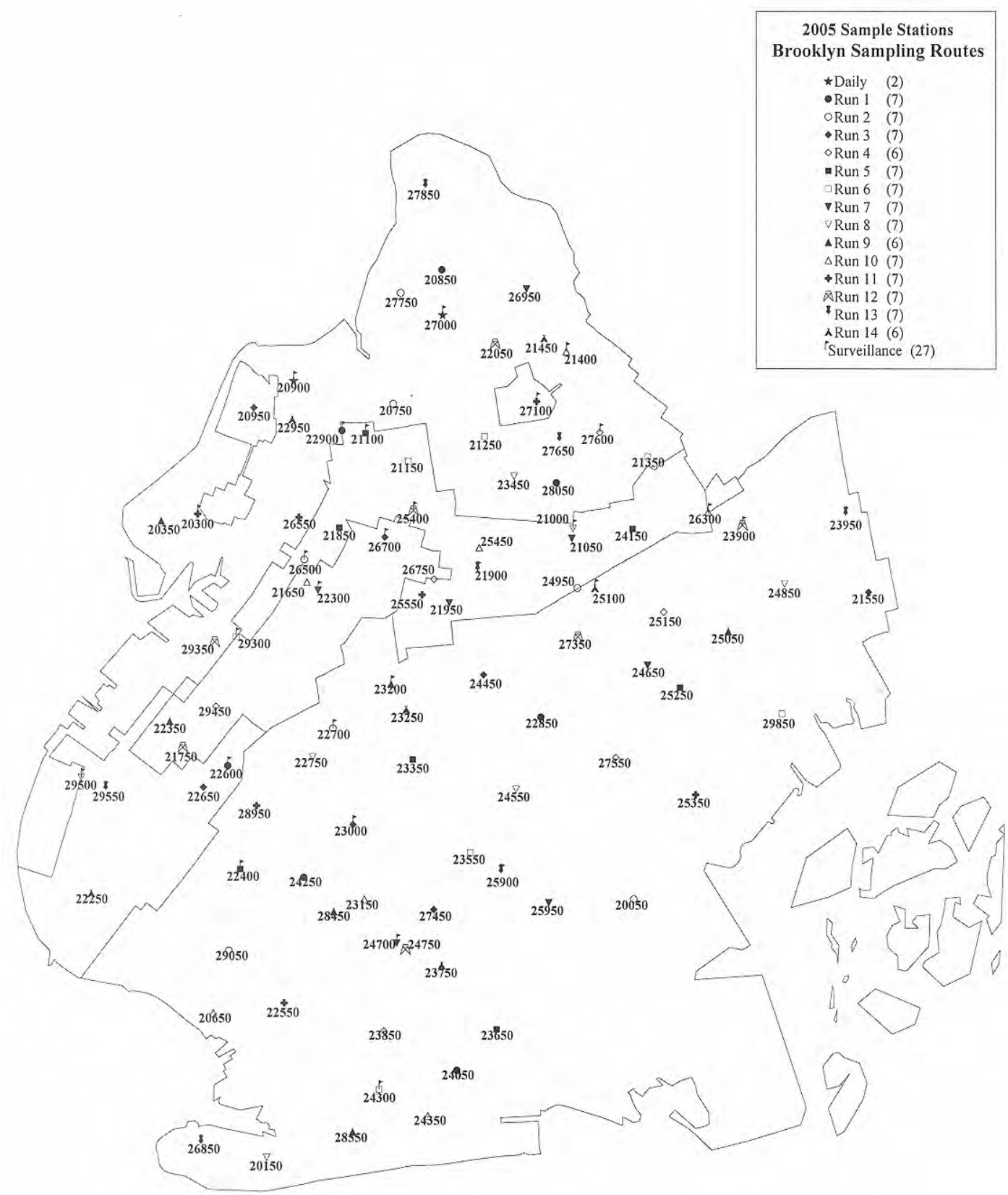

2005 Sample Stations
Bronx Sampling Routes
★Daily (3)
●Run 1 (7)
○Run 2 (7)
▲Run 3 (7)
△Run 4 (7)
▼Run 5 (7)
▽Run 6 (7)
◆Run 7 (7)
◇Run 8 (7)
■Run 9 (7)
□Monthly (1)
Surveillance (21)
10850
17050
18750
1S03B
19000
1S03A
12150
17350
15450
16450
12250
17950
18900
15300
12550
11450
16250
11550
10750
13150
17250
15550
17450
13050
13350
18000
13550
11150
11900
13900
15250
13700
16150
11050
13850
13600
11750
1S07
14100
15150
11250
10550
10250
12000
16950
14350
14200
11350
18100
18500
18800
14450
16650
18450
10150
14650
15050
18200
17650
18650
17550
17750
14000
14850
18300
14950
4ISL5

Figure D.1.2


Brooklyn Pressure Zones
150 Regulated Low
170 Regulated Low Intermediate
200 Regulated Intermediate
240 Pumped Low
250 Unregulated High
2005 Sample Stations
Brooklyn
Compliance (70)
Surveillance (27)
27850
20850
27750
26950
27000
21450
22050
21400
20900
150
170
20750
27100
20950
22950
22900
21100
170
21250
27650
27600
21350
21150
23450
28050
240
20350
20300
26550
25400
26300
23900
23950
21850
21000
24150
26700
25450
21050
26500
21900
21650
22300
25550
26750
200
24950
25100
24850
21550
21950
25150
29300
29350
250
25050
27350
150
24650
150
24450
23200
25250
29450
23250
22850
29850
22350
22700
21750
22600
22750
23350
27550
29500
29550
22650
24550
25350
28950
150
23000
200
23550
22400
24250
25900
22250
23150
25950
20050
28450
27450
24700
24750
150
29050
23750
22550
20650
23850
23650
150
24050
24300
24350
28550
26850
20150

Figure D.2.1


2005 Sample Stations
Brooklyn Sampling Routes
★Daily (2)
●Run 1 (7)
○Run 2 (7)
◆Run 3 (7)
◇Run 4 (6)
■Run 5 (7)
□Run 6 (7)
▼Run 7 (7)
▽Run 8 (7)
▲Run 9 (6)
△Run 10 (7)
✚Run 11 (7)
Run 12 (7)
Run 13 (7)
Run 14 (6)
Surveillance (27)
27850
20850
27750
26950
27000
22050
21450
21400
20900
20750
27100
20950
22950
22900
21100
21250
27650
27600
21350
21150
23450
28050
20350
20300
26550
25400
21000
26300
23950
21850
26700
25450
21050
24150
23900
26500
26750
21900
24950
24850
21650
22300
25550
21950
25100
21550
25150
29350
29300
27350
25050
24650
23200
24450
25250
29450
23250
22850
29850
22350
22700
21750
22750
23350
27550
22600
29500
29550
22650
24550
25350
28950
23000
23550
22400
24250
25900
22250
23150
28450
27450
25950
20050
24700
24750
29050
23750
20650
22550
23850
23650
24050
24300
24350
28550
26850
20150
Figure D.2.2

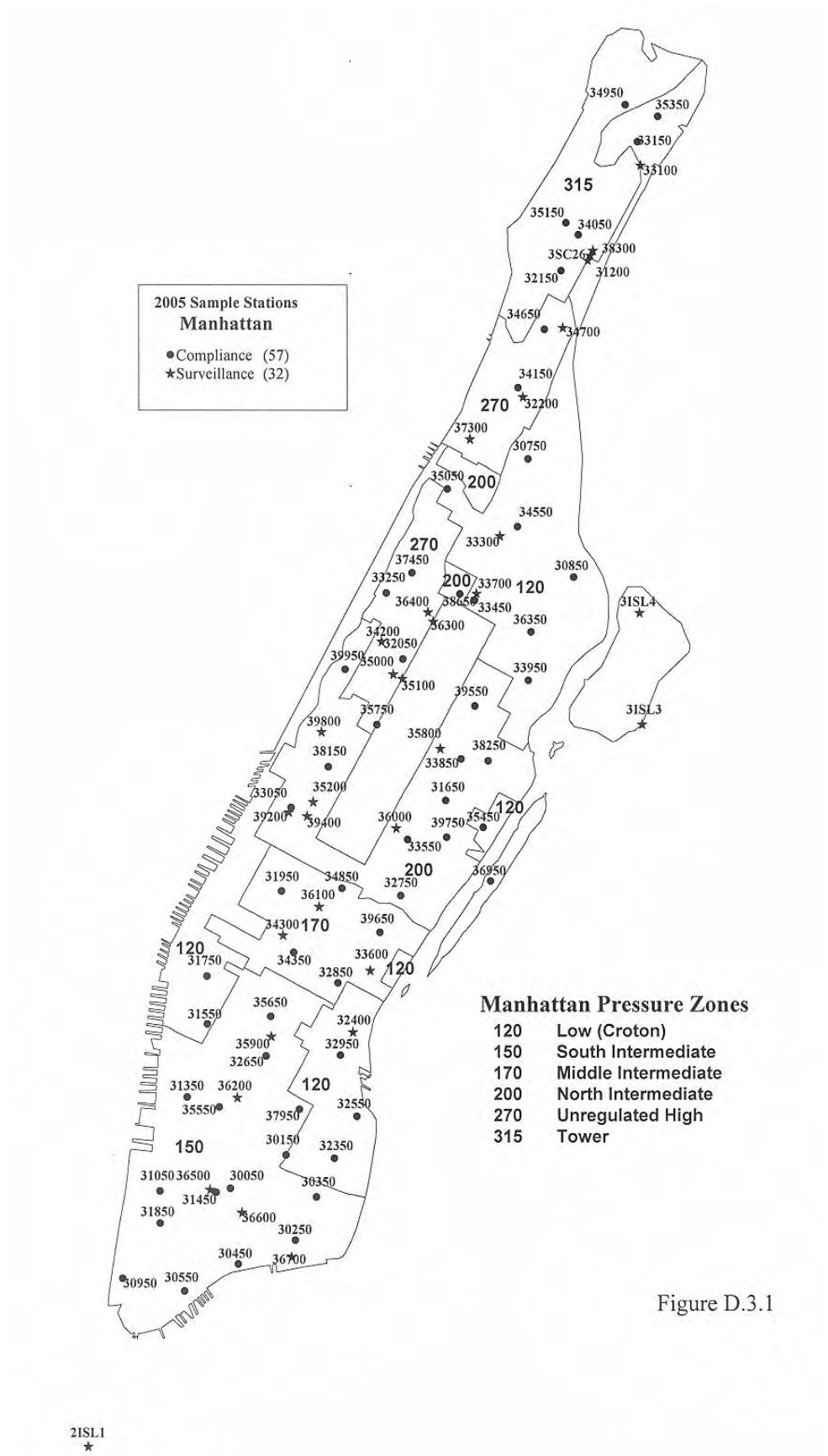

2005 Sample Stations
Manhattan
Compliance (57)
Surveillance (32)
Manhattan Pressure Zones
120 Low (Croton)
150 South Intermediate
170 Middle Intermediate
200 North Intermediate
270 Unregulated High
315 Tower
315
270
200
120
150
170
3ISL4
3ISL3
2ISL1
3SC26

Figure D.3.1

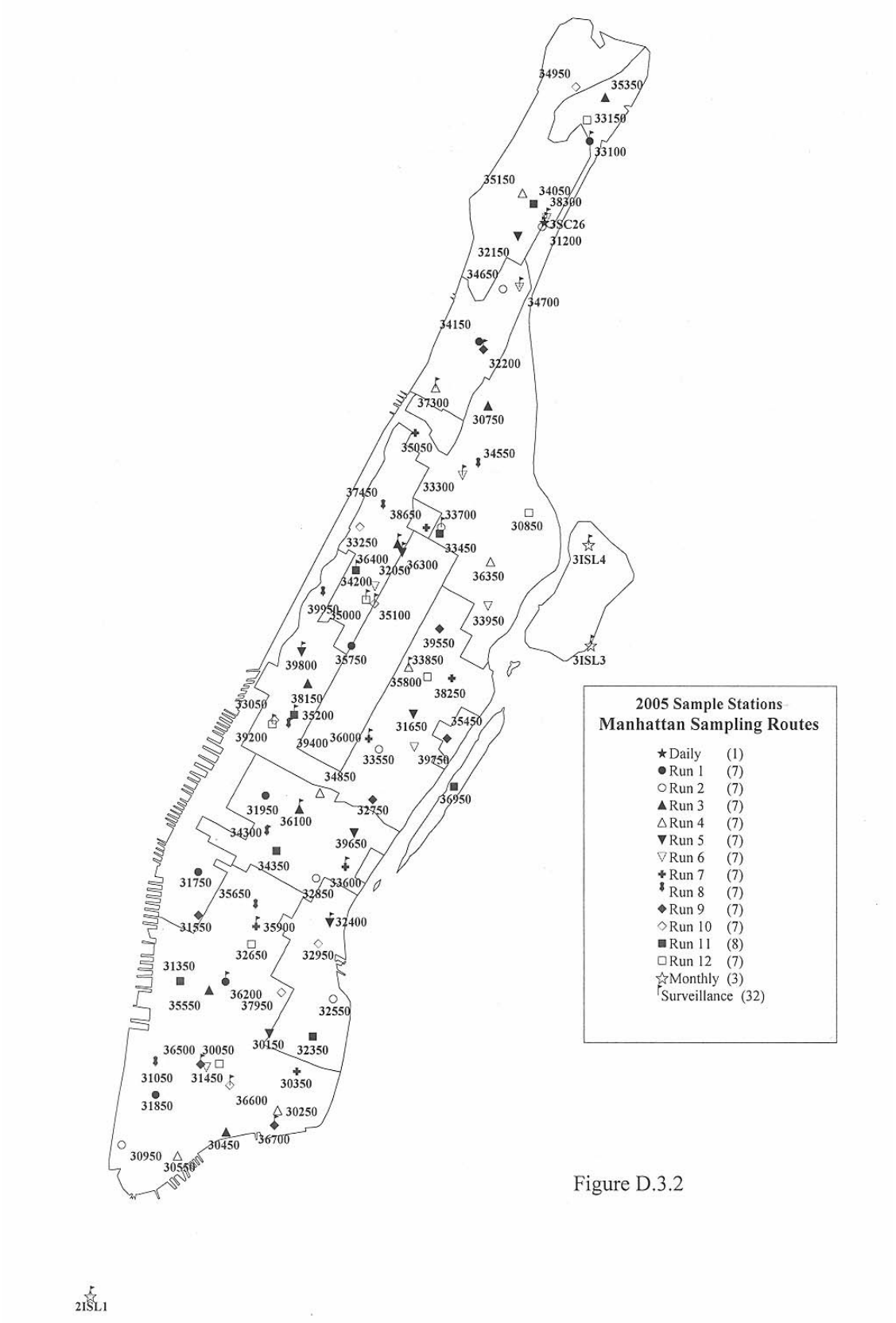

34950
35350
33150
33100
35150
34050
38300
SSC26
31200
32150
34650
34700
34150
32200
37300
30750
35050
34550
33300
37450
38650
33700
30850
33250
33450
36400
32050
36300
34200
36350
39950
35000
35100
33950
39550
39800
35750
33850
3ISL4
3ISL3
35800
38250
38150
33050
35200
31650
35450
39200
39400
36000
33550
39750
34850
36950
31950
36100
32750
34300
39650
34350
31750
33600
35650
32850
31550
35900
32400
32650
32950
31350
36200
35550
37950
32550
36500
30050
30150
32350
31050
31450
30350
31850
36600
30250
30450
36700
30950
30550
2005 Sample Stations
Manhattan Sampling Routes
★ Daily (1)
● Run 1 (7)
○ Run 2 (7)
▲ Run 3 (7)
△ Run 4 (7)
▼ Run 5 (7)
▽ Run 6 (7)
✚ Run 7 (7)
Run 8 (7)
◆ Run 9 (7)
◇ Run 10 (7)
■ Run 11 (8)
□ Run 12 (7)
☆ Monthly (3)
Surveillance (32)
2ISL1

Figure D.3.2

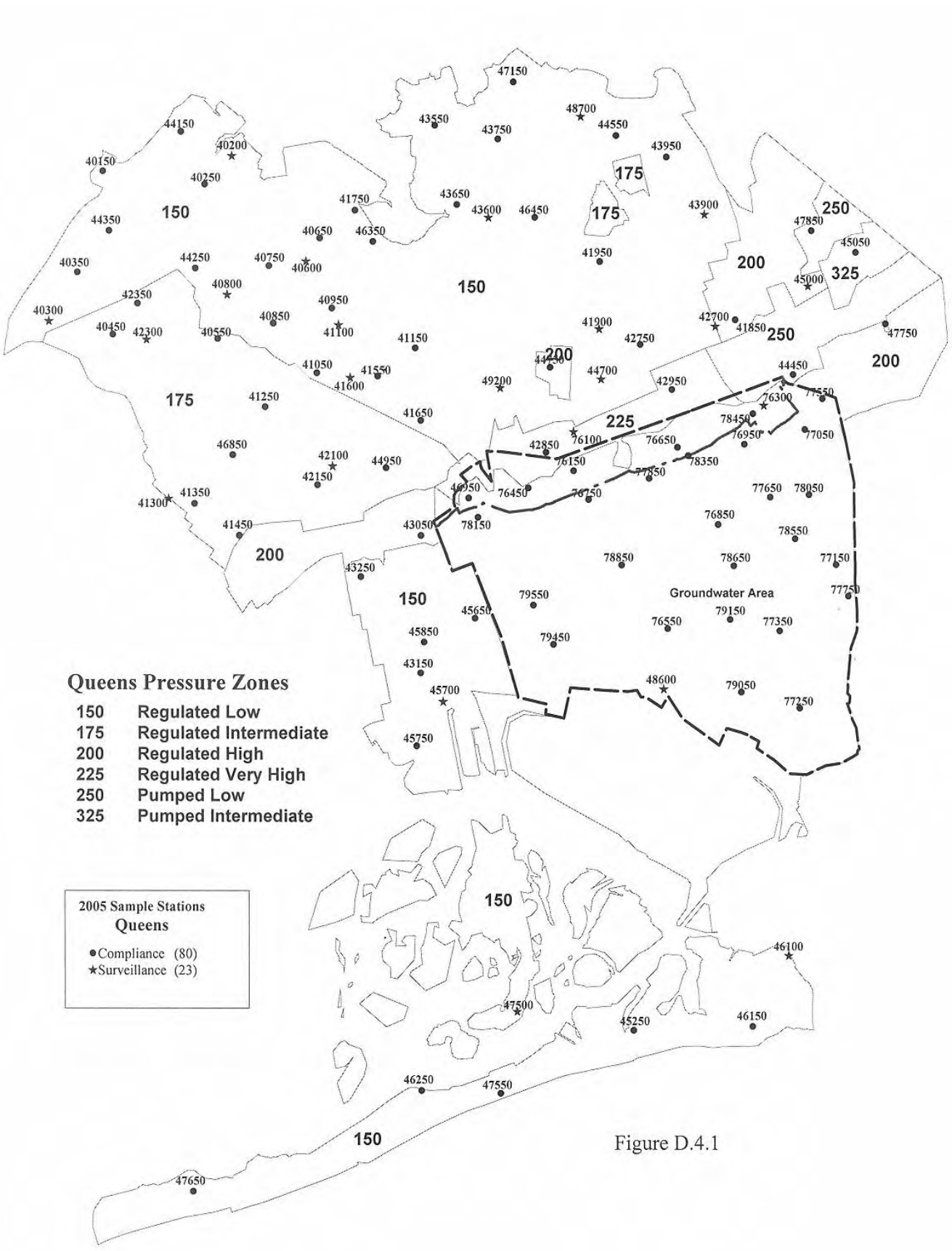

Queens Pressure Zones
150 Regulated Low
175 Regulated Intermediate
200 Regulated High
225 Regulated Very High
250 Pumped Low
325 Pumped Intermediate
2005 Sample Stations
Queens
●Compliance (80)
★Surveillance (23)
Groundwater Area

Figure D.4.1

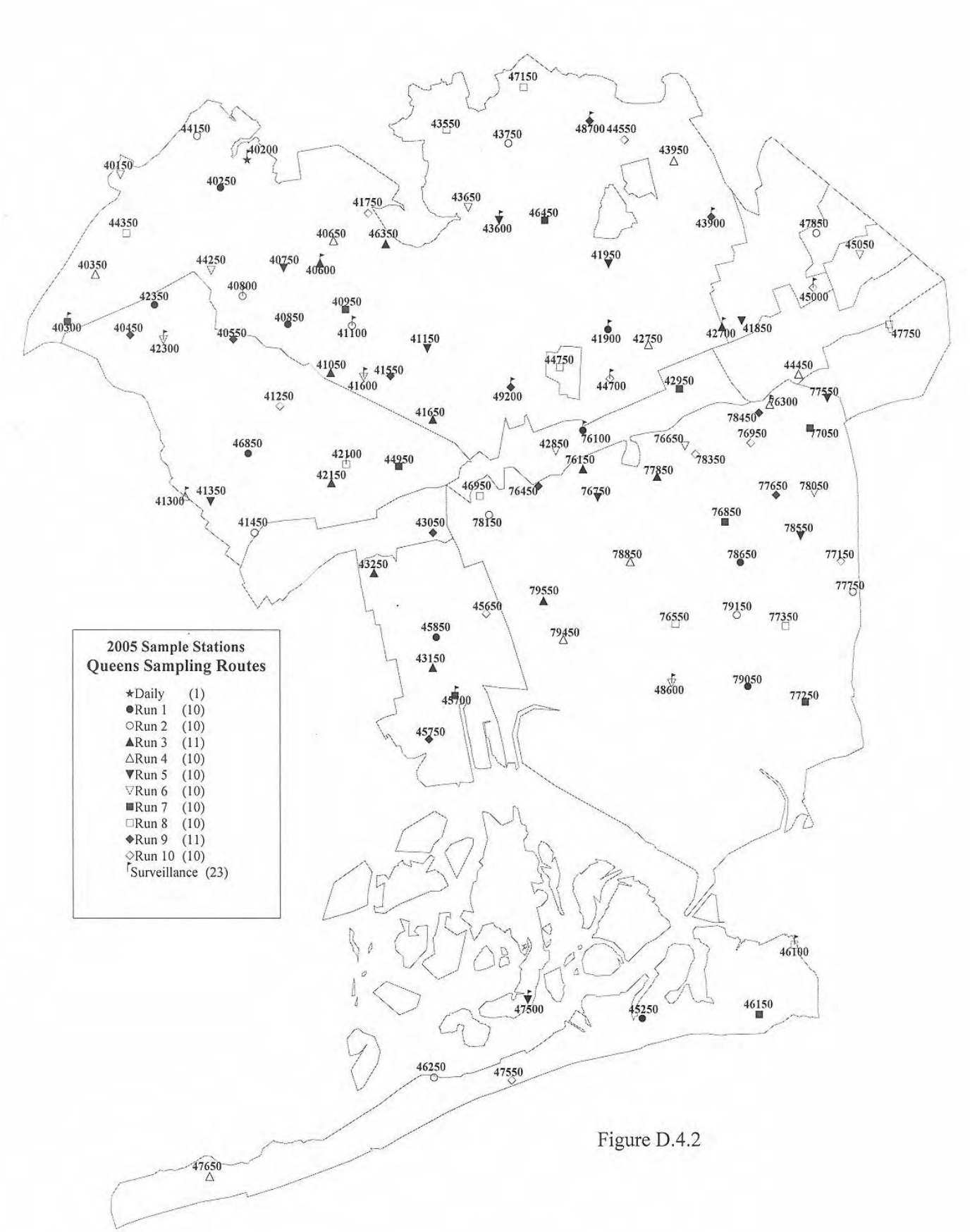

2005 Sample Stations
Queens Sampling Routes
★Daily (1)
●Run 1 (10)
○Run 2 (10)
▲Run 3 (11)
△Run 4 (10)
▼Run 5 (10)
▽Run 6 (10)
■Run 7 (10)
□Run 8 (10)
◆Run 9 (11)
◇Run 10 (10)
Surveillance (23)
47150
44150
43550
43750
48700
44550
40200
43950
40150
40250
41750
43650
46450
44350
43600
43900
47850
40650
46350
45050
41950
40350
44250
40750
40600
40800
42350
45000
40950
40300
40850
41900
42750
42700
41850
47750
40450
40550
41100
41150
42300
44750
41050
41550
44450
41600
49200
44700
42950
41250
77550
76300
41650
78450
46850
42850
76100
76650
76950
77050
42100
44950
76150
78350
42150
77850
46950
76450
76750
77650
78050
41300
41350
76850
41450
43050
78150
78550
78850
78650
77150
43250
77750
79550
45650
79150
76550
77350
45850
79450
43150
79050
48600
77250
45700
45750
46100
47500
45250
46150
46250
47550
47650

Figure D.4.2

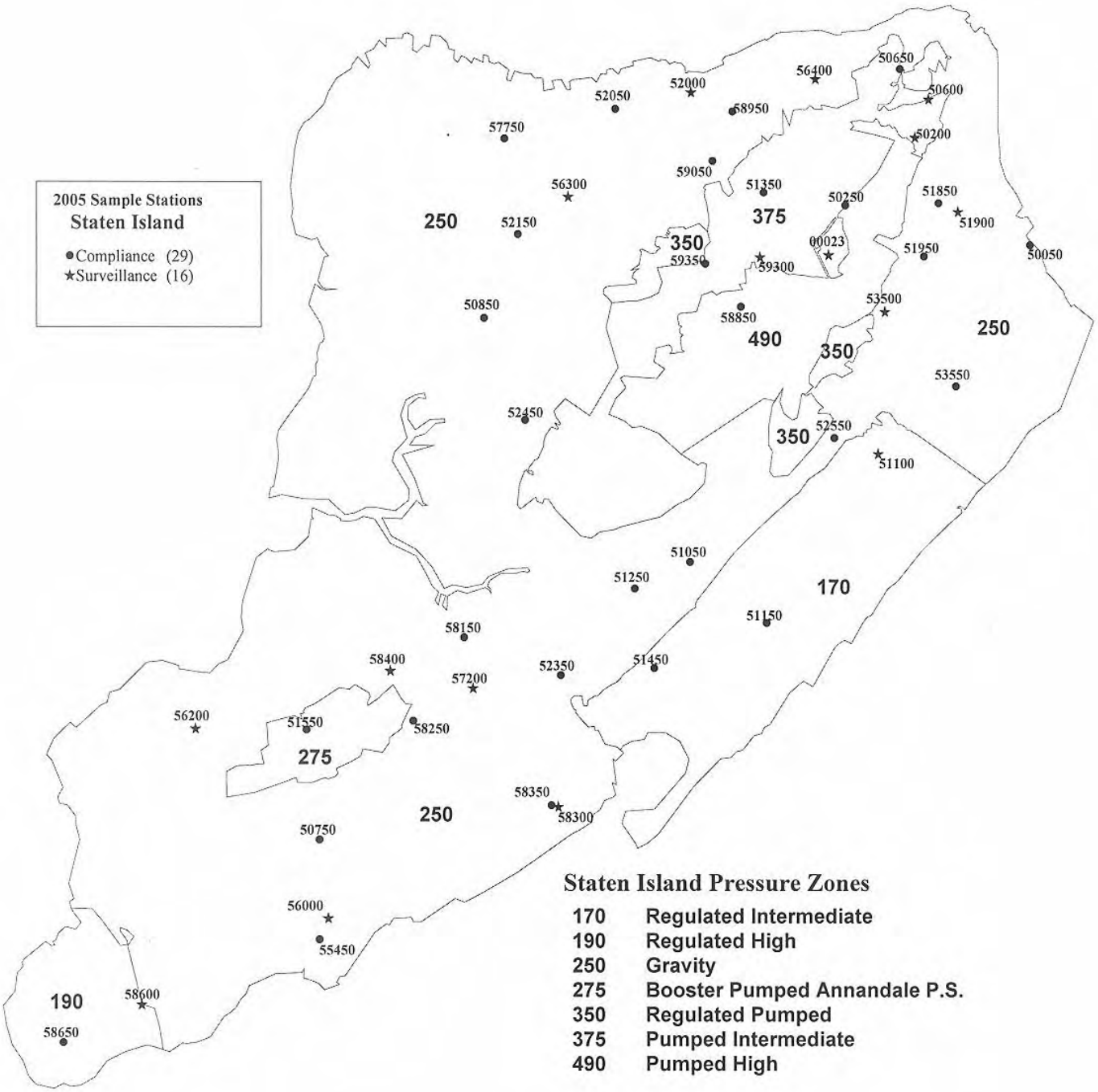

2005 Sample Stations
Staten Island
●Compliance (29)
★Surveillance (16)
250
375
350
490
350
250
350
170
275
250
190
Staten Island Pressure Zones
170 Regulated Intermediate
190 Regulated High
250 Gravity
275 Booster Pumped Annandale P.S.
350 Regulated Pumped
375 Pumped Intermediate
490 Pumped High

Figure D.5.1

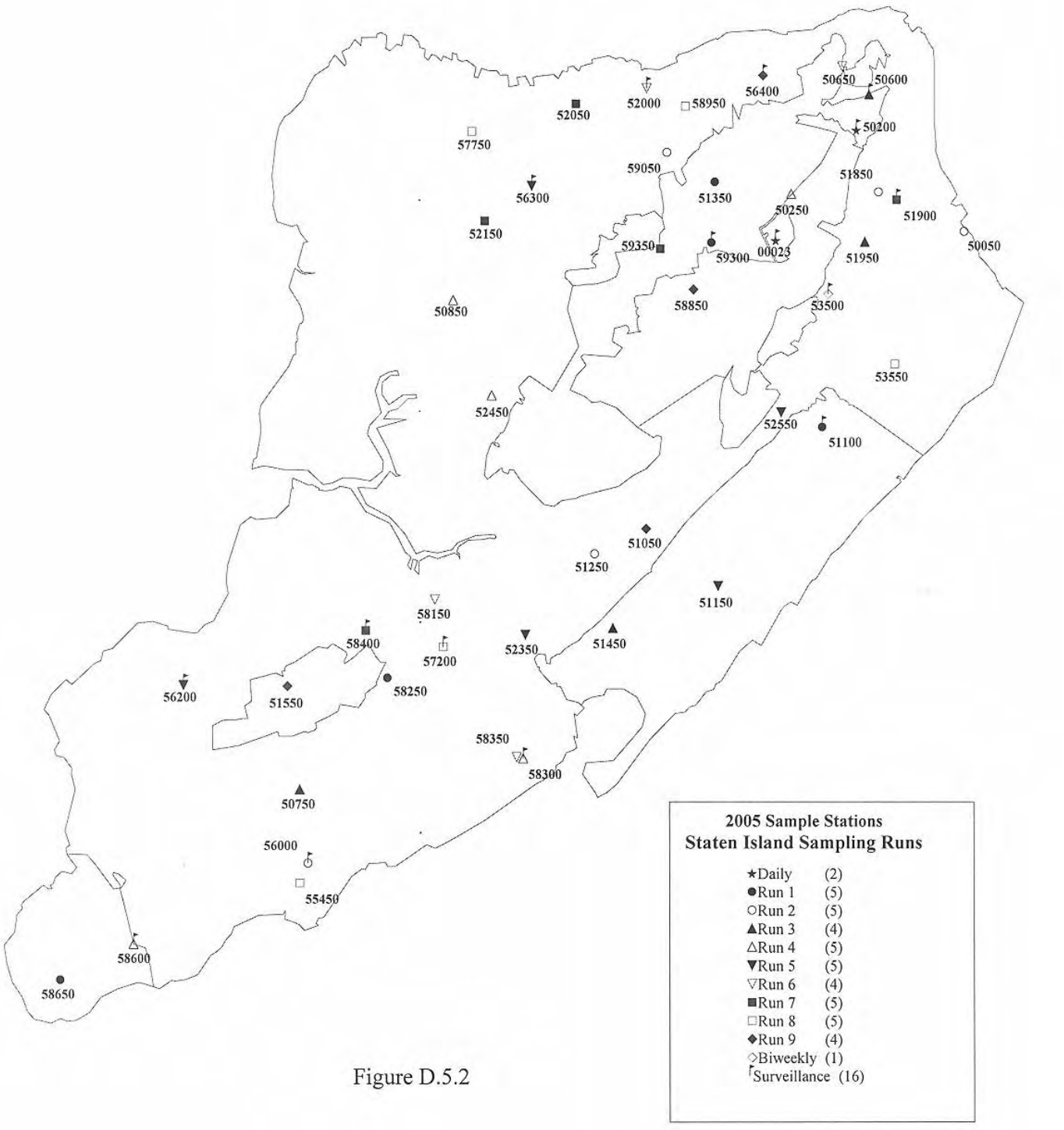

52050
52000
58950
56400
50650
50600
57750
50200
59050
51850
56300
51350
50250
51900
52150
59350
59300
00023
51950
50050
50850
58850
53500
53550
52450
52550
51100
51050
51250
51150
58150
58400
57200
52350
51450
56200
51550
58250
58350
58300
50750
56000
55450
58600
58650
2005 Sample Stations
Staten Island Sampling Runs
★Daily (2)
●Run 1 (5)
○Run 2 (5)
▲Run 3 (4)
△Run 4 (5)
▼Run 5 (5)
▽Run 6 (4)
■Run 7 (5)
□Run 8 (5)
◆Run 9 (4)
◇Biweekly (1)
Surveillance (16)

Figure D.5.2

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APPENDIX E

GROUNDWATER AND WELLS
SAMPLING LOCATIONS AND FREQUENCIES

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Figure E.1 2005 Groundwater Sampling Sites

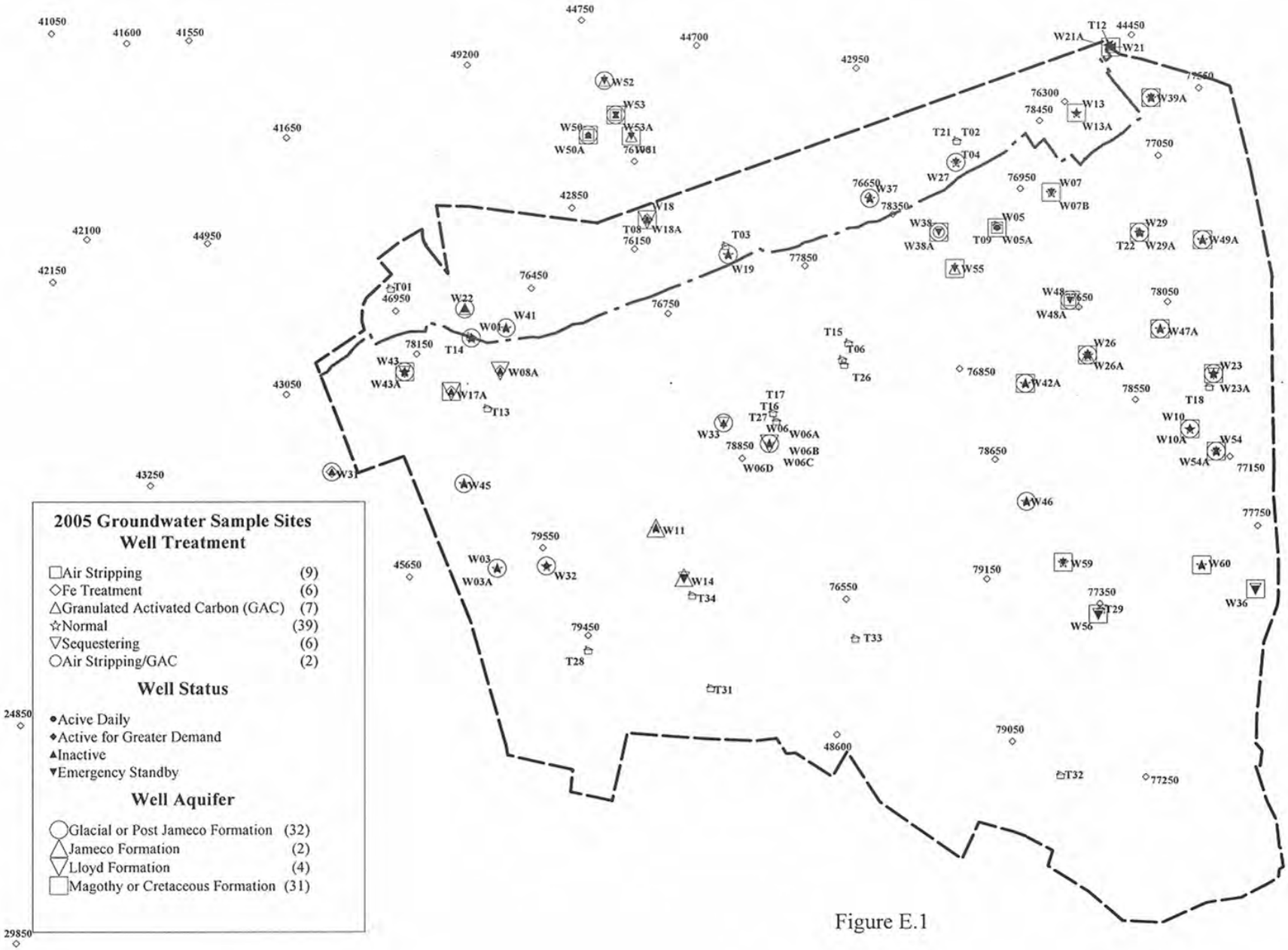

Table E.1 NYCDEP Groundwater Well Monitoring Frequency

Well No.	NYS-DEC Well No.	Location	Town	Depth (ft.)	Aquifer	Present Well Capacity (mgd)	Present NYSDEC Auth. Capac. (mgd)	Status	Contam.	Treatment
1	Q301	127-16 Metropolitan Ave.	Kew Gardens	93.7	G	0.30	0.432	I	VOC	
3	Q303	109-25 120 Street	South Ozone Park	98.4	G	0.40	0.432	I	NOx	
3A	Q558	109-25 120 Street	South Ozone Park	155	G	0.30	0.936	I		
5	Q305	93-02 199 Street	Hollis	275	M	1.73	1.728	AD	VOC	Air Stripping
5A	Q1957	93-02 199 Street	Hollis	285	M	2.45	2.448	AD	VOC	Air Stripping
6	Q306	164-21 110th Ave.	Jamaica	66.5	G	0.00	0.072	I	VOC	
6A	Q560	164-21 110th Ave.	Jamaica	72.5	G	1.01	1.008	I	Fe	
6B	Q561	164-21 110th Ave.	Jamaica	85	G	1.30	1.288	I	Fe	
6C	Q562	164-21 110th Ave.	Jamaica	602	L	2.59	2.592	I	Fe	
6D	Q1839	164-21 110th Ave.	Jamaica	85	G	0.00	0.072	I	VOC	
7	Q307	91-01 209 Street	Queens Village	301	M	1.78	1.728	IR	VOC	
7B	Q564	91-01 209 Street	Queens Village	289.7	M	1.73	1.728	IR	VOC	
8A	Q3069	131-02 88 Avenue	Richmond Hill	550	L	1.44	1.584	I	Fe	Fe Treatment
10	Q310	116-32 224 Street	Cambria Heights	105	G	1.01	0.864	AP		
10A	Q1958	116-32 224 Street	Cambria Heights	432	M	2.02	2.592	AP		
11	Q3157	111-14 143 Street	Jamaica	260	J	1.99	1.987	I	Fe, Cl-	
13	Q313	214-01 89 Avenue	Queens Village	291	M	1.81	1.728	AP		
13A	Q1600	214-01 89 Avenue	Queens Village	290	M	1.73	1.44	AP		
14	Q3156	144 Street S/o 116 Ave.	Jamaica	300	J	1.73	1.728	IR		Sequestering
17	Q317	87-75 123 Street	Richmond Hill	550	L	1.51	1.872	I	Fe	Fe Treatment
17A	Q566	87-75 123 Street	Richmond Hill	281	M	0.72	0.763	I	Fe	Fe Treatment
18	Q2137	84-02 164 Street	Jamaica	250	M	0.50	0.648	I	VOC,Fe	Fe Treatment
18A	Q567	84-02 164 Street	Jamaica	618	L	1.30	1.728	I	Fe	Fe Treatment
19	Q319	Cedarcroft Rd. E/o Homelawn	Jamaica	144	G	0.00	0.144	I		
21	Q321	Sawyer Ave. & Springfield	Queens Village	335	M	1.70	1.987	IR		Granulated Activated Carbon
21A	Q2435	Sawyer Ave. & Springfield	Queens Village	346	M	1.60	1.728	IR		Granulated Activated Carbon
22	Q322	84-70 127 Street	Kew Gardens	125	G	0.72	0.54	I	VOC	Granulated Activated Carbon
23	Q323	114-36 224 Street	Cambria Heights	97.3	G	0.30	0.72	I		
23A	Q568	114-36 224 Street	Cambria Heights	362	M	2.30	2.16	AD		Sequestering
26	Q1450	113-30 Francis Lewis Blvd.	St. Albans	115	G	0.50	0.648	I		
26A	Q1815	113-30 Francis Lewis Blvd.	St. Albans	280	M	1.73	2.304	IR	VOC	Granulated Activated Carbon
27	Q1747	86-83 Dunton Street	Jamaica Estates	257	G	1.07	1.476	IR		
29	Q1534	216-15 102 Avenue	Queens Village	97.5	G	0.07	0.072	I	VOC	
29A	Q1629	216-15 102 Avenue	Queens Village	275.5	M	0.92	0.923	I	VOC	
31	Q1811	125-15 92 Avenue	Richmond Hill	144	G	0.72	1.31	I	VOC,Fe	Fe Treatment
32	Q1840	126-15 111 Avenue	South Ozone Park	105	G	1.30	1.44	AD	VOC	
33	Q1843	160-25 108 Avenue	Jamaica	85	G	0.40	0.144	I		Sequestering
36	Q2026	129 Ave. E/o Brookville	Rosedale	431	M	2.30	2.304	IR		Sequestering
37	Q2001	87-74 Chevy Chase Street	Jamaica	207	G	1.46	0.72	I	VOC	
38	Q1997	90-35 193 Street	Hollis	107.8	G	1.30	1.584	IR	VOC	Airstripping/Granulated Activated Carbon
38A	Q2432	90-35 193 Street	Hollis	275	M	2.30	2.592	IR	VOC	Airstripping/Granulated Activated Carbon
39	Q2000	90-42 Springfield Blvd.	Queens Village	96	G	0.72	0.749	I	VOC	
39A	Q2188	90-42 Springfield Blvd.	Queens Village	255	M	2.30	2.304	IR		
41	Q2006	87 Avenue W/o 135 Street	Jamaica	115.6	G	0.00	0.072	I	VOC	
42	Q2027	Murdock Ave. & 198 Street	St. Albans	84	G	0.43	0.778	I	VOC	
42A	Q2028	Murdock Ave. & 198 Street	St. Albans	285	M	2.02	2.448	I	Fe	
43	Q2138	118 Street N/o Hillside	Richmond Hill	123	G	1.18	1.368	I		
43A	Q2332	118 Street N/o Hillside	Richmond Hill	242	M	0.58	1.872	AD		Sequestering
45	Q2189	120 Street S/o 101 Avenue	Richmond Hill	158	G	1.44	1.512	I		
46	Q2243	193 Street S/o 120 Avenue	St. Albans	132	G	0.00	0.864	I	Fe	
47	Q2275	112 Rd. E/o Springfield Blvd.	Queens Village	105	G	1.43	1.296	I		
47A	Q2276	112 Rd. E/o Springfield Blvd.	Queens Village	345	M	2.30	2.304	I		
48	Q2299	Francis Lewis Blvd. S/o Hollis Ave.	Hollis	120	G	2.02	2.016	IR	VOC	Air Stripping
48A	Q2300	Francis Lewis Blvd. S/o Hollis Ave.	Hollis	280	M	2.30	2.304	IR	VOC	Air Stripping
49	Q2321	219 St. S/o Hempstead Ave.	Queens Village	130	G	1.87	1.872	I	VOC	
49A	Q2343	219 St. S/o Hempstead Ave.	Queens Village	230	M	2.30	2.304	I	VOC	
50	Q2373	Parsons Blvd. N/o 77 Road	Fresh Meadows	158	G	1.01	1.296	I	VOC	Air Stripping
50A	Q2374	Parsons Blvd. N/o 77 Road	Fresh Meadows	254	M	1.44	1.44	AD	VOC	Air Stripping
51	Q2362	164 Street N/o 78 Avenue	Jamaica	287	M	1.44	1.44	IR	VOC	Granulated Activated Carbon
52	Q2363	161 Street N/o 72 Avenue	Fresh Meadows	130	G	0.72	0.936	IR	VOC	Granulated Activated Carbon
53	Q2408	76 Road W/o 162 Street	Fresh Meadows	146	G	1.01	1.44	I	VOC	Air Stripping
53A	Q2409	76 Road W/o 162 Street	Fresh Meadows	256	M	1.44	1.44	IR	VOC	Air Stripping
54	Q2442	228 Street & Linden Blvd.	Cambria Heights	102.5	G	1.73	1.728	IR		
54A	Q2443	228 Street & Linden Blvd.	Cambria Heights	360	M	1.73	1.728	I	Fe	
55	Q3034	99 Avenue & 194 Street	Hollis	280	M	1.87	2.016	IR	VOC	Granulated Activated Carbon
56	Q2955	222 Street N/o 134 Road	Springfield Gardens	445	M	2.02	2.016	IR		Sequestering
58	Q3014	S Serv.Rd.GC Pkwy E/O Midland Pkwy.	Jamaica	320	M	1.44	1.152	IR	VOC	Air Stripping
59	Q3029	Springfield Blvd. & Lucas St.	Springfield Gardens	417	M	1.87	2.016	IR		
60	Q3083	231-19 128 Drive	Springfield Gardens	353	M	2.02	2.016	I	Fe	

Legend:
A = Active
I = Inactive
D = Used Daily to meet
R = Standby Emergency Reserve
G = Glacial or Post Jameco Formation
J = Jameco Formation
M = Magothy or Cretaceous Formation
L = Lloyd Formation

Remarks:
1. Currently exceeds 5 ppb VOC MCL
2. Currently exceeds 10 ppm Nitrate MCL
3. Iron Removal Plant requires upgrading
4. High iron
5. High chlorides and iron
6. Water level too low
7. Pumps to Iron Removal Treatment Plant
8. Pumps to VOC Removal Treatment Plant
9. Currently below 5 ppb VOC MCL

Table E.1 NYCDEP Groundwater Well Monitoring Frequency

Well No.	NYS-DEC Well No.	Location	Town	Remarks	Monthly: BACT, VOC (524.2)	Monthly Chem I	Quarterly:BACT, VOC	Quarterly: Fe, Mn	Pesticide /SOC's: Remaining quarters*	Quarterly: Chem II	Annual Chem III
1	Q301	127-16 Metropolitan Ave.	Kew Gardens	1							
3	Q303	109-25 120 Street	South Ozone Park	2							
3A	Q558	109-25 120 Street	South Ozone Park				x		4+1	x	x
5	Q305	93-02 199 Street	Hollis	8	x					x	x
5A	Q1957	93-02 199 Street	Hollis	8	x					x	x
6	Q306	164-21 110th Ave.	Jamaica	1							
6A	Q560	164-21 110th Ave.	Jamaica	3							
6B	Q561	164-21 110th Ave.	Jamaica	4							
6C	Q562	164-21 110th Ave.	Jamaica	3							
6D	Q1839	164-21 110th Ave.	Jamaica	1							
7	Q307	91-01 209 Street	Queens Village	1			x		2+1	x	x
7B	Q564	91-01 209 Street	Queens Village	1			x		4+1	x	x
8A	Q3069	131-02 88 Avenue	Richmond Hill	7			x	x	4+1	x	x
10	Q310	116-32 224 Street	Cambria Heights				x			x	x
10A	Q1958	116-32 224 Street	Cambria Heights				x			x	x
11	Q3157	111-14 143 Street	Jamaica	5							
13	Q313	214-01 89 Avenue	Queens Village				x			x	x
13A	Q1600	214-01 89 Avenue	Queens Village				x		+1	x	x
14	Q3156	144 Street S/o 116 Ave.	Jamaica			x	x			x	x
17	Q317	87-75 123 Street	Richmond Hill	7			x	x	4+1	x	x
17A	Q566	87-75 123 Street	Richmond Hill	7			x	x	4+1	x	x
18	Q2137	84-02 164 Street	Jamaica	1, 7							
18A	Q567	84-02 164 Street	Jamaica	7			x	x	2+1	x	x
19	Q319	Cedarcroft Rd. E/o Homelawn	Jamaica	6							
21	Q321	Sawyer Ave. & Springfield	Queens Village				x			x	x
21A	Q2435	Sawyer Ave. & Springfield	Queens Village				x			x	x
22	Q322	84-70 127 Street	Kew Gardens	1			x	x		x	x
23	Q323	114-36 224 Street	Cambria Heights				x		2+1	x	x
23A	Q568	114-36 224 Street	Cambria Heights			x	x			x	x
26	Q1450	113-30 Francis Lewis Blvd.	St. Albans						4+1		
26A	Q1815	113-30 Francis Lewis Blvd.	St. Albans	1							
27	Q1747	86-83 Dunton Street	Jamaica Estates				x			x	x
29	Q1534	216-15 102 Avenue	Queens Village	1							
29A	Q1629	216-15 102 Avenue	Queens Village	1			x		4+1	x	x
31	Q1811	125-15 92 Avenue	Richmond Hill	1, 7							
32	Q1840	126-15 111 Avenue	South Ozone Park	9			x			x	x
33	Q1843	160-25 108 Avenue	Jamaica			x	x		4+1	x	x
36	Q2026	129 Ave. E/o Brookville	Rosedale			x	x			x	x
37	Q2001	87-74 Chevy Chase Street	Jamaica	1							
38	Q1997	90-35 193 Street	Hollis	8	x					x	x
38A	Q2432	90-35 193 Street	Hollis	8	x					x	x
39	Q2000	90-42 Springfield Blvd.	Queens Village	1							
39A	Q2188	90-42 Springfield Blvd.	Queens Village				x			x	x
41	Q2006	87 Avenue W/o 135 Street	Jamaica	1							
42	Q2027	Murdock Ave. & 198 Street	St. Albans	1			x	x	4+1	x	x
42A	Q2028	Murdock Ave. & 198 Street	St. Albans	4							
43	Q2138	118 Street N/o Hillside	Richmond Hill								
43A	Q2332	118 Street N/o Hillside	Richmond Hill			x	x			x	x
45	Q2189	120 Street S/o 101 Avenue	Richmond Hill				x			x	x
46	Q2243	193 Street S/o 120 Avenue	St. Albans	4							
47	Q2275	112 Rd. E/o Springfield Blvd.	Queens Village				x		1+1	x	x
47A	Q2276	112 Rd. E/o Springfield Blvd.	Queens Village				x			x	x
48	Q2299	Francis Lewis Blvd. S/o Hollis Ave.	Hollis	8	x					x	x
48A	Q2300	Francis Lewis Blvd. S/o Hollis Ave.	Hollis	8	x					x	x
49	Q2321	219 St. S/o Hempstead Ave.	Queens Village	1			x		4+1	x	x
49A	Q2343	219 St. S/o Hempstead Ave.	Queens Village	1			x		4+1	x	x
50	Q2373	Parsons Blvd. N/o 77 Road	Fresh Meadows	8	x					x	x
50A	Q2374	Parsons Blvd. N/o 77 Road	Fresh Meadows	8	x					x	x
51	Q2362	164 Street N/o 78 Avenue	Jamaica	1							
52	Q2363	161 Street N/o 72 Avenue	Fresh Meadows	1							
53	Q2408	76 Road W/o 162 Street	Fresh Meadows	8	x					x	x
53A	Q2409	76 Road W/o 162 Street	Fresh Meadows	8	x					x	x
54	Q2442	228 Street & Linden Blvd.	Cambria Heights				x		3+1	x	x
54A	Q2443	228 Street & Linden Blvd.	Cambria Heights	4							
55	Q3034	99 Avenue & 194 Street	Hollis	1			x		1+1	x	x
56	Q2955	222 Street N/o 134 Road	Springfield Gardens			x	x			x	x
58	Q3014	S Serv.Rd.GC Pkwy E/O Midland Pkwy.	Jamaica	8	x					x	x
59	Q3029	Springfield Blvd. & Lucas St.	Springfield Gardens				x			x	x
60	Q3083	231-19 128 Drive	Springfield Gardens	4							

Chem I: alkalinity, color, fluoride, odor, pH, specific conductance, turbidity, Ca hardness, hardness, TDS, OPO4, TPO4, residual chlorine, temperature, Ca, Cu, Fe, Pb, Mn, Mg, Na, Zn

Chem II: alkalinity, color, chloride, fluoride, nitrate, nitrite, odor, pH, specific conductance, sulfate, turbidity, Ca hardness, hardness, OPO4, residual chlorine, temperature, Ca, Cu, Pb, Mg

Chem III: Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Na, Tl, Zn, fluoride, TCN, TDS, diquat, endothall, glyphosate, carbamates, pesticides, herbicides, SVOC's

* Quarterly pesticides/SOC's until 4 qtrs. have been sampled, then sampled once within the next 18 months. A "+1" indicates that an 18 mo. Sample needs to be taken.

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APPENDIX F

STANDARD OPERATING PROCEDURES FOR DWQC DISTRIBUTION SAMPLING

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Scope

This document describes the methodologies to be adhered to for proper sample collection during distribution water quality monitoring activities as described in the 2005 Plan.

1. SAMPLE CLASSES AND REQUIREMENT OVERVIEW

1.1. Compliance samples

As specified in the Sampling Site Plan, compliance samples are those collected from sites that have been pre-designated and pre-approved by NYSDOH for the purpose of compliance with the New York State Sanitary Code. The intent is to accurately monitor the quality of the drinking water delivered to New York City residents. NYCDEP is required by law to collect a minimum of 480 of these samples per month. Approximately 900 compliance samples are actually collected. Special case samples may also be collected at the discretion of the Director of Distribution Field Operations, in accordance with the Sampling Site Plan.

(1) Each compliance sample must be collected from the designated locations as specified in the New York City Distribution Compliance and Surveillance Sampling Site List (Appendix A). Any modification of the sampling schedule or compliance sampling site(s) must be approved by the Director of Distribution Field Operations.

(2) According to the Site List, compliance samples shall be collected from water mains with diameters of 20 inches or less, possessing consumer service connections. Compliance samples shall be collected from fixed sample stations exclusively. Sample collection procedures shall follow the protocols described in Section 2.5. of this SOP.

1.2. Surveillance samples

Surveillance samples are collected at designated surveillance sites. These locations are identified on the Site List (Appendix A) as "**surv**" in the "Class" column. These samples are collected on a daily basis throughout the five boroughs. Surveillance sites are included in the daily sampling routes, assuring that each site is sampled uniformly throughout the month. These sites supplement the compliance sites and are used to collect additional water quality information for optimizing process control, assessing water quality, facilitating water quality management, and determining the source and extent of physical and/or biological quality changes, such as high turbidity, color, or coliform occurrences. Sample collection procedures shall follow the protocols described in Section 2.

(1) Surveillance samples shall be collected from pumping stations, shafts, distribution trunk mains (greater than 20 inches in diameter without consumer service connections), distribution key points, and treated wells.

(2) Surveillance samples shall be collected employing the same sampling methods as for compliance samples (see Section 2.5. for sample collection procedures) with the exception of checking the "Surveillance" box as the "Sample Type" on the top right-hand corner of the blue sample cards.

1.3. Pre-finished samples

Pre-finished samples are collected from locations identified on the Site List as "**pref**". These samples are collected from open water reservoirs, reservoir gatehouses, and untreated wells. Autosamplers are used for pre-finished sample collection at reservoir sites 00003, 00032 or 00036, and 00058.

1.4. Compliance chemistry samples (Monthly and Quarterly)

Compliance chemistry, lead and copper rules (LCR), and disinfection by-product (DBP) samples are those samples collected from designated locations on a monthly and quarterly basis. See Table F-1 for a listing of these locations. The list of analytes and the frequency of sampling are mandated by the New York State Sanitary Code. Figure F.1 illustrates the locations of the designated monthly and quarterly sampling sites. In addition, surface water system entry points (Table 3.3) are also collected on a monthly basis. Please refer to Tables F-2 through F- 4 for analytical specifications such as holding times, EPA methods, bottle sizes, preservatives. Sample collection shall follow the procedures illustrated in Section 2.5.

1.5. Complaint samples

Sample collection and specific analyses are designed to address the nature of the complaint. All pertinent information relating to the water quality problem should be clearly stated in the "Remarks" section of the green complaint sample cards *(i.e.*, number of building stories, presence of roof tank, residential/commercial, dead end location *etc.*,). Sample collection procedures shall follow the protocols described in Section 2.5.

(1) Samples that have not been secured by NYCDEP sampling personnel shall not be analyzed without approval from the Coordinator of Special Investigations or designee.

(2) In the cases where a consumer-collected sample is approved for analysis, the resultant laboratory data shall not be incorporated as conclusive data in the written report. Sample results of this nature shall be merely stated in the body of the report for information purposes. An example of this type of situation may be a sample collected by a consumer with particulate matter to be analyzed for microscopy.

1.6. Leak samples

A leak is any flow of water stemming from an unknown source. The intent of a leak investigation is to assist in the determination of the source of the leak (i.e. ground water, New York City drinking water, or possible sewer water).

(1) Leak Samples shall be collected as per the direction of the Leak Coordinator or the Leak Supervisor who requested the samples.

(2) Leak investigations shall be scheduled according to the priorities of the Leak Coordinator. (Note: routine leaks are normally collected and transported by the District Yards)

1.7. Special samples

(1) Special samples, including inorganic, organic, microbial, lead, and hot water samples, shall be collected for special projects and/or investigative purposes under the direction of the Coordinator of Special Investigations or designee.

(2) All necessary preparations shall be the responsibility of this section which include:
- obtaining appropriate bottles,
- determining appropriate preservatives,
- scheduling appointments (except lead samples),
- filing Special Analysis Request Form (except lead samples),
- reporting results to appropriate personnel.

2. OPERATING PROCEDURES

2.1. Bottle requirements

2.1.1. General procedures

The following procedure shall be conducted for all samples:

(1) No sample bottles shall be opened prior to collection.

(2) Sample bottles shall be labeled in accordance with Section 2.1.4. of this procedure.

(3) Sample cards shall accompany each sample with the exception of duplicate samples. In the case of duplicate samples, a single card may be used or a second card shall be used which clearly identifies the sample as a duplicate by the use of the letter 'D' after the numerical designator or the entire word 'Duplicate'.

(4) All sample cards shall be filled out in accordance with Section 2.8. of this procedure.
- Sample cards shall be submitted for all pre-scheduled, pre-registered sampling sites, whether or not a sample was collected. If no sample was collected at any pre-scheduled, pre-registered sites, “No sample” shall be indicated in the “Remarks” section of the blue data card, accompanied by the reason the sample was not collected.

2.1.2. Compliance / surveillance samples

(1) Compliance samples
- wet-chemistry sample; one 500 mL plastic bottle
- microbiological (BACT) sample; 125 mL autoclaved plastic bottle containing dechlorinating reagent, $Na_2S_2O_3$
- blue sample card (one card per sample set)

(2) Surveillance samples
- wet-chemistry sample; one 500 mL plastic bottle;
- microbiological (BACT) sample; 125 mL autoclaved plastic bottle containing dechlorinating reagent, $Na_2S_2O_3$;
- blue sample card (one card per sample set)

2.1.3. Consumer complaint samples

(1) Immediate sample
- one wet-chemistry sample; one 500 mL plastic bottle
- one trace metal sample; 250 mL acid prewashed plastic bottle
- one green sample card (one card per sample set)

(2) 5 minute flush sample
- one wet-chemistry sample; one 500 mL plastic bottle
- one microbiological sample; 125 mL autoclaved plastic bottle containing dechlorinating reagent, $Na_2S_2O_3$
- one trace metal sample; 250 mL acid prewashed plastic bottle
- one green sample card (one card per sample set)

(3) Hydrant sample
- one wet-chemistry sample; one 500 mL plastic bottle
- one microbiological sample; 125 mL autoclaved plastic bottle containing dechlorinating reagent, $Na_2S_2O_3$
- one trace metal sample; 250 mL acid prewashed plastic bottle
- one green sample card (one card per sample set)

2.1.4. Sample bottle labeling

(1) Compliance / surveillance samples
- computer generated barcode identification label containing sample date, alpha-numeric designation of sample site, bottle code, lab sample number, and bottle name

(2) Complaint samples
- computer generated barcode identification label containing sample date, alpha-numeric designation of sample site, bottle code, lab sample number, and bottle name.

(3) Emergency complaint samples (no preregistered barcode label available)
- consumer last name
- 4 digit log number
- draw (imm., 5 min., hyt.)
- date of collection

2.2. Sample run preparation

(1) White Field Dispatch cards, as illustrated in Instruction B, with accompanying barcode label sheets are issued on a daily basis for sampling runs scheduled the following day. It is the responsibility of the water quality investigator to prepare his route in an efficient manner with no geographical crisscrossing. In order to assist field personnel in effective run preparation, a MapInfo computer program

has been designed and is available in the field cubicle area. In order to access the program:

- At the desktop, double click on the **Field Barcode** icon. This will open the MapInfo Professional program.
- Direct the mouse pointer to the **Run_Maps** menu at the top right of the screen and select **Sampling Run Maps**.
- Another dialog box will open. At this point you will be required to select the borough of interest (multi borough choices are available also, *i.e*. BQ, XM, *etc*.).
- At this point you will scan each label of the barcode label sheet with the scanner gun. After each scan, the proper site code will be input into the associated site area of the dialog box. For up and downstream monitoring, you will need to enter each site manually. Double check that all sites have been scanned/entered, then click **OK** at the bottom of the dialog box.
- This will open a dialog box regarding address changes. Click **OK**.
- A map of your selected area will then fill the screen, with the sites you have scanned accompanied by addresses. If the addresses are overlapping, you may drag them with the mouse to a unoccupied area on the screen. Cross streets may always be confirmed via the Site Plan.
- In order to print the map, click on the printer icon at the top left of the screen, the click **OK** on the subsequent dialog box.

(2) All sample bottles shall be prepared prior to departing each morning. **Each water quality inspector shall carry a minimum of four extra compliance bottle sets** (see Section 2.1.2. for set components).

(3) In order to maximize productivity, refueling of City vehicles shall be performed during the course of the sampling run. Appendix G contains a listing of all authorized Gas-Card gas stations located throughout the City. Please refer to Tables G.1 through G.5 and Figures G.1 through G.5 for a complete listing of Gas-Card stations with respect to sample stations.

(4) All vehicles used for sample collection shall be equipped with all items indicated in Table G.6, the Vehicle and Equipment checklist.

(5) In the event of a vehicular accident, the procedures described in Table G.7, Accident Report Information, shall be strictly adhered to. Vehicle breakdowns shall also be reported to the supervisor at DWQC Distribution Field Operations office, either by radio or telephone. These instructions shall also be retained on a clipboard in each vehicle for future reference.

(6) Table G.8 illustrates the Bureau of Water Supply's Incident Report which is to be completed for incidents such as employee injuries, HazMat spills, security threats, etc.

2.3. Site presampling guidelines

All sampling devices are subject to inspection, pre-disinfection flushing, disinfection and post-disinfection flushing prior to sample collection. Inspection of the sampling device is crucial to preserving the integrity of the sample to be collected. Pre-disinfection flushing is conducted to remove the stagnant water from the sampling device in order to permit the collection of a representative sample from the water main. Disinfection of sampling devices is critical in maintaining aseptic sampling conditions, and eliminates the possibility of external contamination. Proper post-disinfection flushing is essential to ensure that the disinfectant does not negatively impact the samples collected.

If unusual water quality conditions at or around the sampling site, *i.e.* discolored water, pronounced odor, high turbidity, high water temperature or low chlorine residual (<0.2 ppm) are observed at the regular site, the water quality inspector shall conduct an inspection of the area to determine the extent of the problem. As part of this inspection the water quality at the upstream and the downstream sample stations or the SUB will be observed and recorded, in the barcode scanner as well as on the white card. A water quality sample for laboratory analysis shall always be collected at the regular site if the unusual water quality conditions cannot be explained. **It is the responsibility of the water quality inspector to fully document these findings**.

These findings will be transmitted to the supervisor at the DWQC Distribution Field Operations office immediately. Transmission of simple investigative results shall be transmitted by two-way radio. **Transmission by telephone shall be reserved for investigative results requiring lengthy discussion, in areas where radio transmission is not available, i.e *"dead zones"*, or at the supervisor's request**. The supervisor will make a determination as to what further investigations should be conducted or supplemental samples collected. Should it be determined that supplemental investigative sampling is necessary, the sample type of such samples will be designated as "Special". In addition, the supervisor will immediately contact the DEP borough maintenance or repair yards and advise them of the identified problems so that remediation can commence expeditiously.

2.3.1. Sample stations

Compliance and surveillance samples shall be taken from fixed sample stations exclusively. Upstream and downstream sample stations shall be inspected every six months to confirm that the water quality of all three sample stations is consistent. The analytical field results from each inspection are recorded on white dispatch cards and in the barcode scanner. The investigation will also include a mechanical inspection to ensure the sample stations' good working order.

In the event that all three compliance sample stations at one location, (i.e. upstream, regular, and downstream) or the sole surveillance sample station are inoperable or inaccessible, the water quality inspector shall **immediately report these findings to the supervisor by radio**, who will then designate a suitable hydrant substitute from which to sample.

(1) Accessibility check

Sample stations shall be inspected in order to ensure that they are in service and operating properly prior to sampling. If a sample station cannot be sampled, a sample from the designated downstream or upstream sample station location shall be collected. **It is the responsibility of the water quality inspector to fully document these findings, and to report any such instances to the supervisor immediately by radio.** Some instances in which a sample station may not be sampled are:

- the sample station is within 100 feet of an active construction zone
- the sample station is frozen
- the sample station is inoperable
- the operating rod is rounded
- the sample station is leaking from the base
- the sample station is inaccessible
- the sample station is clearly contaminated
- the main servicing the sample station is out of service

(2) Identification check

The identification of the sample station shall be confirmed via the barcode scanner by scanning both the preassigned site label and the barcode label affixed to the sample station. Once the site has been confirmed, pre-disinfection flushing may commence.

(3) Pre-disinfection flushing

All sample station goose necks shall be wiped with a clean paper towel to remove residue and/or grease. Sample stations must be flushed without overflowing the sink prior to disinfection and sample collection procedures for a minimum of **3 minutes**. A reference value for specific conductance shall be taken after 3 minutes of pre-disinfection flushing. Orthophosphate vials shall be filled at this time. The actual orthophosphate analysis shall be performed between 2 and 10 minutes after filling, once full color development occurs.

(4) Disinfection

- Fixed sample station taps shall be disinfected with household bleach. At the end of the pre-disinfection flushing cycle, slowly turn off the flow of water from the sample station tap and immediately allow 20-50 mLs of household bleach to be back-siphoned down the gooseneck by holding the tip of the gooseneck slightly below the level of bleach in a 125 mL bottle. Allow the bleach to disinfect and stand in the tap for **1 minute**.
- For sample stations that are not routinely sampled, *i.e.* USS/DSS, or sample stations that have not been sampled for an extended period of time due to water main shut down, *etc.* allow at least **100 mLs of bleach** to be back-siphoned down the gooseneck and allowed to stand in the tap for a minimum of **1 minute**.
- The 125 mL bleach container used to disinfect the sample station tap shall be emptied and rinsed after each run. At no time shall

unmarked bottles of bleach be allowed to remain in the vehicle after the run has been completed. Bleach bottles shall be tightly capped when not in use.

(5) Post-disinfection flushing

After disinfection, the sample station shall be flushed without overflowing the sink for a minimum of **2 minutes**. The tip of the gooseneck shall be carefully rinsed with 3 deliveries of 250 mLs of sample water (half sample volume), making certain that the gooseneck does not become contaminated. Specific conductance shall be analyzed after 2 minutes of post-disinfection flushing and shall be consistent with the specific conductance reading taken directly after the pre-disinfection flushing period. Improper flushing of bleach will be indicated by higher conductivities. If the post-disinfection specific conductance does not match the pre-disinfection value, continue flushing until proper specific conductance is observed. Official analysis for temperature, residual chlorine, and pH analyses shall be performed at this time. Vials filled during the pre-disinfection stage for orthophosphate shall also be analyzed at this time.

2.3.2. Hydrants

Hydrant samples always accompany consumer complaint samples in order to provide system background and comparative data. Substitute samples from distribution system surveillance locations are also collected from hydrants. The location of **all** hydrant samples must be described fully as the sample source on the data cards, *i.e. E/S Greenwich Street, 1st hyt. S/O Warren Street.* If a hydrant fails to clear after 20 minutes of running at curb-flow, the water quality investigators shall **immediately radio their findings to their supervisor,** collect the sample and indicate this dirty water condition in the 'Remarks' section of the sample card. The results of colorimetric analyses, *i.e.* residual chlorine, orthophosphate, shall be indicated on the green and white cards as “INT” for interference. Upon return to the lab, the water quality investigator shall notify the Coordinator of Special Investigations who will then notify the District Yard to implement flushing measures. The only instance in which a hydrant sample shall not be collected is if the dirty water conditions are explainable, *i.e.* water main maintenance, street construction, *etc.* In this case, a sample from the hydrant will be taken once the Yard has flushed the hydrant, or post-construction.

Important note: for security reasons, when sampling from hydrants with magnetic 'custodian' caps, the wrench must be placed securely in the vehicle when not in use. Loss or theft of a custodian wrench will result in disciplinary action being taken against the individual responsible. Custodian wrenches must be brought back to the lab after each run and may not be left in any vehicle overnight.

(1) Accessibility check

Hydrants shall be inspected in order to ensure that they are operating properly and without any apparent obstructions (*i.e.* cans, debris, or bottles,

etc. forced into the barrel of the hydrant). Some instances in which a hydrant may not be sampled are:

- the hydrant is within 100 feet of an active construction zone
- the hydrant is frozen
- the operating rod is rounded
- the hydrant is leaking from the base
- the hydrant is inaccessible
- the hydrant is missing both caps
- the main servicing the hydrant is out of service

(2) Pre-disinfection flushing

Both large and small hydrant nozzles shall be wiped with a clean paper towel to remove residue and/or grease. Hydrants shall be flushed at curb flow, about 1 gallon per minute prior to disinfection and sample collection procedures. Hydrants should also be scrubbed with a brush before the disinfection procedure begins. A reference value for specific conductance shall be taken after **3 minutes** of pre-disinfection flushing. Orthophosphate vials shall be filled at this time. The actual orthophosphate analysis shall be performed between 2 and 10 minutes after filling, once full color development occurs.

(3) Disinfection

Hydrants shall be disinfected with bleach. After flushing, slowly turn off the flow of water from the hydrant and apply approximately 100 mLs of household bleach to the rim and inside of each nozzle. The bleach shall be allowed to stand and disinfect the hydrant for **1 minute**. Bleach bottles shall be tightly capped when not in use.

(4) Post-disinfection flushing

After disinfection, the hydrant shall be flushed at curb flow for a minimum of **2 minutes**. Each hydrant nozzle shall be carefully rinsed with a minimum of 3 liters of sample water, making certain that the hydrant does not become contaminated. Specific conductance shall be analyzed after 2 minutes of post-disinfection flushing and shall be consistent with the specific conductance reading taken directly after the pre-disinfection flushing period. Improper flushing of bleach will be indicated by higher conductivities. If the post-disinfection specific conductance does not match the pre-disinfection value, continue flushing until proper specific conductance is observed. Official analysis for temperature, residual chlorine, and pH analyses shall be performed at this time. Vials filled during the pre-disinfection stage for orthophosphate shall also be analyzed at this time.

2.3.3. Wells

Surveillance samples from groundwater wells are collected from treated internal taps located at each individual well. Pre-finished samples are collected from raw water taps at each individual well.

Important note: All taps are color coded: raw water taps are painted green and treated water taps are painted blue.

(1) Identification check

The identification of the well tap shall be confirmed via the barcode scanner by scanning both the preassigned site label and the barcode label affixed to the well tap.

- Collecting samples from an incorrect tap will invalidate the sampling event, *i.e.* when a well is running to waste, only raw water samples shall be collected because it is possible for system water to back up to the treated tap. Once the site has been confirmed, pre-disinfection flushing may commence.

(2) Pre-disinfection flushing

All well taps shall be wiped with a clean paper towel to remove residue and/or grease. Well taps must be flushed without overflowing the basin prior to disinfection and sample collection procedures for a minimum of **3 minutes**. A reference value for specific conductance shall be taken after 3 minutes of pre-disinfection flushing. Orthophosphate vials shall be filled at this time. The actual orthophosphate analysis shall be performed between 2 and 10 minutes after filling, once full color development occurs.

(3) Disinfection

Well taps shall be disinfected with household bleach. After flushing, slowly turn off the flow of water from the well tap. Allow the bleach to come into contact with the tap and disinfect the tap for **1 minute**. Bleach bottles shall be tightly capped when not in use.

(4) Post-disinfection flushing

After disinfection, the well tap shall be flushed without overflowing the basin for a minimum of **2 minutes**. The tip of the well tap shall be carefully rinsed with 3 deliveries of 250 mLs of sample water (half sample volume), making certain that the tap does not become contaminated. Specific conductance shall be analyzed after 2 minutes of post-disinfection flushing and shall be consistent with the specific conductance reading taken directly after the pre-disinfection flushing period. Improper flushing of bleach will be indicated by higher conductivities. If the post-disinfection specific conductance does not match the pre-disinfection value, continue flushing until proper specific conductance is observed. Official analysis for temperature, residual chlorine, and pH analyses shall be performed at this time. Vials filled during the pre-disinfection stage for orthophosphate shall also be analyzed at this time.

2.3.4. Internal taps

Consumer complaint samples are collected exclusively from a drinking water source, primarily from kitchen taps or unfiltered water fountains. Cold water samples shall be collected exclusively, unless approved by the Coordinator of Special Investigations or designee.

(1) Inspection

- Internal taps shall be inspected to ensure cleanliness. The physical integrity of the tap should also be examined to ensure its good working order. Any conditions which may compromise laboratory analyses and/or contribute interference should be noted on the sample cards.
- Inspections shall ensure that filters are in the by-pass position, faucets work properly and without leaks, and that there is sufficient clearance between the tap and the sink basin.
- During inspection, every attempt shall be made to ensure that no hot water is mixed with cold water. An indication of such a situation is the water temperature will remain consistently high after more than 5 minutes of flushing.
- If a tap is broken or in an unsanitary condition, or if it suspected that the cold water is mixed with hot water, the tap is considered inaccessible. A sample from the designated substitute location shall be collected.

(2) Immediate sample

Immediate samples are collected directly from the tap without flushing in order to assess water quality at the fixture itself.

- Remove the aerator.
- Collect 250 mL metals sample followed by the 500 mL chemistry split samples for field and laboratory analyses as described in Section 2.5.
- Perform field analyses for temperature, specific conductance, and pH as described in Section 2.4.
- Visually inspect the sample for unusual water quality characteristics *i.e*. color, odor and indicate on the field card.

(3) Disinfection

Consumer's taps shall be disinfected with alcohol. After collecting the immediate samples, slowly turn off the flow of water from the tap. Apply the alcohol to the tap with a paper towel or kimwipe. Allow the alcohol to disinfect the tap for **1 minute**.

(4) Post-disinfection flushing

Taps must be flushed without overflowing the sink after immediate sample collection and disinfection for **5 minutes**. During this time, the tap shall be rinsed with a minimum of 3 deliveries of 500 mLs of tap water.

(5) Five minute sample

Samples are collected after five minutes of flushing in order to assess water quality at the service line.

- Collect 250 mL metals sample followed by the 500 mL chemistry split samples for field and laboratory analyses as described in Section 2.5.
- Collect 100 mL microbiology sample following protocols outlined in Section 2.5.1.
- Perform field analyses for temperature, specific conductance, pH, and residual chlorine as described in Section 2.4.
- Orthophosphate vials shall be filled at this time. The actual orthophosphate analysis shall be performed between 2 and 10 minutes after filling, once full color development occurs
- Visually inspect the sample for unusual water quality characteristics *i.e*. color, odor and indicate on the field card.

(6) Hydrant sample

After completion of internal sampling, a representative sample shall be collected at a hydrant within the same valve boundaries as the internal tap. Protocol as specified in Section 2.3.2. shall be adhered to for hydrant sampling.

2.4. Water quality field measurements

Please refer to Table F.5 for a complete listing of all field instrumentation currently in use.

2.4.1. Colorimetric analyses

2.4.1.1. Free residual chlorine

Free chlorine residual shall be measured after post-disinfection flushing as described in Section 2.3. using a HACH colorimetric method.

(1) All reagents, blanks, standards, cells, and equipment shall be maintained by the water quality inspector. It is the inspector's responsibility to ensure that the colorimeters are in full working order and have enough battery power. Dirty or scratched cells will provide inaccurate reading, *i.e.* a dirty or scratched blank cell will give false low sample readings and a dirty or scratched sample cell will give false high sample readings. When not in use, the colorimeters shall be kept with their covers securely in place, in a clean, dry place.

- All colorimeter meters, standards, and cells must possess the appropriate identifying barcode labels.
- Colorimeter cells must be clean and scratch free and shall be replaced every month.
- Colorimeter blank water shall consist of unaltered sample water, and shall be replaced at each stop.

- Cells shall be cleaned weekly with a dilute nitric acid and distilled water mixture.
- Cells shall be stored wrapped in tissue or in foam rubber. Cells should not come into contact with each other.
- Cells shall be rinsed throughly after each analysis. **At no time shall sample / reagent water shall be stored in the cell after the analysis has been completed.**

(2) The residual chlorine colorimeter shall be calibrated against a known standard on a daily basis when in use. The results shall be recorded in the barcode scanner.

(3) The colorimeter must be zeroed with unaltered sample water before each reading is taken. The blank cell shall be wiped clean using a soft cloth or tissue. The cell shall be placed in the colorimeter with the white diamond facing front. The cover shall be securely fastened and the **ZERO** key pressed. After approximately 2 seconds, the display will read 0.00. During colder weather months, special care must be exerted that all air bubbles have been dissipated into the surrounding head-space prior to zeroing the meter or recording the results of colorimetric analyses.

(4) The procedure for analyzing water quality samples with the colorimeter shall be as follows:

- The sample vial shall be rinsed three times with sample water.
- Sample water shall be filled to the 10 mL line, the free chlorine reagent (DPD) added, the vial capped, and the reagent mixed until dissolved, approximately 20 seconds.
- All fingerprints, condensation, and debris shall be wiped from the sample cell using a clean soft cloth or tissue.
- Air bubbles must be fully dissipated before taking final chlorine readings. The cell should be rocked and tapped gently to release any air bubbles adhering to the inside of the cell.
- The white diamond on the cell shall always face the front when taking readings in order to minimize cell scratching.
- Place the sample cell containing the prepared sample into the cell holder and cover with the instrument cap. Press the **READ** key. After approximately 2 seconds, the display will indicate the chlorine concentration in mg/L (ppm).
- ***Readings shall be taken within one minute in order to minimize loss of residual***. Several readings shall be taken until two of the same readings have been reached.
- The sample cells shall be rinsed immediately after use.
- The colorimeter shall be kept in a dry place at all times.
- The cover of the colorimeter shall be replaced while the meter is not in use, including time spent driving between sampling stops.
- Any colorimeter malfunctions or improper readings must be transmitted to the supervisor via radio as soon as possible.

(5) Record the residual chlorine results directly from the digital readout to units of 0.01 ppm. The digital colorimeter is very prone to interference from moisture. Condensation may form on the inside of the glass light path, causing unstable readings. In hot, humid weather, both the sample cell and the light path will need to have the condensation wiped off thoroughly before taking readings.

(6) Free chlorine residual results shall be recorded on the blue sample card, the white field dispatch card, and into the barcode scanner.

(7) General guideline: the formula **"temperature (^{o}F) x 0.02 = approximate residual chlorine (" 0.15 ppm)"** shall be used as a guideline to determine high residual chlorine readings. Any readings above the upper limit should be transmitted immediately to the DWQC Distribution Field Operations office. Any entry point (1S07, 1S03A, 1S03B, 3SC26) readings below the lower limit shall also be immediately transmitted to the office.

(8) For any sample station with chlorine residual measured below 0.20 ppm a full investigation shall be performed. The residual chlorine readings from the regular stop plus the upstream and downstream sample stations shall be reported to the supervisors immediately by radio. In addition, temperature, pH, o-PO_4, and specific conductance from all three stations must be recorded in the scanner. Chlorine residual measurements between 0.20 and 0.25 ppm shall be highlighted on the white field dispatch card.

(9) For any sample collected with a chlorine residual measurement of 0.0 ppm, the microbiology laboratory must be notified immediately upon return to the lab for additional bacterial analyses (HPC) to be performed.

Important note: All foil wrappers must be discarded in an appropriate trash receptacle.

2.4.1.2. Orthophosphate

Orthophosphate analysis shall be conducted utilizing a similar HACH colorimeteric procedure as described in Section 2.4.1.1. except a digital colorimeter specifically designed for orthophosphate analysis and accompanying PhosVer3 reagent powder pillows will be used.

(1) All reagents, blanks, cells, and equipment shall be maintained by the water quality inspector. It is the inspector's responsibility to ensure that the colorimeters are in full working order and have enough battery power. Dirty or scratched cells will interfere with the analysis, replace cells if scratches are observed. When not in use, the colorimeters shall be kept with their covers securely in place, in a clean, dry place.

- All colorimeter meters, standards, and cells must possess the appropriate identifying barcode labels.

- Colorimeter cells must be clean and scratch free and shall be replaced every month.
- Colorimeter blank water shall consist of unaltered sample water, and shall be replaced at each stop.
- Cells shall be cleaned weekly with a dilute nitric acid and distilled water mixture.
- Cells should be stored wrapped in tissue or in foam rubber. Cells should not come in contact with each other.
- Cells shall be rinsed thoroughly after each analysis. **At no time shall sample / reagent water shall be stored in the cell after the analysis has been completed.**
- Cells shall be rinsed thoroughly after each analysis. **At no time shall sample / reagent water shall be stored in the cell after the analysis has been completed.**

(2) The colorimeter must be zeroed with unaltered sample water before each analysis. The blank cell shall be wiped clean using a soft cloth or tissue. The cell shall be placed in the colorimeter with the white diamond facing front. The cover shall be securely fastened and the **ZERO** key pressed. After approximately 2 seconds, the display will read 0.00. During colder weather months, special care must be exerted to ensure that all air bubbles have been dissipated into the surrounding head-space prior to zeroing the meter or recording the results of colorimetric analyses.

(3) The procedure for analyzing water quality samples with the phosphate colorimeter shall be as follows:

- The sample vial shall be rinsed three times with sample water.
- Sample water shall be filled to the 10 mL line, the PhosVer3 reagent added, the vial capped, and the reagent mixed until dissolved. The solubility of the PhosVer3 reagent is temperature dependent, so during cold water periods the reaction time of the reagent will be longer than during warmer water periods. Therefore, when the sample is extremely cold, more time is required in order to achieve the full intensity of the reagent.
- All fingerprints, condensation, and debris shall be wiped from the sample cell using a clean soft cloth or tissue.
- Air bubbles must be fully dissipated before taking final orthophosphate readings. The cell should be rocked and tapped gently to release any air bubbles adhering to the inside of the cell.
- The white diamond on the cell shall always face the front when taking readings in order to minimize cell scratching.
- Place the sample cell containing the prepared sample into the cell holder and cover with the instrument cap. Press the **READ** key. After approximately 2 seconds, the display will indicate the orthophosphate concentration in mg/L (ppm).
- Readings shall be taken at least 2 minutes, but not more than 10 minutes after addition of the PhosVer reagent, for complete color development to occur. Full color development will take a longer

time period in colder water temperatures, so it is advisable to wait at least 5 minutes when water temperatures are <10^{o}C..

- Several readings shall be taken until two of the same readings have been reached.
- The sample cells shall be rinsed immediately after use.
- The colorimeter shall be kept in a dry place at all times.
- The cover of the colorimeter shall be replaced while the meter is not in use, including time spent driving between sampling stops.
- Any colorimeter malfunctions or improper readings must be transmitted to the supervisor via telephone or radio as soon as possible.

(4) Record the orthophosphate results directly from the digital readout to units of 0.01 ppm. The digital colorimeter is very prone to interference from moisture. Condensation may form on the inside of the glass light path, presenting unstable readings. In hot, humid weather, both the sample cell and the light path must have the condensation wiped off thoroughly before conducting the analysis.

(5) Orthophosphate results shall be recorded on the blue sample card, the white field dispatch card, and into the barcode scanner.

Important note: All foil wrappers must be discarded in an appropriate trash receptacle.

2.4.1.3. Interferences

(1) Colorimetric methods are not appropriate in the presence of color (Fe/Mn) and/or turbidity. The field tests for free residual chlorine and orthophosphate are inaccurate when subjected to interferences caused by color (Fe/Mn) and/or turbidity. In such instances, an entry of INT (interference) shall be entered on the sample cards by the water quality inspector. Also, select INT when entering data into the barcode scanner.

(2) The sample vials for free residual chlorine and orthophosphate shall not be interchanged at any time. The vials for orthophosphate analysis can easily become coated with a thin layer of orthophosphate, which may introduce a false positive error if used for residual chlorine analysis. Also, extreme care should be exercised when handling the reagents for both free chlorine and orthophosphate. Inter-mixing of reagents may introduce analytical errors.

(3) All cells must be rinsed thoroughly between stops.

(4) All cells must be cleaned with bleach at the end of each day.

2.4.2. Specific conductance and temperature measurement using YSI model 63 meter

(1) A quart glass chemistry bottle shall be rinsed with 3 deliveries of 250 mLs of sample water prior to collection.

(2) The sample container must be filled with at least 7 inches of sample in order to completely submerge the upper and lower ports located on the top of the specific conductance probe. Once the sample has been collected, the probe shall be fully immersed and the sample thoroughly mixed.

(3) Distribution Lab field personnel are required to analyze for **specific conductance**. Use the **MODE** key to advance the instrument through the various parameters:

- **pH** - displays pH and temperature (^{o}C)
- **Conductivity** - A measurement of the conductive material in the liquid sample without regard to temperature. In this mode, the large numbers on the display will be followed by either a µS or an mS. Additionally, the small portion of the display will show the ^{o}C (temperature) **NOT** flashing.
- **Specific conductance** - Also known as temperature compensated conductivity which automatically adjusts the reading to a calculated value which would have been read if the sample had been at 25^{o}C. In this mode, the large numbers on the display will be followed by either a µS or an mS. ***Additionally, the small portion of the display will show the ^{o}C (temperature) flashing on and off.***
- **Salinity** - A calculation done by the instrument electronics, based upon the conductivity and temperature readings. In this mode, the large numbers on the display will be followed by a ppt. Temperature is also displayed.
- **Recall** - Allows previously stored data to be displayed.
- **Erase all** - Allows all previously stored data to be deleted.

(4) Once the sample has been collected and the proper mode selected, shake the sample gently to remove any trapped air bubbles and wait for the readings to stabilize (approximately 20-30 seconds). The specific conductance value shall then be recorded on the data cards. ***Since specific conductance is temperature specific, it is imperative that the temperature reading must stabilize before recording results***.

(5) Samples with extremely cold (or hot) water temperatures (<5^{o}C or >45^{o}C) may exhibit a greater degree of variability in specific conductance readings.

(6) After each use, rinse the probe with DI water prior to storage. To avoid sample cross-contamination, remove any rinse water from the probe by gently shaking the probe. The sensor may be dried with kimwipes.

(7) After use, the probe may be stored in the transport chamber built into the instrument case. Keep the sponge in the transport chamber moist with tap water, not DI. The transport chamber is NOT intended for long term storage (< 2 days without use) of the pH sensor. The sensor is shipped with a protective bottle filled with a mixture of KCl solution and pH 4 buffer. Save this bottle for long term storage of the sensor.

(8) The meter shall be recalibrated for specific conductance on a monthly basis by adjusting the cell constant. Temperature shall be checked against a NIST certified thermometer on a monthly basis. All QA/QC checks will be performed by the Distribution Field QA officer. All readings must be recorded in a bound log book.

(9) All pH / specific conductance meters must possess a unique barcode identification label.

2.4.3. pH measurement using YSI model 60 or 63 pH meter

Analysis for pH shall be performed using a YSI model 60 or 63 pH meter with probe. The YSI pH meter shall also be used for temperature.

(1) Each pH meter must be calibrated prior to collection of any samples using the three point calibration procedure. Calibration is performed using graduated cylinders in order to minimize the amount of buffer solution used. The pH buffers shall be maintained within 5^{o}C of the sample temperature. Buffers shall be kept in a cooler to maintain the expected temperature.

- Turn the meter "**ON**".
- Rinse the probe with DI and carefully dry the probe.
- Place the probe in the pH 7 buffer, making sure that both the pH and temperature sensors are immersed. Give the pH and temperature sensors enough time to equilibrate with the temperature of the buffer.
- Enter the calibration mode by pressing and releasing the and simultaneously. The Model 60 display will show "**CAL"** at the bottom, **"STAND"** will be flashing and the main display will show 7.00.
- Press "**ENTER**". The display will show "**CAL**" at the bottom, "**STAND**" will stop flashing and the pH calibration value is shown with the middle decimal point flashing.
- When the reading is stable, the decimal point will stop flashing. Press and hold the "**ENTER**" key to save the calibration point. The Model 60 will flash "**SAVE**" along with "**OFS**" to indicate that the offset value has been saved.
- Rinse the probe with DI and carefully dry the probe. Place in the pH 10 buffer, making sure that the temperature sensor is immersed.

- Press "**ENTER**". The display will show "**CAL**" at the bottom, "**STAND**" will stop flashing and the pH calibration value is shown with the right decimal point flashing.
- When the reading is stable, the decimal point will stop flashing. Press and hold the "**ENTER**" key to save the calibration point. The Model 60 will flash "**SAVE**" along with "**SLP**" to indicate that the first slope value has been saved.
- Rinse the probe with DI and carefully dry the probe. Place in the pH 4 buffer, making sure that the temperature sensor is immersed.
- Press "**ENTER**". The display will show "**CAL**" at the bottom, "**STAND**" will stop flashing and the pH calibration value is shown with the left decimal point flashing.
- When the reading is stable, the decimal point will stop flashing. Press and hold the "**ENTER**" key to save the calibration point. The Model 60 will flash "**SAVE**" along with "**SLP**" to indicate that the second slope value has been saved. The system is now calibrated at three points and will return to normal operation.
- Rinse the probe with DI.

(2) To ensure correct measurement values, samples need to be mixed well. This is done by stirring the sample with the probe for at least 5 seconds. Stop stirring and, while the sample is still swirling, record the results when the read-out is stable, approximately 20 to 30 seconds.

(3) After each use, rinse the probe with DI water prior to storage. To avoid sample cross-contamination, remove any rinse water from the probe by gently shaking the probe. The sensor may be dried with kimwipes.

(4) After use, the probe may be stored in the transport chamber built into the instrument case. Keep the sponge in the transport chamber moist with tap water, not DI. The transport chamber is NOT intended for long term storage (< 2 days without use) of the pH sensor. The sensor is shipped with a protective bottle filled with a mixture of KCl solution and pH 4 buffer. Save this bottle for long term storage of the sensor.

(5) The targeted pH range within the surface water distribution system is 7.0 ~ 7.4. Any pH readings that are out of this range shall be reported immediately to base via radio or telephone. The pH's within the groundwater system will vary from ~6.0 to 8.0. Any observances outside this range shall also be reported.

(6) The meter shall be recalibrated for pH on a monthly basis by adjusting the cell constant. Temperature shall be checked against a NIST certified thermometer on a monthly basis. All readings must be recorded in a bound log book.

2.5. Sample collection

2.5.1. Microbiological samples

No microbiological samples shall be collected without appropriate disinfection procedures. Microbiological (BACT) samples shall be collected upon completion of Section 2.3. of this procedure.

Important note: Aseptic technique is an absolute necessity when collecting microbiological samples. Wash hands thoroughly or use disposable gloves when sampling for microbiological analyses.

(1) A BACT sample shall be collected in a plastic, autoclaved 125 ml bottle containing 0.1 mL of 10% $Na_2S_2O_3$ solution (dechlorinating agent).

(2) No samples shall be collected for microbiological analyses in a bottle:
- which has been previously opened
- which has been improperly handled while opening
- whose cap has been placed on any surface
- if any extraneous sources of contamination are present
- which exceeds the QA/QC expiration date on the barcode label

The mouth of the BACT bottle should not be handled while open and should never come in contact with any foreign object, including the faucet. The BACT bottle cap should be held properly and not placed on a table top, bench, or any other surface while sampling.

(3) Before collecting BACT samples, flows should be adjusted from the sampling devices (sample stations, hydrants, or taps) so that water does not splash against the sink, ground, outside of the bottle or other surfaces. *Samples should not be obtained from taps that allow water to flow over the outside of the tap.*

(4) **BACT bottles should not be rinsed or overfilled.** Sample bottles shall be filled to the shoulder of the BACT bottle (~100 mL for 125 mL bottles).

(5) Sample bottles shall be recapped immediately post-collection.

(6) BACT sample bottles shall be stored in a separate cooler with a sufficient amount of ice packs in order to begin the cooling process prior to delivery to Distribution Laboratory.

(7) Sample coolers shall be kept in good and clean condition. Any condensate water inside the cooler shall be dried with paper towels at the end of each day.

(8) For any sample collected with a chlorine residual measurement of 0.2 ppm or below, the microbiology laboratory must be notified immediately upon return to the lab for heterotrophic plate count (HPC) to be performed.

2.5.2. Wet-chemistry samples

No chemistry samples shall be collected without completing appropriate flushing procedures. Chemistry samples shall be collected upon completion of Section 2.2. of this procedure.

(1) Chemistry samples for field analyses shall be collected in clear glass containers. Samples shall be visually inspected for the presence of color and particulate matter. The appearance of visible color and/or particulate matter shall be documented on both the blue/green card and the white dispatch card.

(2) Routine split samples collected exclusively for laboratory chemical analyses shall be collected in 500 mL plastic bottles. These split samples shall be capped immediately upon collection. At no time shall the field probes be submerged in the container.

(3) Each chemistry bottle shall be rinsed three (3) times with 250 mLs of sample before collection.

(4) Chemistry bottles shall be filled to the shoulder.

(5) Chemistry sample bottles shall be stored in a separate cooler with a sufficient amount of ice packs in order to begin the cooling process prior to delivery to Distribution Laboratory.

(6) Sample coolers shall be kept in good and clean condition. Any condensate water inside the cooler shall be dried with paper towels at the end of each day.

2.5.3. Alkalinity

(1) Alkalinity samples shall be collected in pre-washed 1L plastic bottles with screw caps.

(2) Sample bottles shall be filled to exclude as much entrapped air as possible.
- Fill the bottle just to the point of overflow. A convex or reverse meniscus must be formed above the top surface of the sample at the lip of the container.

(3) Sample bottles shall be tightly capped immediately after sample collection.

2.5.4. Total Organic Carbon (TOC)

(1) The aliquot for TOC analysis shall be collected in 250 mL amber glass bottles with screw caps with HCl added as a preservative.

(2) Sample bottles shall not overflow when filling in order to prevent the liquid preservative from being diluted or washed away.

2.5.5. UV 254

(1) The aliquot for UV254 analysis shall be collected in 250 mL amber glass bottles with screw caps unpreserved.

2.5.6. Trace metals and Hardness analyses

(1) The aliquots for trace metals and hardness analyses are combined and shall be collected in 1L acid washed plastic bottles with screw caps with HNO_3 added as a preservative.

(2) Sample bottles shall not overflow when filling in order to prevent the liquid preservative from being diluted or washed away.

2.5.7. Cyanide (CN^-)

(1) CN^- samples shall be collected in 1L amber plastic bottles with screw caps with NaOH added as a preservative.

(2) Sample bottles shall not overflow when filling in order to prevent the liquid preservative from being diluted or washed away.

2.5.8. Nitrite (NO_2^-)

(1) NO_2^- samples shall be collected in 1L plastic bottles with screw caps with $NaAsO_2$ added as a preservative.

(2) Sample bottles shall not overflow when filling in order to prevent the liquid preservative from being diluted or washed away.

2.5.9. IC Scan - Sulfate (SO_4^-), Total Dissolved Solids (TDS), Nitrate (NO_3^-), Chloride (Cl^-), and Fluoride (F^-)

(1) The aliquots for SO_4^-, TDS, NO_3^-, Cl^-, and F^-, analyses are combined in a bottle marked IC Scan and shall be collected in 2L plastic bottles with screw caps unpreserved.

2.5.10. Total Organic Halides (TOX)

(1) TOX samples shall be collected in 1L, amber glass bottles with screw caps (preservative: $Na_2S_2O_3$).

(2) Sample bottles shall be filled to exclude as much entrapped air as possible.
- Fill the bottle just to the point of overflow. A convex or reverse meniscus must be formed above the top surface of the sample at the lip of the container.

(3) Sample bottles shall be capped tightly immediately following sample collection.

2.5.11. Trihalomethanes (THM's) and Volatile Organic Chemicals (VOC's)

THM and other volatile compounds are found in chlorinated water supplies. They are produced as a result of chlorine reacting with organic material. Although quarterly sampling is specified in the New York State Sanitary Code, samples for THM analysis are collected each month. At least 25% of these samples must be obtained at distribution points reflecting maximum residence time; the remaining samples must be taken at representative distribution points. All samples per system per quarter must be collected on the same day. **Important note: some volatile organic compounds are also found in ambient air, especially near roadways. In addition to gasoline and exhaust fumes, VOC's are also present in paints, glues, solvents, etc. In order to minimize possible sample contamination:**

- **do not collect VOC samples after refueling vehicles without thoroughly washing hands. It is preferable that the vehicle be refueled after all VOC samples have been collected.**
- **do not collect VOC samples with the vehicle's engine running. Please turn the vehicle engine off prior to sampling for any volatile organic compound.**

If any unusual odors are observed at or around the sampling site, the supervisor must be notified immediately by radio or telephone, prior to sample collection. The water quality inspector shall perform an investigation to determine the source of the odor. All pertinent field observations must be documented on the blue/yellow and white cards.

(1) THM and VOC samples shall be collected in 40 mL glass vials with Teflon (TFE) lined screw caps, containing solid ascorbic acid as a preservative. Each vial shall be checked prior to sampling to ensure that the septum is inserted properly. The septum possesses two layers, a thin TFE liner and a thicker, silicone rubber layer. **The septum should be inserted with the TFE liner facing the interior of the vial**.

(2) Vials shall be placed in coolers with ice packs prior to sampling in order to minimize temperature fluctuations before and after the sampling event.

(3) Sample vials shall be filled completely, leaving no head space.

- Adjust the flow to a very low velocity (approximately 500mL per minute) to minimize the release of dissolved air and to prevent splashing of water into the sampling device.
- At low flow velocity and within 2 inches of the sample tap, fill the vials directly from the specified sampling device up to the neck of the vial. **If at all possible, do not pour into vials from another container**.
- Carefully add six (6) drops of 6N hydrochloric acid (HCl) to each vial. Do not overfill as this will dilute the preservative. **Acid dropper bottles shall be thoroughly cleaned each month and refilled with fresh 6N HCl.**
- Top off the vial with additional sample water carefully dispensed from the cap of the vial. A convex or reverse meniscus must be formed above the top surface of the sample at the lip of the vial.
- Immediately cap the vial with the TFE liner in contact with the sample. Invert the vial and tap it gently to release any trapped air.
- If air bubbles are present, open the vial(s), add more water and repeat the above procedure until no air bubbles are observed in the sample vial(s).
- Invert the vial several times in order to thoroughly mix the sample and preservative.

(4) All samples shall be collected in quintuplicate.

(5) Replicate samples shall be collected immediately after the original sample.

(6) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

(7) Sample vials shall be stored in a cooler with a sufficient amount of ice packs in order to begin the cooling process prior to delivery to Distribution Laboratory.

2.5.12. Other Chlorination Disinfection by-Products (CH & HAN)

(1) DBP samples shall be collected in 60 mL glass vials with Teflon (TFE) lined screw caps, containing solid phosphate buffer and $NaSO_3$ (for chloral hydrate analysis) or NH_4Cl (for all other analytes). As for THM/VOC analysis, each vial should be checked prior to sampling to ensure that the

septum is inserted properly. **The septum should be inserted with the TFE liner facing the interior of the vial**.

(2) Sample vials shall be filled completely, leaving no head space.

- At low flow velocity (approximately 500mL per minute), fill the vials just to the point of overflow. A convex or reverse meniscus must be formed above the top surface of the sample at the lip of the vial. Do not overfill as this will dilute the preservative.
- Immediately cap the vial with the TFE liner in contact with the sample. Invert the vial and tap it gently to release any trapped air.
- If air bubbles are present, open the vial(s), add more water and repeat the above procedure until no air bubbles are observed in the sample vial(s).
- Invert the vial several times in order to thoroughly mix the sample and preservative.

(3) All samples shall be collected in quintuplicate.

(4) Replicate samples shall be collected immediately after the original sample.

2.5.13. Haloacetic acids (HAA)

(1) HAA samples shall be collected in 250mL amber glass bottles with Teflon (TFE) lined screw caps, containing solid ammonium chloride preservative. Sample bottles shall be filled to the neck without overflow and dilution of the preservative.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.14. Nitrogen and Phosphorus pesticides

(1) Nitrogen and phosphorus pesticide samples shall be collected in two 1L amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ preservative. Sample bottles shall be filled to the neck without overflow and dilution of the preservative.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.15. Chlorinated pesticides and Herbicides

(1) Chlorinated pesticides and herbicide samples shall be collected in two 1L amber glass bottles with Teflon (TFE) lined screw caps, containing solid

$Na_2S_2O_3$ preservative. Sample bottles shall be filled to the neck without overflow and dilution of the preservative.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.16. Total PCB as decachlorobiphenyl

(1) PCB samples shall be collected in one 1L amber glass bottle with Teflon (TFE) lined screw caps, with no preservative. Sample bottles shall be filled to the neck.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.17. Phthalate esters, Chlordane, and Toxaphene

(1) Phthalate esters, chlordane, and toxaphene samples shall be collected in two 1L amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ preservative. Sample bottles shall be filled to the neck without overflow and dilution of the solid preservative. To the filled container, add 2mL of 6N HCl.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.18. Methylcarbamate pesticides

(1) Methylcarbamate pesticide samples shall be collected in 60 mL amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ and monochloroaceticacid buffer solution.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.19. Glyphosphate

(1) Glyphosphate samples shall be collected in 60 mL amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ preservative.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.20. Endothall

(1) Endothall samples shall be collected in 250 mL amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ preservative.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.21. Diquat and Paraquat

(1) Diquat and paraquat samples shall be collected in 1L amber bottles composed of black plastic Teflon containing solid $Na_2S_2O_3$ preservative. To the filled container, add 2mL of 10N H_2SO_4.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.22. Polyaromatic hydrocarbons

(1) Polyaromatic hydrocarbon samples shall be collected in two 1L amber glass bottles with Teflon (TFE) lined screw caps, containing solid $Na_2S_2O_3$ preservative. To the filled container, add 2mL of 6N HCl.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.5.23. Chlorinated acid herbicides

(1) Chlorinated acid herbicide samples shall be collected in 125 mL amber glass bottles with Teflon (TFE) lined screw caps, containing solid $NaSO_3$ (sodium sulfite) preservative. To the filled container, add 0.5mL of 6N HCl.

(2) Samples shall be accompanied by a trip blank throughout the duration of the sample run.

2.6. Autosampler

ISCO autosamplers are used to collect sequential samples at designated pre-finished sampling sites. Two ISCO model 6700 autosamplers are installed at the downtake chambers, sites 00003 and 00058, at Hillview Reservoir. A model 3700 is installed at the Croton system raw water, sites 00032 or 00036, at Jerome Park Reservoir, depending upon operating conditions. Please refer to Instruction A of this SOP for details on autosampler programming.

2.7. Chain of Custody

Upon arrival at Distribution Laboratory, the custody of the samples will be transferred to lab personnel in the receiving room. The barcode-labeled samples shall be organized on the counter top, each accompanied by a completed blue or green card. Please refer to Section 2.8. for procedures useful in properly completing each type of sample card. The barcode scanner data shall be uploaded into the Laboratory Information Management System (LIMS) located in the receiving room exclusively for this purpose. (Please see

Appendix H for complete instructions on using the Symbol Palm scanner.) Once the field data has been uploaded into LIMS, receiving room personnel shall then scan the barcode label on each sample bottle into the database and provide a printout of all the associated samples along with their respective field data for field / lab signatures, thus effectively transferring the custody of the samples. At no time shall the samples be left unattended prior to relinquishment.

If there are no receiving room personnel physically located in the receiving room upon arrival, it is imperative that an effort be made to locate someone. If any special samples are being delivered, separate notification shall be made to the specific lab department involved, i.e. BACT / Microbiology Department or VOC's / Organics Department.

2.8. Data Recording

2.8.1. Field dispatch cards - White cards

White Field Dispatch Cards are distributed daily and list the sampling sites designated on each sampling run. White cards shall be completed with the following information in accordance with Instruction B, attached to this procedure:

(a) BACT QC expiration date
(b) Time Out
(c) Time In
(d) Reason samples not collected
(e) Substitutes collected
(f) Route (include borough)
(g) Date of collection
(h) Numeric designator
(i) Time of collection
(j) Cond./pH meter serial #
(k) pH meter % slope N/A
(l) pH 7 buffer end of run
(m) Free chlorine residual
(n) O-phosphate concentration
(o) Specific conductance
(p) Field observations
(q) Water temperature
(r) field pH
(s) mileage
(t) Barcode scanner #

2.8.2. Compliance and surveillance

2.8.2.1. Blue cards

One blue card is submitted with each sample and acts as a permanent record of both field and laboratory data. Blue cards shall be completed with the following information in accordance with Instruction C, attached to this procedure:

(a) site designation
(b) borough
(c) collection date
(d) collection time
(e) collector's initials
(f) temperature, ^{o}C
(g) free chlorine residual
(h) o-PO_4 concentration
(i) pH value
(j) specific conductance value
(k) remarks - field observations
(l) check appropriate Sample Type box

2.8.2.2. Barcode scanner

Barcode scanners are used to identify the correct site locations and to store the field data during the regular sampling runs, seven (7) days a week. Barcode labels have been affixed to all sample stations which enables the scanners to be utilized at all compliance and surveillance sites. Please refer to Appendix H for complete barcode scanner operation information. The field data stored in the barcode reader includes:

(a) user initials and password
(b) vehicle # and mileage
(c) collection date/time
(d) all meter ID #'s
(e) residual chlorine std values
(g) free chlorine residual
(h) o-PO_4 concentration
(i) pH value
(j) specific conductance value
(k) temperature, ^oC

2.8.3. Complaint - Green cards

One green card is submitted with each immediate, 5 minute, and hydrant sample and acts as a permanent record of both field and laboratory data. Green cards shall be completed for each sample with the following information in accordance with Instruction D, attached to this procedure:

(a) complaint log #
(b) check **Complaint** in the sample type box
(c) consumer name (first, last)
(d) address (street, apt, zip code)
(e) borough
(f) location (kitchen, bathroom, bathtub, *etc*.)
(g) draw (immediate, 5 minutes flush, hydrant)
(h) date of collection
(i) time of collection
(j) collector's initials
(k) temperature, ^oC
(l) free chlorine residual
(m) o-PO_4 concentration
(n) remarks (nature of complaint/special analysis, plumbing condition, galvanized pipe, *etc*.)

The remarks section shall be used for requests for special analysis. Special analysis must be brought to the attention of both the Coordinator of Special Investigations and the applicable laboratory supervisors as soon as possible.

2.8.4. Special - Blue cards

Blue sample cards shall be completed for each sample with the following information in accordance with Instruction C, attached to this procedure:

(a) check **Special** in the sample type box and state what type study, *i.e. biofilm study, flushing, or distribution special investigation, etc.*
(b) borough
(c) sample location and description, detailed address and water main size
(d) date of collection
(e) time of collection
(f) collector/recorder initials
(g) temperature
(h) free chlorine residual
(n) remarks (field observations and any special analysis)

INSTRUCTION A
AUTOSAMPLER PROGRAMMING INSTRUCTIONS

TO START CURRENT PROGRAM

In order to start the current program for the autosamplers at Bx03 and Bx58 without any modifications, press the STOP key on the keypad, then use the arrow keys until **RUN "BX3-SPRING"**, *etc* blinks. (See screen 1) You may use either the UP-LEFT or DOWN-RIGHT key on the keypad. Press ENTER.

TO REVIEW/MODIFY PROGRAM

In order to review the current program press the STOP key on the keypad, then use the arrow keys until **PROGRAM** blinks. (See screen 1) Then, press ENTER. If you do not wish to change any of the specifications displayed on the current screen, press ENTER to advance to the next screen. If you wish to make changes, press one of the arrow keys until the appropriate field flashes, make the necessary changes, the press ENTER to advance to the next screen.

TO VIEW REPORT

If any problems occur, or if the autosampler malfunctions at any time during the program, it is important to view the diagnostic report. In order to view the report, press the STOP key on the keypad, then use the arrow keys until **VIEW REPORT** blinks. (See screen 1) Then, press ENTER. Select **VIEW DATA**, press ENTER, then select **SAMPLING REPORT**, press ENTER. The sampler will then begin displaying the report data. The sampler will automatically advance through the report items, displaying each item briefly. If you wish to move through the report manually, press STOP once, then use the arrow keys to advance through the report. At the end of the report, the sampler will display the last item until you press:

- the arrow keys to move forward or backward through the report manually,
- STOP, to return to the main menu, or
- ENTER, to start the automatic displays again.

It is very important to record any messages that this report provides. It will assist you in correcting the situation.

DISINFECTION OF SUCTION LINE

The sample suction line/strainer shall be replaced with a disinfected suction line/strainer on a weekly basis. In addition, in situ disinfection shall be performed one additional time per week when the SUMMER program is in effect. In order to disinfect the sample suction line in situ, remove the tray of 24 bottles from within the refrigerator, mix household bleach with water (1:4) in a quart bottle, and place the end of the distributor arm tubing below the level of the bleach/water solution in the quart bottle. For model 6700 samplers, press the STOP key on the keypad, then use the arrow keys until **OTHER FUNCTIONS** blinks. (See screen 1) Then, press ENTER. Select **MANUAL FUNCTIONS**, press ENTER, select **OPERATE PUMP**, press ENTER, select **PUMP REVERSE**, press ENTER. The sampler will begin to suck the bleach/water solution from the quart bottle. When the bottle is empty, press STOP (red key). Allow the bleach/water solution to stand in the tubing for one minute. After the one minute disinfection time, use the **PUMP FORWARD** feature to flush the suction line with a minimum of four quarts of water. When you have completed this procedure in its entirety, press STOP to return to the main menu (screen 1), then use the arrow keys until **RUN "BX3-SPRING"** *etc* blinks. Press ENTER. For model 3700 samplers, use the **PUMP FORWARD/PUMP REVERSE** keys on the keypad.

DISTRIBUTION SAMPLE COLLECTION SOP

Summer	03ATS		58ATS		32ATS or 36ATS
Water temps > 50°F	First sample at start time, then: **24 @ 30 minute intervals, 6 @ 60 minute intervals, 36 @ 9 minute intervals, 1 @ 600 minute interval**	.	First sample at start time, then: **24 @ 30 minute intervals, 6 @ 60 minute intervals, 36 @ 9 minute intervals, 1 @ 600 minute interval**		First sample at 1 minute delay, then: **48 @ 30 minute intervals**
Bottle 1	**12:00**	**Bottle 1**	**12:10**	**Bottle 1**	**10:00**
Bottle 2	**15:00**	**Bottle 2**	**15:10**	**Bottle 2**	**14:00**
Bottle 3	**18:00**	**Bottle 3**	**18:10**	**Bottle 3**	**18:00**
Bottle 4	**21:00**	**Bottle 4**	**21:10**	**Bottle 4**	**22:00**
Bottle 5	**0:00**	**Bottle 5**	**0:10**	**Bottle 5**	**2:00**
Bottle 6	**6:00**	**Bottle 6**	**6:10**	**Bottle 6**	**6:00**
Bottle 7	**6:54**	**Bottle 7**	**7:04**	**Ending**	**10:00**
Bottle 8	**7:48**	**Bottle 8**	**7:58**		
Bottle 9	**8:42**	**Bottle 9**	**8:52**		
Bottle 10	**9:36**	**Bottle 10**	**9:46**		
Bottle 11	**10:30**	**Bottle 11**	**10:40**		
Ending	**11:24**	**Ending**	**11:35**		
Spring / Fall	**03ATS**		**58ATS**		**32ATS or 36ATS**
Water temps < 50°F	First sample at start time, then: **18 @ 60 minute intervals, 17 @ 19 minute intervals, 1 @ 600 minute interval**		First sample at start time, then: **18 @ 59 minute intervals, 17 @ 20 minute intervals, 1 @ 600 minute interval**		First sample at 1 minute delay, then: **48 @ 30 minute intervals**
Bottle 1	**12:00**	**Bottle 1**	**12:10**	**Bottle 1**	**10:00**
Bottle 2	**18:00**	**Bottle 2**	**18:04**	**Bottle 2**	**14:00**
Bottle 3	**0:00**	**Bottle 3**	**23:58**	**Bottle 3**	**18:00**
Bottle 4	**6:00**	**Bottle 4**	**5:52**	**Bottle 4**	**22:00**
Bottle 5	**7:54**	**Bottle 5**	**7:52**	**Bottle 5**	**2:00**
Bottle 6	**9:48**	**Bottle 6**	**9:52**	**Bottle 6**	**6:00**
Ending	**11:23**	**Ending**	**11:32**	**Ending**	**10:00**
Winter	**03ATS**		**58ATS**		**32ATS or 36ATS**
Water temps < 45°F	First sample at start time, then: **12 @ 90 minute intervals, 11 @ 30 minute intervals, 1 @ 600 minute interval**		First sample at start time, then: **12 @ 90 minute intervals, 11 @ 30 minute intervals, 1 @ 600 minute interval**		First sample at 1 minute delay, then: **48 @ 30 minute intervals**
Bottle 1	**12:00**	**Bottle 1**	**12:10**	**Bottle 1**	**10:00**
Bottle 2	**21:00**	**Bottle 2**	**21:10**	**Bottle 2**	**14:00**
Bottle 3	**6:00**	**Bottle 3**	**6:10**	**Bottle 3**	**18:00**
Bottle 4	**9:00**	**Bottle 4**	**9:10**	**Bottle 4**	**22:00**
Ending	**11:30**	**Ending**	**11:40**	**Bottle 5**	**2:00**
				Bottle 6	**6:00**
				Ending	**10:00**
	Bx3 - each bottle is comprised of 6 suctions of 100 mls each		Bx58 - each bottle is comprised of 6 suctions of 100 mls each		Bx32 (36) - each bottle is comprised of 8 suctions of 75 mls each

DISTRIBUTION SAMPLE COLLECTION SOP

SPRING PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures between 45°F and 55°F)

1 RUN "BX3-SPRING"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX3-SPRING
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 1
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **6** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **18** AT **60** MINUTES
2. **17** AT **19** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

SPRING PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures between 45°F and 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **18** AT **60** MINUTES
2. **17** AT **19** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX3-SPRING"
AT: **12:00**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX3-SPRING"
AT 12:00 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

DISTRIBUTION SAMPLE COLLECTION SOP

SUMMER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures above 55°F)

1 RUN "BX3-SUMMER"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX3-SUMMER
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 1
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **9** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **24** AT **30** MINUTES
2. **6** AT 6**0** MINUTES
3. **36** AT **9** MINUTES
4. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY **6** SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

SUMMER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures above 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **24** AT **30** MINUTES
2. **6** AT 6**0** MINUTES
3. **36** AT **9** MINUTES
4. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX3-SUMMER"
AT: **12:00**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX3-SUMMER"
AT 12:00 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

WINTER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures below 45°F)

1 RUN "BX3-WINTER"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX3-WINTER
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 1
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **4** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **12** AT **90** MINUTES
2. **11** AT **30** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

DISTRIBUTION SAMPLE COLLECTION SOP

WINTER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 3 (DOWNTAKE 1)

(Water temperatures between 45°F and 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **12** AT **90** MINUTES
2. **11** AT **30** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX3-WINTER"
AT: **12:00**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX3-WINTER"
AT 12:00 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

DISTRIBUTION SAMPLE COLLECTION SOP

SPRING PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures between 45°F and 55°F)

1 RUN "BX58-SPRING"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX58-SPRING
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 2
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **6** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **18** AT **59** MINUTES
2. **17** AT **20** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

SPRING PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures between 45°F and 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **18** AT **59** MINUTES
2. **17** AT **20** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX58-SPRING"
AT: **12:10**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX58-SPRING"
AT 12:10 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

DISTRIBUTION SAMPLE COLLECTION SOP

SUMMER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures above 55°F)

1 RUN "BX58-SUMMER"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX58-SUMMER
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 2
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **11** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **24** AT **30** MINUTES
2. **6** AT 6**0** MINUTES
3. **36** AT **9** MINUTES
4. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

DISTRIBUTION SAMPLE COLLECTION SOP

SUMMER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures above 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **24** AT **30** MINUTES
2. **6** AT 6**0** MINUTES
3. **36** AT **9** MINUTES
4. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX58-SUMMER"
AT: **12:10**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX58-SUMMER"
AT 12:10 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

DISTRIBUTION SAMPLE COLLECTION SOP

WINTER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures below 45°F)

1 RUN "BX58-WINTER"
PROGRAM
VIEW REPORT
OTHER FUNCTIONS

2 PROGRAM NAME:
BX58-WINTER
CHANGE
YES **NO**

3 SITE DESCRIPTION:
DOWNTAKE 2
CHANGE
YES **NO**

4 SELECT UNITS FOR LENGTH:
ft m

5 RAIN DATA STORAGE INTERVAL IN MINUTES
1 2 5
10 15 30

6 NUMBER OF BOTTLES
1 2 4 8 12 **24**

7 BOTTLE VOLUME IS
1000 ml (300 - 30,000)

8 SUCTION LINE LENGTH IS **25** ft
(3 - 99)

9 **AUTO SUCTION HEAD**
ENTER HEAD

10 **0** RINSE CYCLES
(0 - 3)

11 RETRY UP TO **1** TIMES
WHEN SAMPLING
(0 - 3)

12 ONE-PART PROGRAM
TWO-PART PROGRAM

13 24 BOTTLES AVAILABLE
ASSIGN BOTTLES
1 THRU **4** TO
PART 'A' (1 - 23)

BEGINNING PART 'A'
(wait until screen changes)

14 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

15 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT START TIME,
THEN... (screen changes)

16 QUANTITY AT INTERVAL
1. **12** AT **90** MINUTES
2. **11** AT **30** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

17 **1** BOTTLES PER SAMPLE EVENT (1 - 6)

18 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

19 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

20 RUN CONTINUOUSLY?
YES **NO**

21 SAMPLE VOLUME
100 ml (10 - 250)

22 ENABLE ON:
RAIN **NONE**

WINTER PROGRAM FOR ISCO AUTOSAMPLER AT SITE 58 (DOWNTAKE 2)

(Water temperatures between 45°F and 55°F)

23 ONCE ENABLED,
STAY ENABLED
YES NO

24 SAMPLE AT ENABLE?
YES NO

25 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'A'
BEGINNING OF PART 'B'

26 UNIFORM TIME PACED
FLOW PACED
EVENT PACED
NONUNIFORM TIME

27 NONUNIFORM TIME:
CLOCK TIMES
INTERVALS IN MINUTES
RANDOM INTERVALS

FIRST SAMPLE AT
START TIME,
THEN... (screen changes)

28 QUANTITY AT INTERVAL
1. **12** AT **90** MINUTES
2. **11** AT **30** MINUTES
3. **1** AT **600** MINUTES

(After this screen, it is necessary to press **ENTER** 5x, then press **STOP** (red key), in order to advance to the next screen)

29 **1** BOTTLES PER
SAMPLE EVENT (1 - 6)

30 SWITCH BOTTLES ON:
NUMBER OF SAMPLES
TIME

31 SWITCH BOTTLES EVERY
6 SAMPLES (1 - 50)

32 RUN CONTINUOUSLY?
YES **NO**

33 SAMPLE VOLUME
100 ml (10 - 250)

34 ENABLE: RAIN "A"
DONE **NONE**

35 ONCE ENABLED,
STAY ENABLED
YES NO

36 SAMPLE AT ENABLE?
YES NO

37 PAUSE RESUME
1. HH:MM HH:MM
2. HH:MM HH:MM
CLEAR **DONE**

END OF PART 'B'

38 NO DELAY TO START
DELAYED START
CLOCK TIME

39 START "BX58-WINTER"
AT: **12:10**

40 SELECT DAY(S):
SU MO TU WE TH FR SA
(all flashing)
DONE

41 FIRST VALID DAY IS:
(**DATE**)

42 PROGRAMMING COMPLETE
RUN THIS PROGRAM NOW?
YES NO

43 START "BX58-WINTER"
AT 12:10 DAY, DATE
(**CURRENT TIME, DAY, DATE**)

Bx32 (GH5) Autosampler Protocol (Approximate start time is 10:00 am)

To restart program:

1. Press **STOP** to end the current program. The screen will display "*PROGRAM HALTED (time, date)*".
2. Bring bottles in position numbers 1, 3, 5, 7, 9, and 11 back to the lab for chemistry analysis. Discard the contents of bottles 2, 4, 6, and 8 and replace in the carousel. **Bottles in position numbers 10 and 12 should be a sterile bottles with thiosulfate. Bring these bottles back to the lab for BACT analysis.**
3. Pour 40 mls from each chemistry bottle into a 250 ml **acid rinsed** trace metal container and mix thoroughly. If sampling for dissolved Fe/Mn, filter 50 mls from this trace metal bottle into a 50 ml test tube. Preserve both with HNO_3 upon return to the lab.
4. Replace 12 bottles in autosampler, **including six fresh chemistry bottles in positions 1, 3, 5, 7, 9, and 11, and two fresh sterile bottles with thio in positions 10 and 12.**
5. Press **START SAMPLING** to start program. The screen will display *"START or RESUME SAMPLING PROGRAM?"*. Choose *START* by pressing **ENTER / PROGRAM.** (*START* should be flashing in order to select. Use the arrow left and right keys to select.)
6. The screen will then display *"START SAMPLING AT BOTTLE 1 (1-23)"*. Press **ENTER / PROGRAM** to select.
7. The final screen should read *"1 of 8, BOTTLE 1-2 AT (start time, current time)"*. The start time should be within one minute of the current time. There is a one minute delay to start time.
8. Submit six 1 liter plastic autosampler bottles to lab for chemistry analyses (10am, 2pm, 6pm, 10pm, 2am, 6am), 2 thio bottles for BACT analysis, one 250 ml trace metals container for total Fe/Mn, and one 50 ml plastic tube for dissloved Fe/Mn. Yellow card 1 - “Chem+total/dissolved Fe/Mn composite”, cards 2 - 4, “Chem only”, cards 5 & 6 - “Chem+BACT”,

To review program:

1. At "*PROGRAM HALTED (time, date)*" screen, press **ENTER / PROGRAM (E/P).** Pressing (E/P) each time will enable you to move to the next screen.
2. Screen will read *"PROGRAM or CONFIGURE SAMPLER?"*. Select *PROGRAM* by pressing **E/P.**
3. *"TIME PACED SAMPLING"*. **E/P**
4. *"UNIFORM TIME INTERVALS"*. **E/P**
5. *"SAMPLE EVERY 0 HOURS"*. **E/P**
   "SAMPLE EVERY 30 MINUTES". **E/P**
6. *"2 BOTTLE PER SAMPLING EVENT"*. **E/P**
7. *"CHANGE BOTTLES BASED ON SAMPLES"*. **E/P**
8. *"CHANGE BOTTLES EVERY 8 SAMPLES"*. **E/P**
9. *"SAMPLE CONTINUOUSLY? YES or NO"*. **E/P**
10. *"SAMPLE VOLUME? 75 MLS."* **E/P**
11. *"CALIBRATE SAMPLE VOLUME? YES or NO"*. **E/P**
12. *"ENTER START TIME? YES or NO"*. **E/P**
13. *"PROGRAMMING SEQUENCE COMPLETE"*.
14. *"STANDBY..."*

INSTRUCTION B
WHITE FIELD DISPATCH CARD

A - Date of Thios - enter the QA/QC expiration date found on each individual BACT bottle.
B - Cond. Meter# - record the serial number of the conductivity meter used.
C - pH Meter#- record the serial number of the pH meter used.
D - pH 7 (end of run) - record the reading of the pH 7 buffer at the conclusion of the run.
E - Odometer In/Out/Mileage - record the total mileage accumulated on the run.
F - Time Out - enter the vehicle departure time from the premises, as the radio check is performed.
G - Time In - enter the time the samples have been submitted in the receiving room. This time should reflect when the transfer of samples to lab personnel has been completed.
H - Samples Not Collected - record any sample(s) which were not collected and the reason why.
I - Substitutes collected - record any sample(s) not collected from the main stop and the reason why.
J - Date - enter the date, including year, of collection.
K - Route - enter the name of the route (*i.e. BK, XM, etc*).
L - SS# - enter the numeric designator for each sample site.
M - Time - enter the specific time, including AM/PM, each sample is collected.
N - Temp - enter the temperature in EC.
O - Residual Chlorine - enter the free chlorine residual.
P - O-PO_4 - enter the o-phosphate residual.
Q - Specific Cond. - enter the specific conductance.
R - pH - enter the field pH.
S - Barcode scanner # - enter the ID# of the scanner used.

Date of Thios: (A)

Cond. Meter#: (B)

pH Meter #: (C)

pH 7 (end of run): (D)

Barcode scanner #: (S)

Name:

Date:

Odometer in:

Odometer out:

Mileage: (E)

Time Out: (F) **Time In:** (G)

Lunch :

Samples not collected: (H)

Substitutes collected: (I)

Field Observations:

Borough: **Route:** (K) **Date:** (J)

Site Index	Time	Temp	Residual Cl^-	O-PO4	Sp. Cond.	pH
(L)	(M)	(N)	(O)	(P)	(Q)	(R)

Notes:

***Surveillance**

INSTRUCTION C
BLUE SAMPLE CARD

A - Source of Sample (Address, *etc.*) - the numerical designator and location description as indicated on the Sampling Site Plan should be written legibly. The location of substitute hydrants shall be described in full.

B - Sample Type - check appropriate box: Compliance, Surveillance, Prefinished, Autosampler, Resample, or Special.

C - Borough - circle the appropriate borough: Bronx, Bx; Brooklyn, Bklyn; Manhattan, Mn; Queens, Qns; Staten Island, SI.

D - Date - enter the date that the sample is being collected.

E - Time - enter the time, including AM/PM that the sample is being collected.

F - Collector - enter the initials of the water quality inspector(s) responsible for securing the samples.

G - Temperature - record the sample water temperature in EC.

H - Res. Chlorine, mg/L - record the free chlorine residual as per colorimetric methods.

I - Phosphate, mg/L - record the o-phosphate residual as per colorimetric methods.

J - pH - record the field pH.

K- Specific conductance - record the field specific conductance in µS/cm.

L - Remarks: (Observations by Field Inspector) - enter any observations which may compromise/interfere with the integrity of the sample, i.e. *street construction.* Also indicate any special analytical requests, or frequency for special sampling, *i.e. Monthly, Quarterly, alkalinity/metals.*

WS 303c (1999) THE CITY OF NEW YORK
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
DRINKING WATER QUALITY CONTROL

Report of Analytical Examination

Sample No.

* Time: **(E)**

* Date: **(D)**

* Collector: **(F)**

Sample Type: [ ] Compliance [ ] Resample
(B) [ ] Surveillance [ ] Special
[ ] Auto sampler [ ] Prefinished

Borough: 1) Bx, 2) Bklyn, 3) Mn, 4) Qns, 5) S.I. **(C)**

*** Source of Sample (Address *etc* .)**

(A)

* Temperature, °C	**(G)**		CO_2, mg/L			
* Res. Chlorine, mg/L	**(H)**		T-Phosphate, mg/L			
* o-Phosphate, mg/L	**(I)**		Sulfate, mg/L			
* Spe.Cond., µmho/cm	**(K)**		Nitrate, mg/L			
* pH	**(J)**		Nitrite, mg/L			
Turbidity, NTU			Ammonia, mg/L			
Color, u			Copper, mg/L			
pH			Iron, mg/L			
Spe.Cond., µmho/cm			Manganese, mg/L			
Fluoride, mg/L			Zinc, mg/L			
Odor			Lead, mg/L			
Chloride, mg/L			SiO_2, mg/L			
Hardness, mg/L						
Alkalinity, mg/L						

* Remarks: (Observations by Field Inspector)

(L)

Analysis Category

Colonies from Membrane Filter Technique (Bacteriology)

Type	No.	Presumptive	Confirmed	EC- Mug
Typical	24			
	48			
Atypical	24			
	48			

Coliform /100 mL | *E.Coli* /100 mL

HPC/mL-PCA | R_2A

Colilert | Coliform | *E.Coli*

Microscopic Exam.

Organisms s.u _____ Amorphous Matter s.u _____

Important Genera

Sec.Sup.Comments:

Comments: (Lab Director)

Dir. of Laboratory:

Checked by: Date:

* To Be Filled In by Field Inspector

DISTRIBUTION SAMPLE COLLECTION SOP

INSTRUCTION D
GREEN SPECIAL INVESTIGATION CARD

A - Borough - check the appropriate borough in which the consumer resides.
B - Sample type - check the appropriate draw: Immediate, 5-minute, hydrant, hydrant resample.
C - Sample location - check the appropriate tap location: kitchen sink, bathroom sink, other. If "other" is checked, please specify, be as detailed as possible.
D - Consumer's name, first and last.
E - Consumer's address, including street #, apt #, and zip code. The exact location of the background hydrant shall also be described in full as per SOP guidelines.
F - Consumer's log number.
G - Initials - enter the initials of the field inspector collecting the sample.
H - Date Collected - enter the date, including the year, the sample was collected.
I - Time - enter the exact time, including AM/PM, the sample was collected.
J - Temp - enter the temperature of the sample water in EC.
K - Res Chlorine - enter the free residual chlorine as per colorimetric methods.
L - Phosphate - enter the o-phosphate residual as per colorimetric methods.
M - pH - enter the field pH as per potentiometric methods.
N - Specific conductance - record the field specific conductance in µS/cm.
O - Field Observations: (by Field Inspector) - enter nature of the complaint as well as special analytical requests. Any field observations shall also be listed (*i.e.* galvanized plumbing, filters, construction, number of stories of building, presence of roof tank, residential/commercial, dead end location *etc.*,)

THE CITY OF NEW YORK	BOROUGH **(A)**	SAMPLE TYPE **(B)**	SAMPLE LOCATION **(C)**
DEPARTMENT OF ENVIRONMENTAL PROTECTION	[ ] BRONX	[ ] IMMEDIATE	[ ] KITCHEN SINK
BUREAU OF WATER SUPPLY	[ ] BROOKLYN	[ ] 5-MINUTE	[ ] BATHROOM SINK
DRINKING WATER QUALITY CONTROL	[ ] MANHATTAN	[ ] HYDRANT	[ ] OTHER (specify):
	[ ] QUEENS	[ ] HYDRANT RESAMPLE	
Report of Analytical Examination	[ ] STATEN ISLAND		

CONSUMER'S INFORMATION	COLLECTOR'S INFORMATION		
NAME **(D)**	INITIALS	DATE	TIME
	(G)	**(H)**	**(I)**
ADDRESS **(E)**			
LOG NO **(F)**			

Chemistry			Bacteriology (Membrane Filter Technique)		
Temperature (°C)	**(J)**		Type No.	Presumptive	Confirmed
Res. Chlorine (mg/L)	**(K)**		Typical	24	
Phosphate (mg/L)	**(L)**			48	
Turbidity (NTU)			Atypical	24	
Color (u)				48	
pH	**(M)**		Coliform /100 mL		
Spec.Cond.(umho/cm)	**(N)**		Bacteria/mL 35 °C 48hrs		

FIELD OBSERVATIONS:
(O)

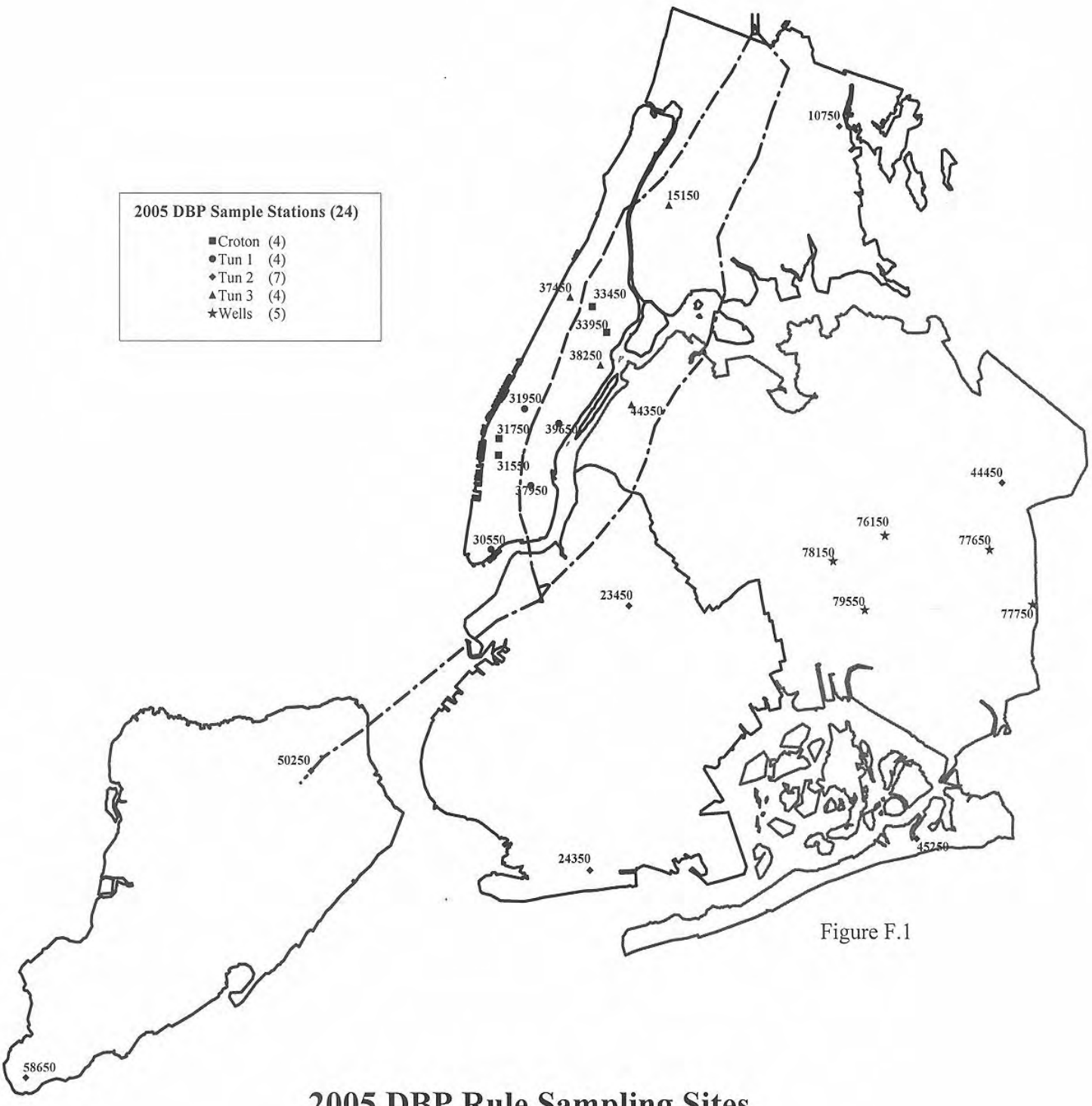

Figure F.1

2005 DBP Rule Sampling Sites

Table F. 1
2005 Special Chemistry and Compliance DBP Sampling Sites

Index	Boro	System	Tunnel	Location	Remarks
31950	Mn	Catskill	Tun 1	SS - IFO 313 N/S W 47th St, 2nd SS W/O 8th Ave, 12 inch	
39650	Mn	Catskill	Tun 1	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12 inch	
37950	Mn	Catskill	Tun 1	SS - IFO 325 N/S E 12th St, 2nd SS E/O 2nd Ave, 12 inch	
30550	Mn	Catskill	Tun 1	SS - E/S Water St, 1st SS S/O Maiden La (IFO Wall St Plaza), 20 inch	Longest retention time
10750	Bx	Delaware	Tun 2	SS - N/S Bartow Ave, 2nd SS W/O Co - op City Blvd, 20 inch	
23450	Bk	Delaware	Tun 2	SS - N/S Jefferson Ave, 2nd SS W/O Lewis Ave, 20 inch	
24350	Bk	Delaware	Tun 2	SS - W/S Brighton 11th St, 2nd SS S/O Cass Pl, 12 inch	
44450	Qn	Delaware	Tun 2	SS - IFO 223-03 N/S Manor Rd, 2nd SS W/O 229th St, 12 inch	
45250	Qn	Delaware	Tun 2	SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Dr, 12 inch	Longest retention time
50250	SI	Delaware	Tun 2	SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20 inch	
58650	SI	Delaware	Tun 2	SS - IFO 510 W/S Main St, 2nd SS S/O Hylan Blvd, 12 inch	Longest retention time after rechlorination
15150	Bx	Cat/Del	Tun 3	SS - IFO 1420 E/S Grand Concourse, 1st SS S/O E 171st St, 12 inch	
37450	Mn	Cat/Del	Tun 3	SS - IFO 526 N/S W 111st St, 2nd SS W/O Amsterdam Ave, 12 inch	
38250	Mn	Cat/Del	Tun 3	SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12 inch	
44350	Qn	Cat/Del	Tun 3	SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12 inch	Longest retention time
33450	Mn	Croton		SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12 inch	
33950	Mn	Croton		SS - N/S E 104th St, 2nd SS E/O 3rd Ave, 12 inch	
31550	Mn	Croton		SS - S/S W 18th St, 2nd SS E/O 9th Ave (opposite 329), 12 inch	
31750	Mn	Croton		SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12 inch	Longest retention time
76150	Qn	Wells	*	SS - IFO 160-20 S/S 85th Ave, betw 160th & 161st Sts	Supplied by W50/50A
77650	Qn	Wells	*	SS - W/S 207th St, Across 110-52 207th St	Supplied by W05/05A
78150	Qn	Wells	*	SS - IFO 85-31 E/S 120th St, 2nd SS N/O Hillside Ave	Supplied by W43A
79550	Qn	Wells	*	SS - W/S 127th St, 1st SS S/O 109th Ave, across 109-21 127th St	Supplied by W32
77750	Qn	Wells	*	SS - W/S 237th St, across 120-11 237th St, between 120th and 121st Ave	Supplied by W23A, longest retention for well supply area

* Special chemistry and DBP sample sites in the groundwater area of Queens may be substituted depending upon groundwater operations which may render certain wells to be out of service at random times.

Table F. 2
2005 Special Chemistry and DBP Organic Parameters

Parameter	Holding time	Frequency	EPA 500 series				Preservation	Bottle Size and type
			Ref #	Method	Page	Description		
THMs, volatile halocarbons and aromatics	14 days	Monthly	R-92/129	**524.2**	5	Purge and trap GC/MS	25 *mg* ascorbic acid. To filled samples add 5 drops 6N HCl & cool to 4 °C, protect from light	40 *ml* glass PTFE septum (5 per site) + 1 field blank per sample run.
Haloacetic acids (HAA)	14 days	Quarterly	R-92/129	**552.2**	143	SPE extraction, methylation GC/ECD	2.5 *mg* ammonium chloride cool to 4 °C, protect from light	1 x 250 *ml* amber glass, w/TFE-lined cap per sample site, plus 1 field blank per sample run.
Chloropicrins, Halonitriles, Haloketones	14 days	Quarterly*	11-95	**551.1**		Extraction to MTBEGC/ECD	1 *g* rinsed solid phosphate buffer Including NH_4Cl & cool @ 4 °C	60 *ml* glass PTFE septum 5 per site, plus 1 field blank per sample run.
Chloral Hydrate	14 days	Quarterly*	11-95	**551.1**		Extraction to MTBEGC/ECD	1 *g* rinsed solid phosphate buffer Including $Na_2S_2O_3$ & cool @ 4 °C	60 *ml* glass PTFE septum 5 per site plus 1 field blank per sample run.

**** Entry points only***

Table F. 3
2005 Annual Entry Point Parameters

Parameter	Holding time	EPA 500 series			Preservative	Bottle Size and type
		Ref #	Method	Description		
Nitrogen and phosphorus pesticides	14 days until extraction; extract 14 days	EPA/600/5-95/131	**507 rev 2.1**	Solid phase extraction, GC/NPD	80 *mg* $Na_2S_2O_3$, cool to 4 °C, protect from light	Two 1-*liter* glass, w/TFE-lined top plus 1 field blank per sample run
Total PCB as decachloro-biphenyl	14 days to extract, then 30 days to analyze	EPA/600/4-88/039	**508a**	SPE extraction and methylation, GC/MS	Cool to 4 °C	1 *liter* glass w/TFE-lined caps plus 1 field blank per sample run
Chlorinated pesticides and herbicides	14 days until extraction; extract 30 days	EPA/600/5-95/131	**508.1 rev 2.0**	Solid phase extraction, GC/ECD	For cyanazine only: use no preservative. For other analytes: use 50 *mg* $Na_2S_2O_3$, add 3 *ml* 6N HCl to sample,add 1*ml* 6N HCl to sample, cool to 4 °C, protect from light	Two 1-*liter* glass, w/TFE-lined top plus 1 field blank per sample run
Phthalate esters, chlordane toxaphene	for carboxin, diazinon, disulfoton, disulfoton sulfoxide, fenamiphos and terbufos extract immediately, For other analytes 7 days to extract, then 30 days to analyze	EPA/600/5-95/131	**525.2 rev 2.0**	SPE extraction GC/MS	100 *mg* $Na_2S_2O_3$. Add 3 *ml* 6N HCl, cool to 4 °C, protect from light	Two 1-*liter* glass, w/TFE-lined top plus 1 field blank per sample run
Methylcarbamate pesticides	28 days	EPA815-B-01-002	**531.2 rev 1.0**	Post column derivativization HPLC / fluoresence	4.8 *mg* $Na_2S_2O_3$, 1.8 *ml* monochloroacetic acid (MCA) buffer, cool to 4 °C	60 *ml* glass PTFE septum vial plus 1 field blank per sample run
Diquat and paraquat	7 days to extract, then 21 days to analyze	EPA/600/R-92/129	**549.2 rev 1.0**	SPE extraction HPLC / DAD	50/100 *mg* $Na_2S_2O_3$. To sample add 3 *ml* of 10N H_2SO_4, cool to 4 °C, protect from light	500 *ml* or 1 *liter* amber bottles (PTFEor silanized glass) plus 1 field blank per sample run
Glyphosate	14 days	EPA/600/4-90/020	**547**	Post column derivativization HPLC / fluoresence	4.8 *mg* $Na_2S_2O_3$, cool to 4 °C, protect from light	60 *ml* glass w/TFE-lined siliconesepta plus 1 field blank per sample run
Endothall	7 days to extract, then 14 days to analyze	EPA/600/R-92/129	**548.1 rev 1.0**	SPE extraction GC/MS	20 *mg* $Na_2S_2O_3$. Cool to 4 °C, protect from light	250 *ml* amber glass w/TFE-lined cap plus 1 field blank per sample run
Polyaromatic hydrocarbons	7 days to extract, then 40 days to analyze	EPA/600/4-90/020	**550.1**	SPE extraction HPLC / UV / fluoresence	100 *mg* $Na_2S_2O_3$, add 3 *ml* 6 NHCl, cool to 4 °C, protect from light	Two 1-*liter* glass, PTFE-lined cap plus 1 field blank per sample run.
Chlorinated acids	14 days	EPA/600/4-90/020	**555 rev 1.0**	SPE extraction HPLC / DAD	6 *mg* Na_2SO_3. To sample add 0.5 *ml* 6N HCl. Cool to 4 °C, protect from light	125 *ml* glass PTFE lined cap plus 1 field blank per sample run
Dioxin (2,3,7,8-TCDD) [(1)]	one year	EPA821-B-94-005	**1613**	liquid/liquid extraction or SPE, isotope-dilution high resolution GC.MS	80 mg Na2S2O3, Cool to 4 °C, protect from light	Two 1-*liter* amber glass, PTFE-lined cap plus 1 field blank per sample run
Radionuclides:	six months				HNO_3 to pH < 2	One 2-liter polypropylene, plus 1 field blank per sample run
Gross alpha/beta		EPA 900.0	**9135**			
Radium 228 (2)		EPA 904.0	**7040**			
Asbestos [(2)]	48 hours	EPA/600/4-83-043	**100.2**	filtration, tranmission electron microscopy	Cool to 4 °C, protect from light	Two 1-*liter* polypropylene, plus 1 field blank per sample run

(1) Dioxin to be analyzed every 18 months until an exemption is received.

(2) Asbestos and radionuclides to be analyzed every 9 years.

Note: Due to vehicle space constraints, all samples will be transported in crates at ambient temperatures.

Table F. 4
2005 Monthly Special Chemistry Inorganic Parameters

No.	Bottle Name	Preservation	Bottle Size & Type	Parameter	Holding Time	Standard Methods (19th Ed.)		
						Method No.	Page #	Analytical Methods
1	**Daily**	Cool, 4 °C	500 *ml* wide mouth plastic	fluoride, pH, specific conductance, color, turbidity	28 days	4500 F^-, C	4-61	Fluoride Selective Electrode
2	**Alkalinity**	**No Air**, Cool, 4 °C	1 *liter*, plastic	Alkalinity	14 days	2320 B	2-26	Titration
3	**IC Scan**	Cool, 4 °C	2 *liter*, plastic	Chloride	28 days	EPA 300A	4-49	Ion Chromatography
				Nitrate	48 hours	EPA 300A		Ion Chromatography
				Sulfate	28 days	EPA 300A	4-134	Ion Chromatography
				TDS	7 days	2540 C	2-55	Gravimetric, dried at 180 °C
				Silica	28 days	4500-SiD	4-119	Spectrophotometric, l=410 *nm*
				LAS	2 days	5540C	5-36	Spectrophotometric, l=652 *nm*
4	**UV_{254}**	Cool, 4 °C	250 *ml*, amber glass	UV_{254}	48 hours	5910 B	5-60	Spectrophotometric, l=254 *nm*
5	**Cyanide**	5 *ml* 20% NaOH/1*liter*, Cool, 4 °C	1 *liter* wide mouth amber plastic	Cyanide	14 days	4500-CN^-, F	4-26	Cyanide Sele. Electrode
6	**Nitrite**	1 *ml* 1% $NaAsO_2$/1 *liter*, Cool, 4 °C	1 *liter*, plastic	Nitrite	2 days	4500-$NO_2^=$, B	4-85	Colorimetric, l=540 *nm*
7	**TOC**	1 *ml* 50% HCl / 250 *ml*, Cool, 4 °C	250 *ml* amber glass	TOC	7 days	5310 B	5-11	Combustion-Infrared
8	**TOX**	**No Air**, 5 *mg* $Na_2S_2O_3$/L 2.5 *ml* Con. HNO_3/L after collection, Cool, 4 °C	1 *liter* amber glass	TOX	14 days	5320B	5-22	Adsorption pyrolysis titrimetic
9	**Metals**	10 *ml* 50% HNO_3/2 *liter*	1 *liter*, plastic	Hg (turbidity >1 NTU)	28 days	3500-Hg	3-19	Cold Vapor A.A. Method
				Ca, Fe, K, Li, Mg, Na, Sr	6 mo.	EPA 200.7		ICP-OES
				Be, Al, Cr, Mn, Ni, Cu, Zn, As, Se, Ag, Cd, Sb, Ba, Tl, Pb, Hg		EPA 200.8		ICP-MS
				Hardness		2340 C	2-36	EDTA Titrimetric Method

Note: Due to vehicle space constraints, all samples with the exception of "Bottle #1 - Daily" will be transported in crates at ambient temperatures. Unless specified, all bottles shall have narrow necks.

Table F. 5
2005 Field Instrumentation

Manufacturer	Model	Parameter	Method No.	Analytical Methods	Service Date	Specifications			
						Resolution	Precision (95% confidence interval)	Range	Accuracy
HACH	Pocket Colorimeter™	ortho-Phosphate	8048 (equivalent to Standard Method 4500P - E)	PhosVer 3 (Ascorbic acid) Method	January-93	0.01 mg/L	NA	0 to 3.00 mg/L PO_4^{3-}	NA
HACH	Pocket Colorimeter™II	Chlorine, Free	8021 (equivalent to Standard Method 4500Cl - G)	DPD Method*	September-04	0.01 mg/L	1.00 ± 0.05 mg/L	0.02 to 2.00 mg/L Cl_2	NA
		Chlorine, Total	8167 (equivalent to Standard Method 4500Cl - G)	DPD Method*					
YSI	Model 63	Temperature	Standard Method 2550B	Micro-processor based, digital meter with attached probe	March-03	0.01°C	NA	-5 to +75°C	± 0.1°C ± 1 LSD
		pH	Standard Method 4500H B			0.01 pH units	NA	0 to 14 pH units	± 0.1 pH unit w/i ± 10°C of calibration temperature
									± 0.2 pH unit w/i ± 20°C of calibration temperature
		Specific Conductance	Standard Method 2510B			0.1 µS/cm	NA	0 to 200 mS/cm	± 0.5% full scale
Symbol	SPT 1800	Palm Scanner			March-03	NA			

APPENDIX G

VEHICLE INFORMATION

Table G.1 2005 Bronx Gas-Card Station Locations

NYC / DCAS / DMSS / OFA / FUEL CARD UNIT - Authorized Fueling Sites - (EFFECTIVE - AUGUST 2, 2005) FOR ASSISTANCE CALL (212) 669-4223 / 4219						
REF. #	**SITE**	**ADDRESS**	**STATUS**	**BOROUGH**	**HOURS**	**PRODUCTS**
X2	G & V SHELL	3355 Tremont Av	A	Bronx	24	Gas
X3	GETTY /LUKOIL	2590 Bailey Av	A	Bronx	24	Gas
X4	GETTY /LUKOIL	3031 Bailey Av	A	Bronx	24	Gas
X5	GETTY /LUKOIL	3400 Baychester Av	A	Bronx	24	Gas
X7	GETTY /LUKOIL	5510 Broadway	A	Bronx	24	Gas
X8	GETTY /LUKOIL	5805 Broadway	A	Bronx	6 to 10	Gas
X9	GETTY /LUKOIL	6571 Broadway	A	Bronx	24	Gas
X11	GETTY /LUKOIL	1895 Bruckner Bl	A	Bronx	24	Diesel / Gas
X12	GETTY /LUKOIL	1915 Bruckner Bl	A	Bronx	24	Diesel / Gas
X13	GETTY /LUKOIL	780 Burke Av	A	Bronx	6 to 12	Gas
X14	GETTY /LUKOIL	1810 Cross Bronx Exp	A	Bronx	24	Gas
X15	GETTY /LUKOIL	2173 Grand Concourse	A	Bronx	24	Diesel / Gas
X16	GETTY /LUKOIL	1413 E Grant Hwy	A	Bronx	24	Gas
X17	GETTY /LUKOIL	1133 Jerome Av	A	Bronx	24	Gas
X19	GETTY /LUKOIL	600 Pelham Parkway S	A	Bronx	24	Diesel / Gas
X21	GETTY /LUKOIL	2400 E Tremont Av	A	Bronx	6 to 12	Gas
X22	GETTY /LUKOIL	3305 E Tremont Av	A	Bronx	24	Diesel / Gas
X23	GETTY /LUKOIL	4643 Third Av	A	Bronx	24	Gas
X24	GETTY /LUKOIL	3083 Webster Av	A	Bronx	24	Gas
X26	GETTY /LUKOIL	2453 Westchester Av	A	Bronx	24	Gas
X28	GETTY /LUKOIL	1220 E 233rd St	A	Bronx	24	Gas
X29	GETTY /LUKOIL	902 Soundview Av	A	Bronx	24	Gas
X32	GULF	1255 Gun Hill Rd	A	Bronx	24	Diesel / Gas
X33	HESS	1260128 Bruckner Bl	A	Bronx	24	Gas
X34	HESS	285 E 233rd St	A	Bronx	24	Diesel / Gas
X35	HESS	1610 Eastchester Rd	A	Bronx	6 to 12	Diesel / Gas
X36	HESS	766 Southern Bl	A	Bronx	24	Gas
X37	HESS	1596 White Plains Rd	A	Bronx	24	Gas
X38	HESS	1210 Webster Av	A	Bronx	24	
X39	HESS	610 Neried Av	A	Bronx	24	Diesel / Gas
X41	SUNOCO	880 Garrison Av	A	Bronx	24	Diesel / Gas
X43	OAK POINT	1317 Oak Point Av	A	Bronx	24	Gas

Figure G.1 2005 Bronx Gas-Card Station Locations

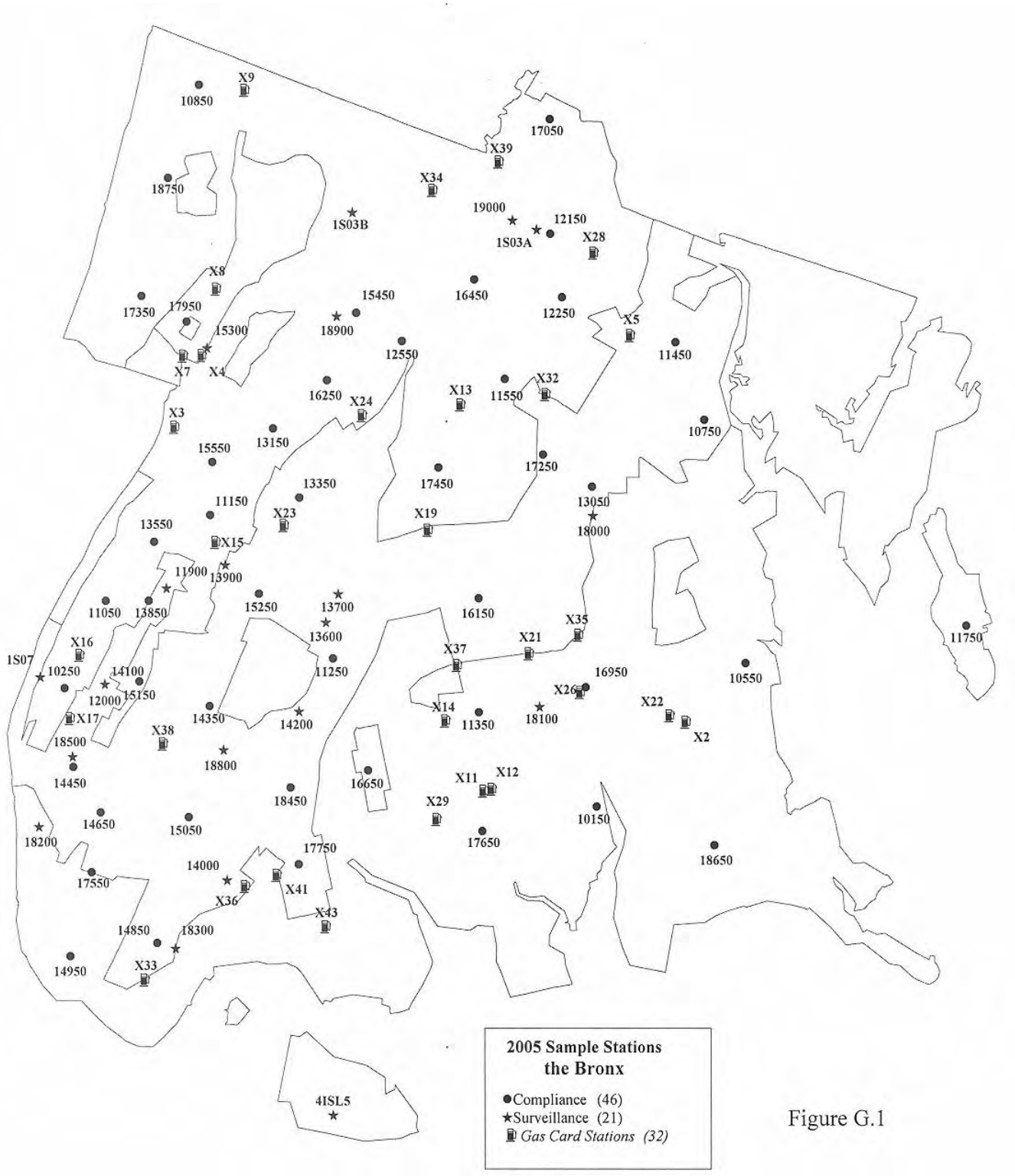

Figure G.1

Table G.2 2005 Brooklyn Gas-Card Station Locations

NYC / DCAS / DMSS / OFA / FUEL CARD UNIT - Authorized Fueling Sites - (EFFECTIVE - AUGUST 2, 2005) FOR ASSISTANCE CALL (212) 669-4223 / 4219						
REF. #	**SITE**	**ADDRESS**	**STATUS**	**BOROUGH**	**HOURS**	**PRODUCTS**
K1	GETTY / LUKOIL	3513 Atlantic Av	A	Brooklyn	24	Gas
K2	GETTY / LUKOIL	1780 Coney Island Av	A	Brooklyn	5 to 10	Diesel / Gas
K3	GETTY / LUKOIL	2495 Cropsey Av	A	Brooklyn	24	Gas
K4	GETTY / LUKOIL	2955 Cropsey Av	A	Brooklyn	24	Diesel / Gas
K5	GETTY / LUKOIL	9616 Flatlands Av	A	Brooklyn	24	Gas
K6	GETTY / LUKOIL	5801 Flatlands Av	A	Brooklyn	24	Gas
K7	GETTY / LUKOIL	4302 Ft Hamilton Py	A	Brooklyn	24	Gas
K8	GETTY / LUKOIL	125 Kings Hy	A	Brooklyn	24	Gas
K9	GETTY / LUKOIL	6423 7th Av	A	Brooklyn	24	Gas
K10	GETTY / LUKOIL	3902 Avenue U	A	Brooklyn	24	Gas
K11	GETTY / LUKOIL	1881 Utica Av	A	Brooklyn	24	Gas
K12	GETTY / LUKOIL	6418 8th Av	A	Brooklyn	24	Gas
K13	GETTY / LUKOIL	581 18th Av	A	Brooklyn	24	Gas
K14	GETTY / LUKOIL	7519 18th Av	A	Brooklyn	24	Gas
K15	GETTY / LUKOIL	1672 86th St	A	Brooklyn	24	Gas
K16	GETTY / LUKOIL	1508 Bushwick Av	A	Brooklyn	24	Gas
K17	HESS	3501 Ft Hamilton Parkway	A	Brooklyn	24	Gas
K18	HESS	1885 Atlantic Av	A	Brooklyn	24	Gas
K19	HESS	2880 Atlantic Av	A	Brooklyn	24	Diesel / Gas
K20	HESS	801 Bedford Av	A	Brooklyn	24	Gas
K21	HESS	2211 Bedford Av	A	Brooklyn	24	Gas
K22	HESS	1630 Bushwick Av	A	Brooklyn	24	Diesel / Gas
K23	HESS	914 Coney Island Av	A	Brooklyn	24	Gas
K24	HESS	2400 Flatbush Av	A	Brooklyn	24	Gas
K25	HESS	222 4th Av	A	Brooklyn	24	Diesel / Gas
K26	HESS	210 Greenpoint Av	A	Brooklyn	24	Gas
K27	HESS	810 Metropolitan Av	A	Brooklyn	24	Gas
K28	HESS	1620 Neptune Av	A	Brooklyn	24	Gas
K29	HESS	2251 Nostrand Av	A	Brooklyn	24	Gas
K30	HESS	500 Remsen Av	A	Brooklyn	24	
K31	HESS	530 Utica Av	A	Brooklyn	24	Gas
K32	HESS	833 4th Av	A	Brooklyn	24	Gas
K35	AMOCO	260 Hamilton Av	A	Brooklyn	24	Diesel / Gas
K38	EXXON	6743 4th Av	A	Brooklyn	24	Diesel / Gas
K40	GULF	447 Union St	A	Brooklyn	24	Diesel / Gas
K43	GULF	640 S Conduit Av	A	Brooklyn	24	Diesel / Gas
K46	GULF	5701 2nd Av	A	Brooklyn	24	Diesel / Gas
K48	GASLAND	4102 Avenue H	A	Brooklyn	24	Diesel / Gas
K50	TEXACO	889 3rd Av	A	Brooklyn	24	Diesel / Gas
K51	CITGO	569 Myrtle Av	A	Brooklyn	24	Diesel / Gas
K53	CITGO	169 3rd Av	A	Brooklyn	24	Gas
K56	COASTAL	1601 86th St	A	Brooklyn	24	
K59	WOROCO	2001 Neptune Av	A	Brooklyn	24	Gas

Figure G.2 2005 Brooklyn Gas-Card Station Locations

Figure G.2

Table G.3 2005 Manhattan Gas-Card Station Locations

NYC / DCAS / DMSS / OFA / FUEL CARD UNIT -
Authorized Fueling Sites - (EFFECTIVE - AUGUST 2, 2005)
FOR ASSISTANCE CALL (212) 669-4223 / 4219

REF. #	SITE	ADDRESS	STATUS	BOROUGH	HOURS	PRODUCTS
M1	AMOCO	436 Tenth Av	A	Manhattan	24	Gas
M2	AMOCO	255 E 125th St	A	Manhattan	24	Gas
M3	DHANOTA	673 W 125th St	A	Manhattan	24	Diesel / Gas
M4	GETTY / LUKOIL	155th St && St Nicholas Pl	A	Manhattan	24	Gas
M5	GETTY / LUKOIL	2390242 Dyckman St	A	Manhattan	24	Gas
M6	GETTY / LUKOIL	348 E 106th St	A	Manhattan	24	Gas
M7	GETTY / LUKOIL	63 Eighth Av	A	Manhattan	24	Diesel / Gas
M8	GETTY / LUKOIL	239 Tenth Av	A	Manhattan	24	Gas
M9	GETTY / LUKOIL	119 W 145th St	A	Manhattan		Gas
M10	Gulf	E 23rd St && FDR Dr	A	Manhattan		Gas
M11	HESS	502 W 45th St	A	Manhattan		Diesel / Gas
M12	HESS	1200138 W 145th St	A	Manhattan	24	Gas
M13	HESS	410 W 207th St	A	Manhattan	24	Diesel / Gas
M15	MOBIL	718 Eleventh Av	A	Manhattan	24	
M16	MOBIL	2 Pike Street	A	Manhattan	24	Gas
M17	MOBIL	253 E 2nd St	A	Manhattan	24	Gas
M21	Quick Center, Inc	619 W 125th St	A	Manhattan	24	Gas

Figure G.3 2005 Manhattan Gas-Card Station Locations

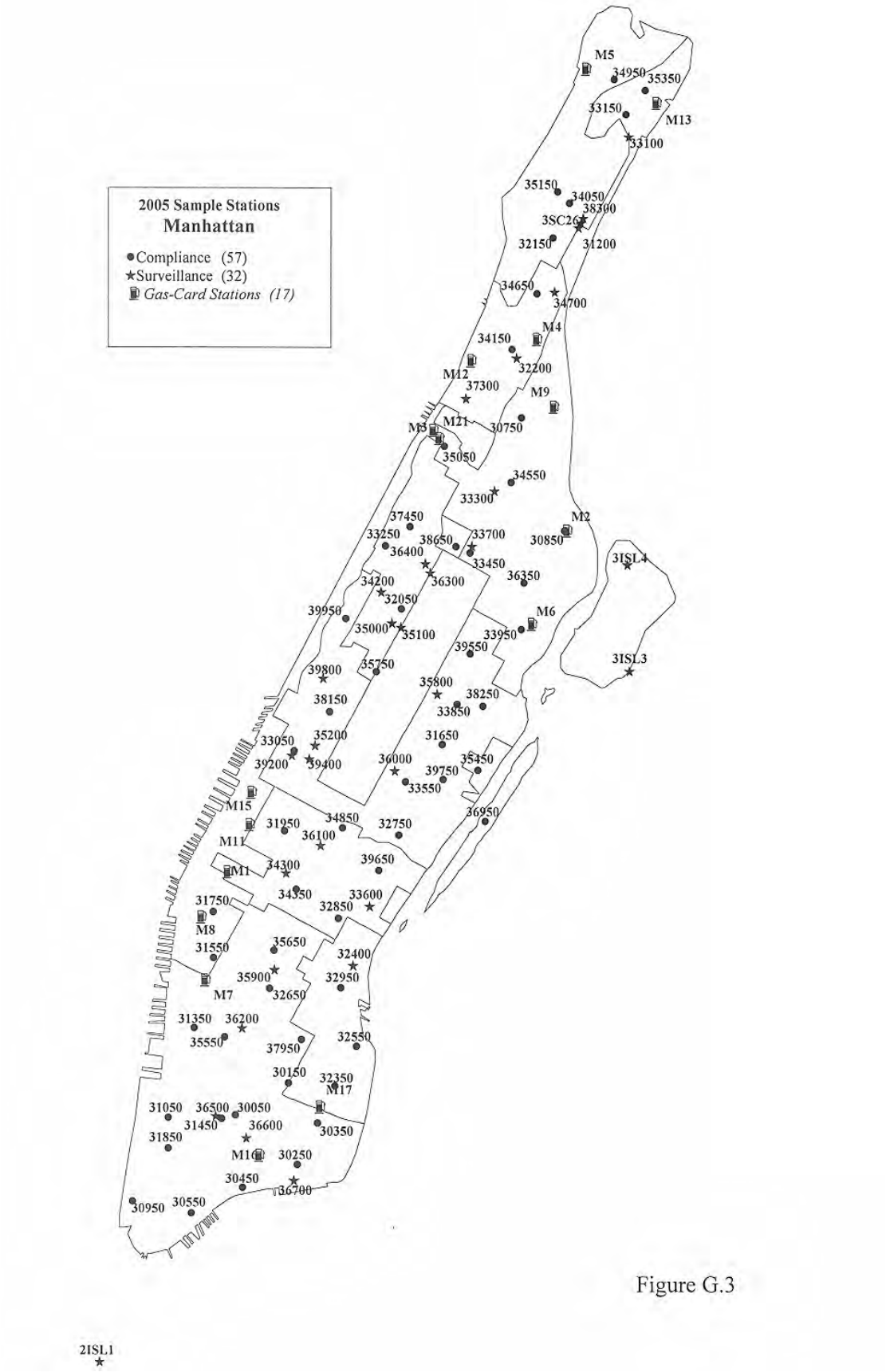

Figure G.3

Table G.4 2005 Queens Gas-Card Station Locations

NYC / DCAS / DMSS / OFA / FUEL CARD UNIT - Authorized Fueling Sites - (EFFECTIVE - AUGUST 2, 2005) FOR ASSISTANCE CALL (212) 669-4223 / 4219						
REF. #	**SITE**	**ADDRESS**	**STATUS**	**TOWN**	**HOURS**	**PRODUCTS**
Q3	CITCO	184-33 Jamacia Av	A	Hollis	24	Diesel / Gas
Q4	CITCO	81-02 Atlantic Av	A	Ozone Park	24	Diesel / Gas
Q5	CITCO	59-14 Beach Channel Dr	A	Far Rockaway	6 to 8	Gas
Q6	CITCO	61-04 Fresh Pond Rd	A	Ozone Park	24	
Q7	CITCO	184-17 Horace Harding Exp	A	Flushing	6 to 10	Gas
Q12	CITCO	128-02 14th Av	A	College Point	24	Diesel / Gas
Q13	EMPORIUM	150-35 Hillside Av	A	Jamaica	24	Diesel / Gas
Q14	EMPORIUM	53-26 Van Dam St	A	Long Island City	24	Diesel / Gas
Q17	GETTY / LUKOIL	100-17 Beach Channel Dr	A	Rockaway	12 to 6	Gas
Q18	GETTY / LUKOIL	65-15 Cooper Av	A	Glendale	6 to 10	Diesel / Gas
Q19	GETTY / LUKOIL	161-15 Crossbay Bl	A	Howard Beach	6 to 1	Gas
Q20	GETTY / LUKOIL	69-05 Eliot Av	A	Middle Village	24	Diesel / Gas
Q21	GETTY / LUKOIL	114-05 Farmers Bl	A	St. Albans	24	
Q22	GETTY / LUKOIL	98-21 Rockaway Bl	A	Ozone Park	24	Diesel / Gas
Q23	GETTY / LUKOIL	262-12 Hillside Av	A	Floral Park	24	Diesel / Gas
Q24	GETTY / LUKOIL	35-25 Junction Bl	A	Corona Park	7 to 1	Gas
Q25	GETTY / LUKOIL	206-06 Jamaica Av	A	Bellaire	24	Gas
Q27	GETTY / LUKOIL	31-05 Queens Bl	A	Long Island City	24	Gas
Q28	GETTY / LUKOIL	204-12 Northern Bl	A	Bayside	24	Diesel / Gas
Q29	GETTY / LUKOIL	89-15 Rockaway Bl	A	Ozone Park	24	Diesel / Gas
Q30	GETTY / LUKOIL	158-07 Rockaway Bl	A	Ozone Park	24	Diesel / Gas
Q32	GETTY / LUKOIL	75-41 Yellowstone Bl	A	Rego Park	24	Gas
Q33	GETTY / LUKOIL	47-15 11th St	A	Long Island City		
Q34	GETTY / LUKOIL	118-01 Rockaway Bl	A	Ozone Park	24	Gas
Q35	GETTY / LUKOIL	49-25 Van Dam Av	A	Long Island City	24	Diesel / Gas
Q36	GETTY / LUKOIL	20-01 31st St	A	Astoria	24	Gas
Q37	GETTY / LUKOIL	34-02 31st St	A	Astoria	24	Gas
Q38	GETTY / LUKOIL	76-19 21st Av	A	East Elmhurst	6 to 10	Gas
Q39	GETTY / LUKOIL	21st St && 36th Av	A	Long Island City	24	Gas
Q41	GULF	27-10 Jackson Av	A	Long Island City	24	Gas
Q42	GULF	21-02 21st Av	A	Astoria	24	Gas
Q43	HESS	89-10 Astoria Bl	A	Jackson Heights	24	Gas
Q44	HESS	104-09 Atlantic Av	A	Richmond Hill	24	Diesel / Gas
Q45	HESS	148-27 Liberty Av	A	Jamaica	24	Gas
Q46	HESS	77-33 Queens Bl	A	Elmhurst	24	Gas
Q47	HESS	134-15 Crossbay Bl	A	S. Ozone Park	24	Diesel / Gas
Q48	HESS	80-07 Cypress Av	A	Glendale	24	Gas
Q49	HESS	219-28 Hillside Av	A	Queens Village	24	Gas
Q50	HESS	56-01 Main St	A	Flushing	24	Gas
Q51	HESS	39-04 Northern Bl	A	Long Island City	24	Diesel / Gas
Q52	HESS	97-11 Northern Bl	A	Corona	24	Gas
Q53	HESS	129-30 N Conduit	A	S. Ozone Park	24	Diesel / Gas
Q54	HESS	39-02 Queens Bl	A	Corona	24	Diesel / Gas
Q55	HESS	117-08 Springfield Bl	A	Cambria Heights	24	Gas
Q56	MOBIL	173-12 Horace Harding Exp	A	Flushing	24	
Q61	SUNOCO	42-02 21st St	A	Long Island City	24	
Q62	SUNOCO	115-02 Beach Channel Dr	A	Rockaway Park	24	

Figure G.4 2005 Queens Gas-Card Station Locations

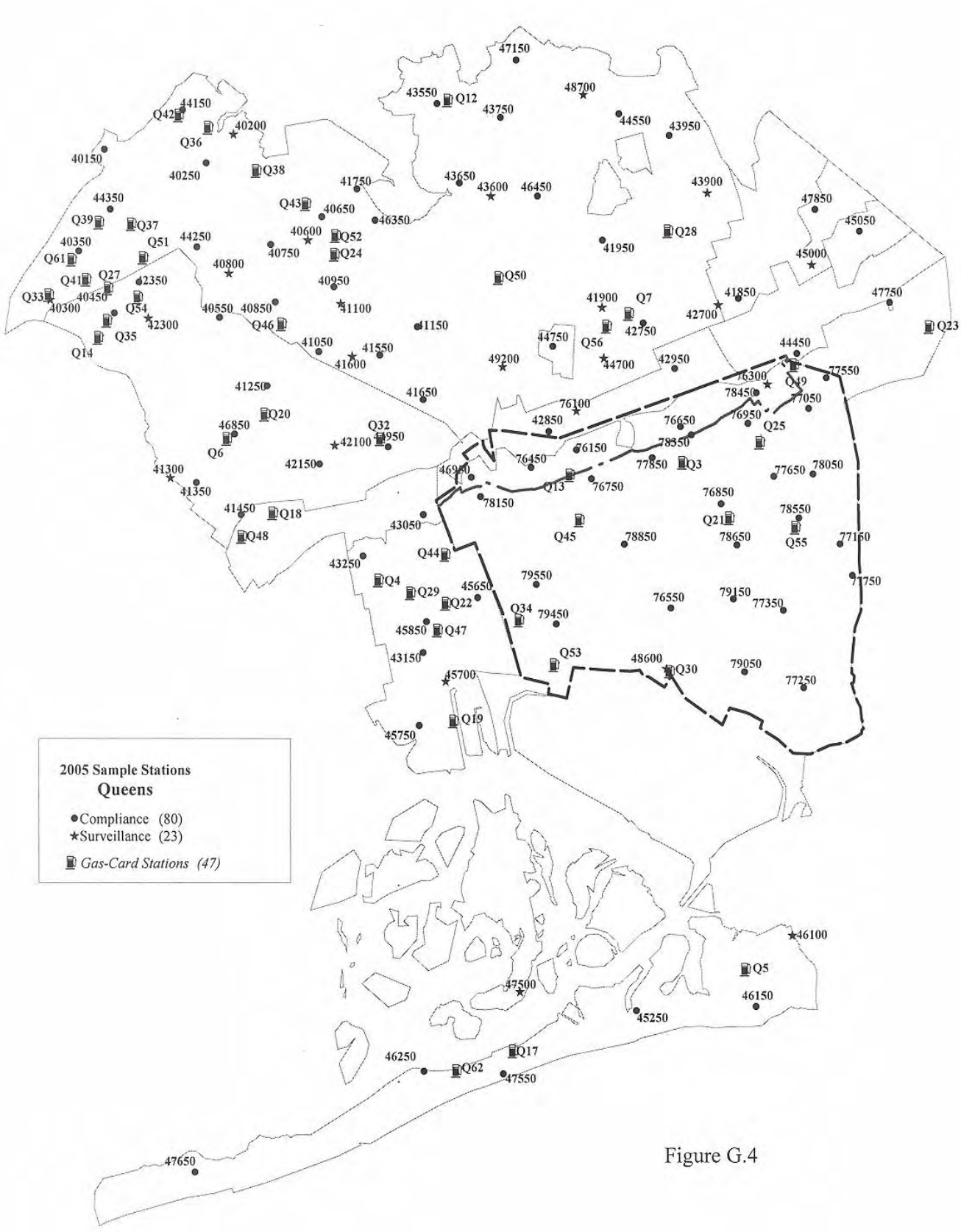

Figure G.4

Table G.5 2005 Staten Island Gas-Card Station Locations

NYC / DCAS / DMSS / OFA / FUEL CARD UNIT -
Authorized Fueling Sites - (EFFECTIVE - AUGUST 2, 2005)
FOR ASSISTANCE CALL (212) 669-4223 / 4219

REF. #	SITE	ADDRESS	STATUS	BOROUGH	HOURS	PRODUCTS
S3	GETTY / LUKOIL	13 Clarke Av	A	Staten Island	6 to 11	Gas
S4	GETTY / LUKOIL	5 Fingerboard Rd	A	Staten Island	6 to 10	Gas
S5	GETTY / LUKOIL	1881 Forest Av	A	Staten Island	6 to 12	Diesel / Gas
S6	GETTY / LUKOIL	4000 Hylan Bl	A	Staten Island	6 to 12	Gas
S7	GETTY / LUKOIL	387 Port Richmond Av	A	Staten Island	6 to 10	Diesel / Gas
S8	GETTY / LUKOIL	1820 Richmond Rd	A	Staten Island	6 to 10	Diesel / Gas
S9	GETTY / LUKOIL	1125 Richmond Terrace	A	Staten Island	5:30 - 9:00	Diesel / Gas
S10	GETTY / LUKOIL	1842 Victory Bl	A	Staten Island	6 to 12	Gas
S11	GETTY / LUKOIL	1212 Victory Bl	A	Staten Island	24	
S12	GULF	105 New Dorp Lane	A	Staten Island	24	Gas
S14	GULF	3881 Richmond Av	A	Staten Island	24	Gas
S15	HESS	951 Bay St	A	Staten Island	6 to 12	Diesel / Gas

Figure G.5 2005 Staten Island Gas-Card Station Locations

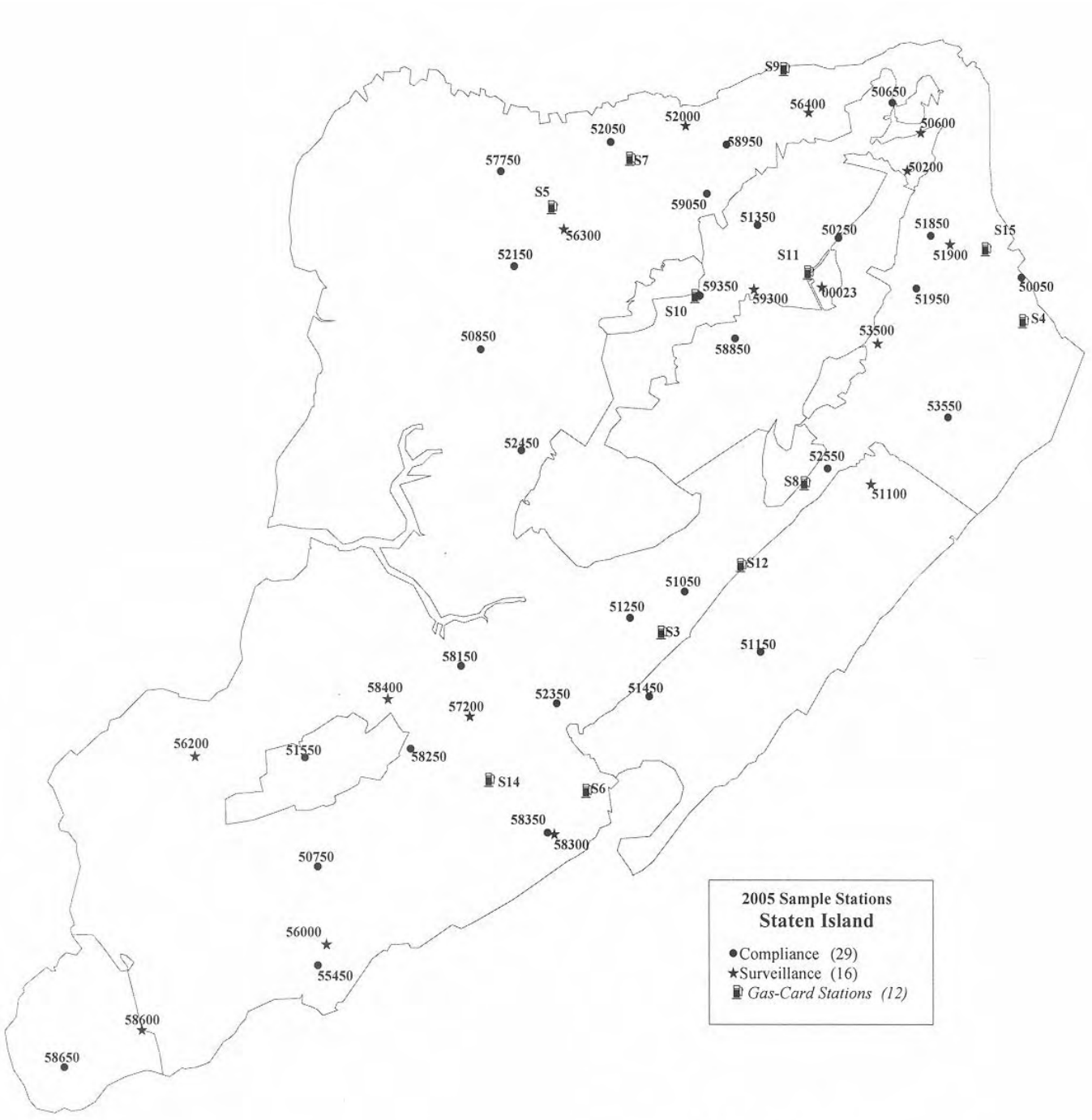

Figure G.5

Table G.6

VEHICLE & EQUIPMENT CHECK LIST

1	HYDRANT WRENCH		
2	SAMPLE STATION KEY		
3	SAMPLE STATION HOSE		
4	SPARE TIRE		
5	TIRE LUG WRENCH		
6	VEHICLE JACK		
7	FIELD METERS		
8	COOLERS		
9	SAFETY EQUIPMENT (Triangle, Safety Vest)		
10	FIRST AID KIT		
11	CHECK VEHICLE FOR ANY DAMAGES		

Table G.7

ACCIDENT REPORT INFORMATION

WHEN YOU HAVE (OR ARE INVOLVED IN) AN ACCIDENT MAKE CERTAIN THAT YOU OBTAIN THE FOLLOWING INFORMATION.

1. **Notify Quality Base and Police.**
2. **Time.**
3. **Exact Location.**
4. **Direction of Vehicle at Time of Accident & Afterwards Make A Sketch.**
5. **Condition of Road Surface & Weather.**
6. **Name & Address of Car Owner & License Plate # & Motorist ID#.**
7. **Make of Car, Year, Type and Color.**
8. *** If Registration & Plates Do Not Agree, Call Police.***
9. **Names & Addresses of All Passengers In Car.**
10. **Note Any Injuries.**
11. **Names & Addresses of Any Witnesses.**
12. **Do Not Argue, Accuse Or Admit Any Guilt.**
13. **Never Leave The Scene Until It Is Proper To Do So.**
14. **Written Accident Report Within 24 Hours.**

Table G.8 BWS Incident Report

INCIDENT REPORT
For
BUREAU OF WATER SUPPLY

Today's Date:_____

Incident Date: _____ Time:_____ Location: _____

Person reporting
incident: _____ Division: _____ Section: _____

Description of Incident: _____

_____

_____

Initial Action Taken:_____

_____

_____

Individual responsible for follow up: _____

_____

TYPE OF INCIDENT: (check one please)

- ☐ Injury to City Employee
- ☐ HazMat or spill on City Property
- ☐ HazMat or spill on Watershed
- ☐ Water Quality Alert (check all that apply)
  - ○ 20+ fecal in Kensico
  - ○ Unusual result in reservoir/distribution
- ☐ Security Threat
- ☐ Other: _____

_____

_____

xc: M. Principe/K. Rieke (914-773-4568), E. Welch (914-742-2077)
S. Schindler (914-741-0431 and 845-340-7504), L. Sadosky (914-773-4530)
I. Stern (845-340-7514)
District Engineer: T. Lawler (914-232-7003), P. Rush (845-985-7516)
Croton Police Headquarters (914-245-9302)
G. McCoy (718-595-5546), A. Patrick Nucciarone (732-280-4801)
W. Morris (914-773-4536)

Revision: 11/10/05

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APPENDIX H

SYMBOL PALM SCANNER
STANDARD OPERATING PROCEDURES

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I. INTRODUCTION

From the main screen select the **MCL** icon, enter to **DEP DWQC Field Palm Sample Collection** program (Figure 1). Two menu screens are then available, labeled **MAIN MENU-1** (Figure 2) and **MAIN MENU-2** (Figure 3). You may switch back and forth between the two menus by selecting **BACK** or **NEXT** at the bottom of the LCD screen.

Figure 1

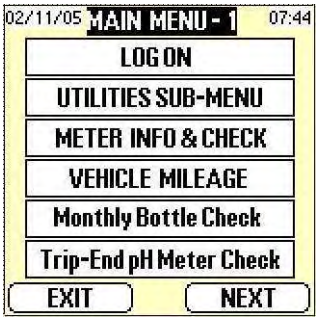

Figure 2

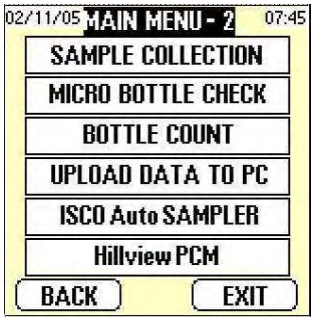

Figure 3

1. LOG ON

Select **LOG ON** from **MAIN MENU-1** to get to the **Please Logon** screen (Figure 4). Enter the initials of your first and last name, select **ENTER** from screen, then enter your password (which will be the last four digits of your social security number unless you have requested a different 4 digit password) select **ENTER** from screen. You will then be advised that you have logged on successfully, press the **Enter** button (right hand button below the LCD screen). Next you will be requested to **Please Sign Below** (Figure 5) and press the **Enter** button. After you have entered the user data, you will be prompted to enter data for a second user, if applicable. For compliance runs with only one field person, press **Clear** (left hand button below the LCD screen) when prompted to enter a second user. For all runs with two field persons collecting the samples, i.e. complaints, etc, press **Enter** (right hand button below the LCD screen) and enter the info for the second user. After these steps have been completed, you will return to the **MAIN MENU-1** screen. After completing **LOG ON**, proceed to **VEHICLE MILEAGE**, from **MAIN MENU-1**.

Figure 4

Figure 5

Figure 6

2. VEHICLE MILEAGE

Select **VEHICLE MILEAGE** from **MAIN MENU-1**. You will be prompted to scan the barcode label located within the vehicle you are using (Figure 6). Next you will be required to manually enter the vehicle mileage using the keypad which appears on the LCD screen. After the mileage has been keyed in, select **ENTER** on the screen and this will bring you back to the **MAIN MENU**. After completing **VEHICLE MILEAGE**, proceed to **METER INFO & CHECK** from **MAIN MENU-1**.

3. METER INFO & CHECK

Select **METER INFO & CHECK** from **MAIN MENU-1**. At **Meter Info 1/2** (Figure 7), you will then be prompted to scan the barcode label on your Specific Conductance / pH meter and pH probe, followed by the barcode label found on the outside of your DPD-Chlorine Secondary Standards Kit. Next you will be required to scan the barcode labels on the four chlorine standards inside the case, beginning with the blank, followed by the low, medium and high standards. Select **OK** to advance to the next screen.

At **Meter Info 2/2** (Figure 8), you will be prompted to scan the barcode label on your chlorine colorimeter, chlorine cell 1 (blank cell) and chlorine cell 2 (sample cell). After the chlorine meter, the barcode label from the ortho-phosphate meter and cells shall be scanned, in the same order as the chlorine meter, first the meter, then the blank cell followed by the sample cell. The next screen will display a summary of your log on information. Press the **Enter** button below the LCD screen to advance to the next screen.

This screen, **CL2 Meter Check** (Figure 9) will prompt you to enter the data produced from reading your chlorine standards. You must enter three significant digits, including leading and trailing zeroes in order for the scanner to accept the data. After selecting **ENTER** from the screen, you will be brought back to the **MAIN MENU-1**.

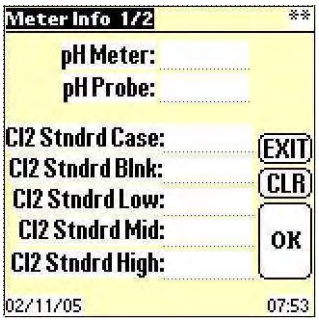

Figure 7

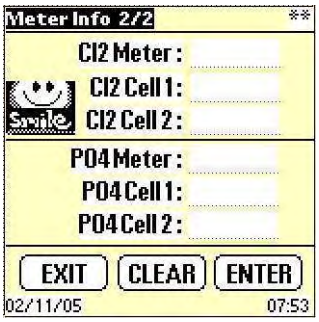

Figure 8

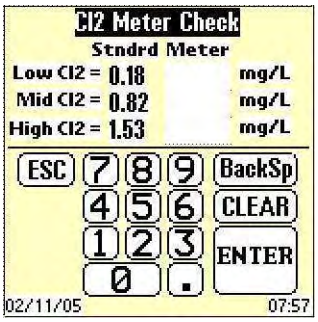

Figure 9

4. SAMPLE COLLECTION PROCEDURES

4.1. Compliance sampling

4.1.1. Scan Sample Number

Select **SAMPLE COLLECTION** from **MAIN MENU-2** (Figure 3). You will be prompted to **Scan Sample Number** (Figure 10). At this point, you shall scan the yellow barcode label for the sample card. The sample code info included in this card label will determine the bottle set to be collected. You will next be prompted to **Scan Sample Station** (Figure 11).

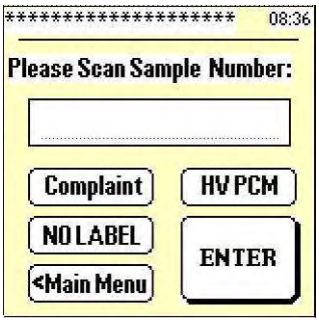

Figure 10

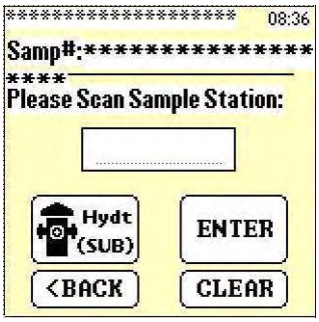

Figure 11

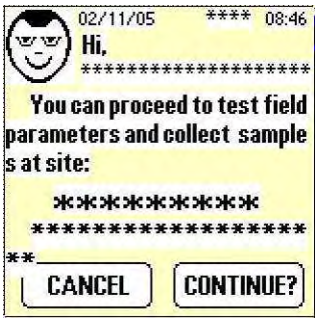

Figure 12

4.1.2. Scan Sample Station

If the sample station barcode matches the card label you have scanned, you will be directed to **"…test field parameters and collect samples at the site"** you have just keyed in (Figure 12). Press **CONTINUE?** from the screen to proceed. Please enter through this screen ASAP in order to preserve the correct site time. *However, during cold weather months particularly when air temperatures drop below 32°F, please make sure that the sample station is operable before selecting CONTINUE?. Otherwise you may encounter problems.* At this point you will be directed to manually enter:

Water Temperature (Figure 13),
Free Residual Chlorine with leading zeroes (Figure 14),
ortho-Phosphate (Figure 15),
Specific Conductance (Figure 16), and
pH (Figure 17).

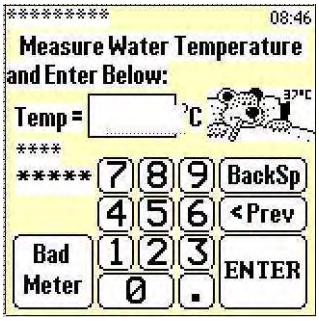

Figure 13

Figure 14

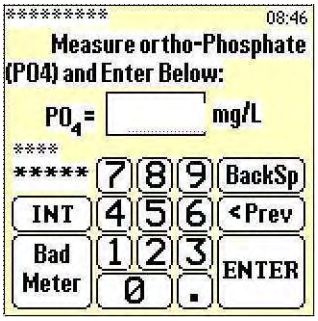

Figure 15

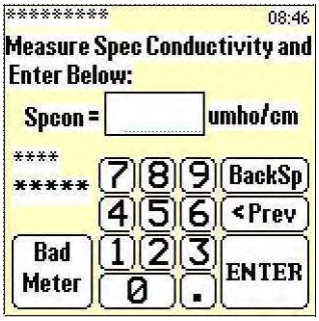

Figure 16

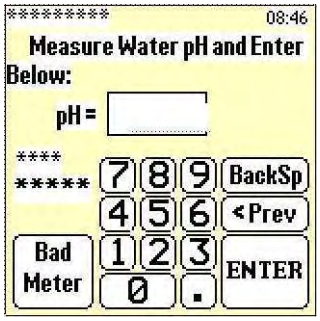

Figure 17

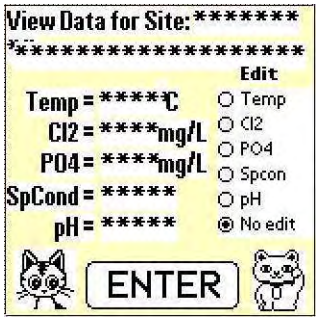

Figure 18

After all the field data has been keyed in, press the **Enter** button below the LCD screen to advance to the next screen for a data review, **View Data for Site** (Figure 18). *Review this data carefully before selecting **ENTER** from the screen as you will not have another chance to edit.* If, during your data review, you notice an incorrect entry, please select that particular parameter in the **Edit** column on the right hand side of the LCD screen. If you have made more than one incorrect entry, you will need to edit each one individually.

4.1.2.1. Wrong Site

If you are at the wrong indexed site, the barcode label on the sample station being scanned will not match the sample station indicated by the yellow label, and you will receive an error message **STATION Not Match!** (Figure 19). At this point, you either you may select I have s**canned a WRONG Sample Label**, or **OOPs...WRONG Station** either of which will bring you back to the **Scan Sample Number** screen (Figure 10).

Figure 19

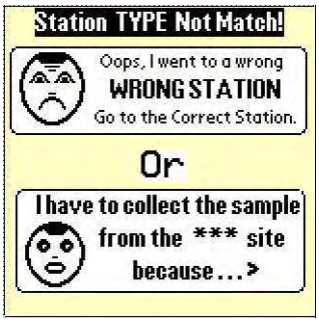

Figure 20

Figure 21

4.1.2.2. Wrong Station

If you are at the correct indexed site, but the wrong sample station, the barcode label on the sample station being scanned will not match the sample station indicated by the yellow label, and you will receive an error message **Station TYPE Not Match!** (Figure 20). You then have a choice of going to the correct station or explaining why the station you are sampling from does not match the prescheduled stop. If you choose **OOPs...WRONG STATION**, You will then be brought back to the **Scan Sample Station** screen (Figure 11). The second choice, **"I**

have to collect the sample from the USS/DSS because…" is described in more detail in Section 4.4.3.

4.1.3. Scan and Fill Bottles

After reviewing the data (Figure 18) and deeming it correct, press **ENTER** on the screen. You will then be instructed to scan and fill the bottles in a certain order. Press the **Enter** button below the LCD screen. (Press the **Clear** button below the LCD screen if there are no samples to be collected in order to proceed to the next site.) **ENTER** through the **Pre Fill Scan Screen** (Figure 21) to get to the **Scan & Fill Sample Bottles** screen (Figure 22). This screen illustrates the sample bottles to be filled and the order they shall be filled in. The last three digits of the bottle code displayed indicate the bottle type to be filled and the sequence, i.e. **MA1** indicates a **Micro 125mL** bottle, 1st sample. The name of the bottle is also displayed on the **Scan & Fill Sample Bottles** screen above the **Bottles Filled Site**: line.

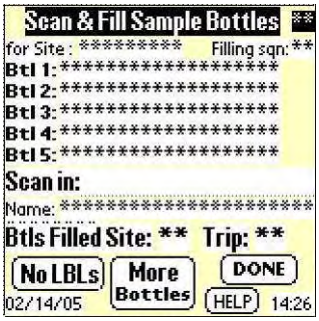

Figure 22

Figure 23

Figure 24

First scan the yellow sample label, then fill that particular bottle. Each bottle must be scanned immediately prior to filling in order to establish a time stamp for each individual bottle. For micro bottles, after scanning the yellow sample label, you will be prompted to scan the QC label on the bottle at the **Scan Bottle Type/QC Labels** screen (Figure 23). If the QC label does not scan properly, you will need to enter this information manually. The correct protocol for entry is as follows: bottle code (capital letters), hyphen, date (yymmdd), hyphen, unique five digit QC code, *i.e.* "MA-050214-99999". When all bottles have been scanned, select **DONE** from the screen. You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

4.2. Consumer Complaint Sampling

4.2.1. Immediate Draw Sample

Select **SAMPLE COLLECTION** from **MAIN MENU-2** (Figure 3). You will be prompted to **Scan Sample Number** (Figure 10). At this point, scan the barcode label for the immediate draw sample card. The sample code on the immediate draw sample card is different from the 5 minute / hydrant sample card. This code will determine the bottle set to be collected. After scanning the card label, you will be prompted to enter the **Consumer Info Part 1** (Figure 25). From the drop-down box at the upper left hand corner, select the proper prefix: **Mr**, **Mrs**, or **Ms**. Using the keypad below the LCD screen, manually key in the consumer's last name, select **ENTER** to move from field to field, and complete keying in all the required information. When the info has been entered, select **ENTER** to advance to the next screen, **Complaint Info Part 2** (Figure 26). Enter the Service#, Work Order#, and Problem Code from the Work Order paperwork provided with your complaint labels selecting **ENTER** to move from field to field. Select an appropriate Nature of Complaint from the following drop-down box selections:

Dirty water
Slight discolored (light)
Medium discolored (tea)
Dark discolored (coffee)
Discolored with smell
Discolored with sediments
Minor sediments (black particles)
Milky water
Floatables
Oil or gas smell
Rotten egg smell
Chemical odor

Choose the appropriate sample tap from the selections in the drop down box, input any field notes and select **ENTER**:

Kitchen sink
Bath vanity
Bath tub
Basement
Slop sink
Water fountain

For complaints, the immediate samples are scanned and filled before field results are entered into the scanner. Select **CONTINUE?** to reach the **Pre Bottle Fill Scan Screen** (Figure 21) which will give you a tally of previously filled bottles, select **ENTER** to reach the **Scan & Fill Sample Bottles** screen (Figure 22). Scan and fill the metals bottle first followed by the chem bottle, then select **DONE**. The next screen will direct you to enter your field data for temperature (Figure 13), specific conductance (Figure 16), and pH (Figure 17). After entering all the field measurements, *review this data carefully before selecting **ENTER** from the **VIEW DATA** screen (Figure 18) as you will not have another chance to edit*. If, during your data review, you notice an incorrect entry, please select that particular parameter in the **Edit** column

on the right hand side of the LCD screen. If you have made more than one incorrect entry, you will need to edit each one individually. When you are finished entering field data, select **ENTER** and you will be brought to the **SUB MENU** (Figure 24) at which point you will then be given the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

Figure 25

Figure 26

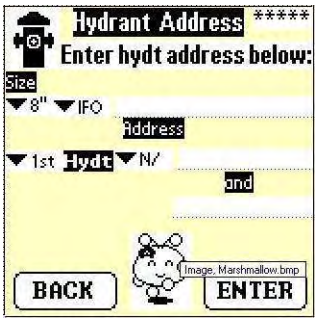

Figure 27

4.2.2. 5 Minute Sample

Select **Go to the Next Site** from **SUB MENU**. You will be prompted to **Scan Sample Number** (Figure 10). At this point, scan the barcode label for the 5 minute sample card. After scanning the card label, you will need to press the **Clear** button to bypass entering the consumer info again, then **CONTINUE?**. The next few screens (Figures 13 – 17) will prompt you to enter the field test results. After entering all the field measurements, *review this data carefully before selecting **ENTER** from the screen as you will not have another chance to edit (Figure 18).* **Scan & Fill Sample Bottles** in the order specified by the scanner (Figure 22), then select **DONE**. You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

4.2.3. Hydrant Sample

Select **Go To the Next Site** from **SUB MENU**. You will be prompted to **Scan Sample Number** (Figure 10). At this point, scan the barcode label for the hydrant sample card. Manually enter the **Hydrant Address** (Figure 27) as specified in the DWQC Distribution Sampling Site Plan, i.e. *SS - W/S Nelson Ave, 1st SS N/O W 168th St (opposite school), 12 inch*. Select from several drop down boxes for main size, hydrant location, and appropriate directional indicators. After entering the hydrant information select **ENTER**, then **CONTINUE?**, and you will next be prompted to enter the field test results (Figures 13 – 17). As always, after entering all the field measurements, *review this data carefully before selecting **ENTER** from the screen as you will*

not have another chance to edit (Figure 18). **Scan & Fill Sample Bottles** in the order specified by the scanner (Figure 22), then select **DONE**. You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

4.3. Miscellaneous Keystrokes

4.3.1. NO LABELS

4.3.1.1. No Labels – Compliance samples

If you do not have a label available for the compliance location you are required to sample, choose the **NO LABEL** option available on the **Scan Sample Number** screen displayed in Figure 10. You will be prompted to choose a **Reason for No Sample Label** via the drop down menu on the next screen (Figure 28).

Figure 28

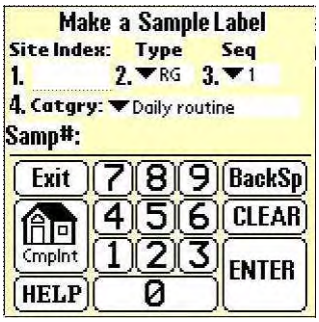

Figure 29

The default reason is **No printed labels**. If this is not the case, tap the down arrow and the drop down box appears. Select a reason from the following choices:

No printed labels
Coliform resample
US-DS investigation
US-DS profiling
Lost label
Label damaged
Complaint visit
Emergency sample
Added by supervisor

After selecting the most appropriate reason for no sample label, select **ENTER**. At the **Make a Sample Label** screen (Figure 29) you will be prompted to key in the:

1. Site Index - the 5 digit site number**,**

2. Type - tap the arrow to the left of the default **RG** and the drop down box appears with several other selections: **US**, **DS**, **SB** (substitute), and **RH** (random hydrant),
3. Seq - tap the arrow to the left of the default **1** and the drop down box appears with several other selections: numbers 1 through 9. The only time you will need to select other than the default is if you will be collecting more than one sample from the same site,
4. Category - tap the arrow to the left of the default **Daily routine** and the drop down box appears with several other selections:

Daily routine
Monthly SP chem, VOC
Qrtrly SP chem, DBP
Monthly HAA 552.2
Monthly GW sites
Lead & Copper rules
Croton Tot Fe/Mn
Croton T&D Fe/Mn
Croton T mtl & 552
Croton TD mtl & 552
JPGH T mtl & 524
JPGH T/D mtl & 524
JP Tmtl, 524 & 552
JP TDmtl, 524 & 552
SS profiling, no samp
Well profiling, no micro
HV GH DBP/VOCs
Monthly stripping wells
Qrtrly stripping wells
Mnthly sequestering wells
Qrtrly sequestering wells
Qrtrly entry points 551
Annual wells
Crtn HAA MWH

If you are not sure of which category you should select, please feel free to consult with your supervisor. Another option would be to select **Daily Routine**, and the **More Bottles** feature from the **Scan & Fill Sample Bottles** screen (Figure 22) to fill any bottles other than the routine chem and micro bottles. Once you have selected the proper category, select **ENTER** from the screen to proceed. The scanner generates a sample label ID based upon the information you have input and displays this label on the next screen. You will next be prompted to **Scan Sample Station** (Figure 11).

If the sample station barcode matches the card label you have scanned, you will be directed to **"…test field parameters and collect samples at the site"** you have just keyed in (Figure 12). Press **CONTINUE?** from the screen to proceed. At this point you will be directed to

manually enter all field readings (Figures 13 – 17). After reviewing the data (Figure 18) and deeming it correct, press **ENTER** on the screen. You will then be instructed to scan and fill the bottles in a certain order. Press the **Enter** button below the LCD screen. **ENTER** through the **Pre Fill Scan Screen** (Figure 21) to get to the **Scan & Fill Sample Bottles** screen (Figure 22) at which point you will be prompted to scan and fill the Micro, (MA), and chemistry (CA) bottles. If the yellow label is missing or not scannable, use the **No LBLs** key. This will bring you to the **Bottle Fill – No Label** screen (Figure 30). You must **Select a bottle to fill**, select a **Reason for No Label** from the drop down box:

Label not scannable
Label damaged
Label missing
Emergency sample

Figure 30

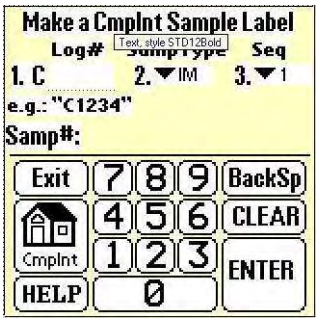

Figure 31

Select **FILL** from the screen, and select **DONE** when you have completed scanning and filling the bottle set. If you have additional bottles to fill that have not been included in the list, select **More Bottles** from the screen (see Section 4.3.5).

4.3.1.2. No Labels – Complaint Samples

In the event that a set of complaint labels has not been created for the location you are required to sample, use the **Complaint** option available on the **Scan Sample Number** screen displayed in Figure 10. You will be prompted to explain why no complaint label is available (Figure 28) via the drop down menu on the next screen. The default reason is **No printed labels**, but you must select **Complaint visit** from the drop down list, then select **ENTER** which will bring you to the **Make a Complaint Sample Label** screen (Figure 31).

Next you will be prompted to key in the

1. log# - the 4 digit complaint log number**,**
2. Samp Type - tap the arrow to the left of the default **IM** (immediate) and the drop down box appears with several other selections: **5M** (5 minute), **HT** (hydrant), and **HR** (hydrant resample),

3. Seq - tap the arrow to the left of the default **1** and the drop down box appears with several other selections: numbers 1 through 3. The only time you will need to select other than the default is if you will be collecting more than one sample from the same sample location, *i.e*. kitchen tap.

After this data has been entered, select **ENTER** to proceed. The scanner generates a sample label ID based upon the information you have input and displays this label on the next screen.

Continue to the next screen where you will be required to manually input the information required on **Consumer Info Parts 1 and 2** (Figures 25 & 26) as specified in Section 4.2., select **ENTER**, then **CONTINUE?** to proceed to the **Pre Bottle Fill Scan Screen** (Figure 21). After selecting **ENTER**, you will be prompted to S**can and Fill** the Metals, (AA), and chemistry (CA) bottles (Figure 22), then select **DONE**. If you do not have bottle labels, select the **NO LBLs** option to reach the **Bottle Fill – No Label** screen (Figure 30), **Select a Bottle to Fill** and select a **Reason for no Label**:

Label not scannable
Label damaged
Label missing
Emergency sample

Then select **FILL** from the screen, and select **DONE** when you have completed scanning and filling the bottle set.

For the 5 minute and hydrant sample, after scanning the yellow microbiology sample label, **Scan Sample Number** (Figure 10), the following screen, **Sample Bottle Type/QC Labels,** (Figure 23) will direct you to scan the micro QC label on the bottle before filling. Select **No LBLs** from the **Scan & Fill Sample Bottles** screen (Figure 22) for each remaining bottle, **Select a Bottle to Fill** and select a **Reason for no Label, then** choose **FILL** from the screen. You will notice the **Bottles Filled Site** number will increase by one each time you select **FILL** from the screen. When the list of bottles to be filled has been exhausted, you may select **DONE** to advance to the next screen. If you have additional bottles to fill that have not been included in the list, select **More Bottles** from the screen (see Section 4.3.5.).

4.3.2. Bad Meter

For each field reading to be entered (Figures 13 – 17), the selection **Bad Meter** exists. If, for some reason, any of your meters do not work, or if you suspect a meter malfunction, choose this option. Every time **Bad Meter** is selected (Figure 32), you will need to choose the particular parameter from the drop down box:

Temp
Chlorine
Phosphate

pH
Conductivity
Meter

Select **ENTER** for each meter that is not working properly and the next parameter will be displayed. For each **Bad Meter** selection, a default value of -9.9 is displayed for that parameter on the **View Data for Site** screen (Figure 18). Once again, *review this data carefully before selecting **ENTER** from the screen as you will not have another chance to edit.*

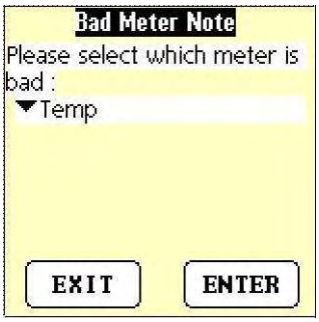

Figure 32

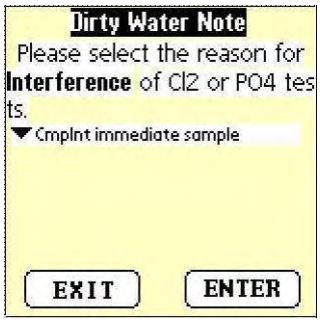

Figure 33

4.3.3. INT

For colorimetric, i.e. residual chlorine and ortho-Phosphate readings, an additional selection, **INT**, is displayed when originally entering the data (Figures 13 – 17). If your sample is discolored, the colorimetric readings will have a positive interference. The **INT** selection is applicable in cases of discolored samples. Once **INT** is selected, you will be prompted for a reason for the interference (Figure 33). Tap the down arrow to the left of the first selection and a drop down box with additional selections appears:

Complaint immediate sample
Slight discolored (lemonade)
Medium discolored (tea)
Dark discolored (coffee)
Discolored with smell
Discolored with sediments
Minor sediments (black particles)

Once you have made your selection from the drop down box, select **ENTER** from the screen for a review of the data you have just entered (Figure 18). You will notice that by entering **INT** for one of the two colorimetric parameters, a default value of 99.9 mg/l will be displayed for both. Once again, *review this data carefully before selecting **ENTER** from the screen as you will not have another chance to edit.*

4.3.4. Hydt (SUB)

If, for some reason, you must sample from a sub instead of a regular surveillance sample station, select the **Hydt (SUB)** option from the **Scan Sample Station** screen (Figure 11). Press the **Enter** button below the LCD screen to confirm using a hydrant for sampling. At this screen, you will be prompted to select a **REASON TO USE HYDRANT** (Figure 34). Tap the

down arrow to the left of the first selection and several other selections appear:

Coliform resample
No Water
No Access - Construction
No Access - Road Block
No Access - Emergency
Broken
Frozen
Relocated
Incorrect Indexing

Make your selection, then choose **ENTER** from the screen. The next screen will prompt you to enter the hydrant information, including main size (Figure 27). Tap the down arrow to the left of the main size and select **8"**, **12"**, or **20"**, if applicable. Manually key in the address of the hydrant using the protocol illustrated in the *DWQC Sampling Site Plan*.

4.3.5. More Bottles

Sometimes it is necessary to fill sample bottles at a site for other than the sample code specified in the scanner. After filling the routine microbiology and chemistry bottles, select **More Bottles** from the **Scan & Fill Sample Bottles** screen in Figure 22. You will then be directed to the screen illustrated in Figure 35. If you already have the additional sample barcode labels, you can simply scan the sample label and fill the bottle. If you do not have the barcode label for the bottles, then you must select **Add by METHOD**.

Figure 34

Figure 35

Figure 36

4.3.5.1. Add by METHOD

When selecting **Add by METHOD** from the screen, the scanner confirms the last bottle type filled and also the total number of bottles filled at the site. You may choose the **Enter** (to continue) or **Clear** (to quit) buttons below the LCD. Select the **Enter** button and the next screen (Figure 36) will prompt you to select by method, method number (if organic analysis), and also by bottle code. After choosing the appropriate method, select **ADD.** The next screen will return you to the **Scan & Fill Bottles** screen (Figure 22).

4.4. Miscellaneous Sampling Events

4.4.1. Coliform Resample

4.4.1.1. Sample Stations

Scanner procedures for the sample station portion of a coliform resample shall follow Section 4.1. described previously. This order of sampling shall always begin with the **US** and shall be repeated for the **REG**, then the **DS** stations.

4.4.1.2. Random Hydrant

After scanning, entering field data, and filling bottles at the **US**, **REG**, and **DS** sample stations, you may proceed to the random hydrant. First scan the yellow card label at the **Scan Sample Number** screen (Figure 10). When prompted to **Scan Sample Station**, select **Hydt (SUB)** from the screen (Figure 11). The next screen will ask you to confirm the use of a hydrant for sampling. Press the **Enter** button below the LCD screen to acknowledge. The next screen requests input of a **REASON TO USE HYDRANT** (Figure 34).

The default reason is **Coliform Resample**. Accept the default reason and select **ENTER** from the screen. The **Hydrant Address** (Figure 27) must be entered next. Tap the down arrow to the left of the main size and select **8"**, **12"**, or **20"**, if applicable. Manually key in the address of the hydrant using the protocol illustrated in the DWQC Distribution Sampling Site Plan, i.e. *SS - W/S Nelson Ave, 1st SS N/O W 168th St (opposite school), 12 inch* selecting **ENTER** from the screen to move from field to field. You will be directed to **CONTINUE?** (Figure 12) from the screen to proceed. The next screen will ask you to confirm that **"you are sampling from a non REG site"**, press **Enter** to input field parameters (Figures 13 – 17), verify the data (Figure 18), and **Scan & Fill Sample Bottles** (Figure 22) at the site and select **DONE** when complete.

4.4.2. Monthly Special Chemistry

4.4.2.1. Scan Sample Number / Station

Follow the scanner procedures described in Section 4.1. above for scanning the sample number and sample station. The sample code on the yellow label will determine the bottle set to be filled.

4.4.2.2. Scan & Fill Sample Bottles

For the monthly sampling, a list of bottles will be displayed on the screen in the order they are to be filled in. First, you will be directed to scan and fill the micro "MA" yellow label, followed by the micro QC label already on the bottle. The same procedure is to be followed

for each inorganic bottle on the list, first scan the yellow label then the white QC label for each bottle.

If the QC label on the bottle is missing or not scannable, you must manually key the code for QC label in at the **Scan Bottle Type / QC Labels** screen (Figure 23). Use the letter / number keypad below the LCD screen to key in the bottle code (capital letters), hyphen, and the site number, i.e. CD-45250 for a missing nitrite QC label, then press **ENTER**. The scan & fill order to be followed is as follows:

Micro "MA"
Chem "CA"
Nitrite "CD"
Alkalinity "CD"
Cyanide "CG"
IC Scan "CI"
UV254 "CC"
TOC "CF"
TOX "CJ"
VOC's "GA"
Metal-1L "AC"

The protocol for scanning & filling organics bottles, i.e. VOC's method 524.2 "GA", does not require an additional QC scan at this time, so just the yellow label is to be scanned. Please make certain to scan and fill the vials in the proper order, GA1 through GA5. Please note that prior to each scan & fill, the description of each bottle is highlighted on the screen. If there are additional bottles to be filled after the VOC vials, select **More Bottles** from the bottom of the **Scan & Fill Sample Bottles** screen (Figure 22). For further instruction on **More Bottles**, please refer to Section 4.3.5. of this protocol. When all bottles have been scanned and filled, select **DONE** from the screen. You will then be directed to a **SUB MENU** which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

4.4.3. Sample from US / DS instead of REG

If the REG stop is inaccessible, frozen, *etc*. the USS or DSS shall be sampled instead. After scanning the barcode label for the sample card at the **Scan Sample Number** screen (Figure 10), you will be prompted to **Scan the Sample Station** (Figure 11). If you are at the correct site but at either the US or DS sample station instead of the REG, the barcode label on the sample station will not match the sample station indicated by the yellow label. Once scanned, you will receive an error message **Station TYPE Not Match!** (Figure 20). You will then have a choice of selecting **Oops, WRONG STATION** or "**I have to collect the sample from the USS/DSS site because…"** After selecting the second choice, you will then be brought to the

screen illustrated in Figure 37, **REASON TO USE USS or DSS**. Select a reason from the drop down box which most closely answers the question:

No Water
Coliform resample
No Access – Construction
No Access – Road Block
No Access – Emergency
Broken
Frozen
Relocated
Incorrect Indexing

Make your selection, then choose **ENTER** and then **CONTINUE?**. The next screen will ask you to confirm "Collect samples from non "REG" site? Press the **Enter** key below the keypad, input your field results making sure to verify before saving (Figures 13 – 18).

The next screen will request that you scan the sample labels in the proper order. Press Enter to get to the **Pre Fill Bottle Scan** screen (Figure 21), and **ENTER** to get to the **Scan & Fill Sample Bottles** screen (Figure 22) described in Section 4.1.3.

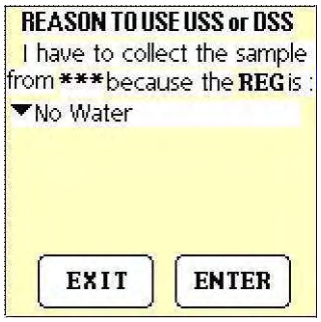

Figure 37

4.4.4. Sample from SUB instead of REG

If the REG surveillance stop is inaccessible, frozen, *etc*. the SUB shall be sampled instead. After scanning the barcode label for the sample card, you will be prompted to **Scan the Sample Station** (Figure 11). Select **SUB** from the keypad. The next screen will ask for confirmation **"Are you sure you have to use a hydrant for sampling?"**. Press the **Enter** button below the keypad and choose an appropriate reason for sampling from a hydrant (Figure 34) from the **REASON TO USE HYDRANT** drop down box:

No Water
Coliform resample
No Access – Construction
No Access – Road Block
No Access – Emergency
Broken
Frozen
Relocated
Incorrect Indexing

Make your selection, then choose **ENTER** and then **CONTINUE?**. The next screen will ask you to confirm **"Collect samples from non REG site?".** Press the **Enter** key below the keypad, input your field results making sure to verify before saving (Figures 13 – 18), then select **ENTER** to reach the **Pre Bottle Fill Scan** screen (Figure 21), then **ENTER** again to reach the **Scan & Fill Sample Bottles** screen (Figure 22) described in Section 4.1.3.

4.4.5. US / DS Investigation

If, during a routine sample collection run, you find unusual conditions at the **REG** stop, a thorough investigation must be performed, as per the *DWQC Sampling Site Plan*. Field measurements must be taken at both the **US** and **DS** sample stations. As this investigation is unscheduled and will not involve collection of any samples, you must use the **NO LABEL** option from the **Scan Sample Number** screen (Figure 10). Tap the down arrow on the **Reason for no Sample Label** screen (Figure 28), select **US-DS investigation** from the drop down box, then select **ENTER**. **Make a Sample Label** screen (Figure 29) appears. Key in:

- **1. Site Index** the five digit site number,
- **2. Type** tap the arrow to the left of the default **RG** and the select **US** or **DS** from the drop down box.
- **3. Seq** choose the default **1**.
- **4. Category** tap the arrow to the left of the default and select **SS profiling, no samp** from the drop down box.

Select **ENTER** from the screen and you will then be prompted to S**can the Sample Station** (Figure 11). Once the barcode label within the station has been scanned, you will be directed to choose **CONTINUE?** from the screen to proceed. After entering all the field measurements (Figures 13 – 17), *review this data carefully (Figure 18) before selecting **ENTER** from the screen as you will not have another chance to edit.* You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

Choose **Go to the Next Site** and repeat this procedure for the **US** or **DS** station.

4.4.6. US / DS Profiling

Upstream / downstream profiling runs are performed to **1.** visually and mechanically inspect each sampling station for functionality, and **2.** to conduct field analyses to ensure similar water quality at all three compliance stations in the event of a coliform resample. Field measurements are taken at both the **US** and **DS** sample stations. As this investigation does not involve collection of any samples, the **NO LABEL** option from the **Scan Sample Number** screen (Figure 10) must be used. Tap the down arrow from the **Reason for No Sample Label** screen (Figure 28) and select **US-DS profiling** from the

drop down box then select **ENTER**. **Make a Sample Label** screen appears. Key in the

- **1. Site Index** the five digit site number.
- **2. Type** tap the arrow to the left of the default **RG** and the select **US** or **DS** from the drop down box.
- **3. Seq** choose the default **1**.
- **4. Category** tap the arrow to the left of the default and select **SS profiling, no samp** from the second page of the drop down box.

Select **ENTER** from the screen and you will then be prompted to **Scan the Sample Station** (Figure 10). Once the barcode label within the station has been scanned, you will be directed to choose **CONTINUE?** from the screen to proceed. After entering all the field measurements (Figures 13 – 17), *review this data carefully (Figure 18) before selecting **ENTER** from the screen as you will not have another chance to edit.* You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

Choose **Go to the Next Site** and repeat this procedure for the **US** or **DS** station.

4.4.7. Well Profiling

Well profiling runs are performed in order to monitor chemical treatment at the wells. Field analyses are performed at both the raw and treated taps, and a chemistry sample is collected at the treated tap for lab analysis. For well samples, the **Scan & Fill Bottles** portion of the sampling event comes before entering the field results.

4.4.7.1. Raw taps

As the investigation at the raw tap does not involve collection of any samples, the **NO LABEL** option from the **Scan Sample Number** screen (Figure 10) must be used. Select the default **No printed label** from the drop down box on the **Reason for No Sample Label** screen (Figure 28) then select **ENTER**. **Make a Sample Label** screen (Figure 29) appears. Key in the

- **1. Site Index** the five digit well number. If the well site index contains less than 5 digits, *you must enter the well number followed by the appropriate number of underscore symbols to make up five digits, i.e. W23__*. The underscore symbol "_" is located on the keypad by selecting the shift key, then the "-" key (to the right of the space bar at the bottom of the keypad).
- **2. Type** choose the default **RG**
- **3. Seq** choose the default **1**.

4. Category tap the arrow to the left of the default and select **well profiling, no micro** from the second page of the drop down box.

Select **ENTER** from the screen and you will then be prompted to **Scan Sample Station** (Figure 11). There is a barcode label attached to each raw well tap to insure that the proper tap is sampled. *Do not sample from taps without barcode labels*. Once the barcode label at the well has been scanned, you will be directed to choose **CONTINUE?** from the screen to proceed. The next screen will be the **Pre Bottle Fill Scan Screen** (Figure 21). Select **ENTER** and you will be brought to the **Scan & Fill Bottles** screen (Figure 22). Since no samples are collected at the raw tap, select **DONE** from the screen and you will be required to enter your field test results (Figures 13 – 17). After entering all the field measurements, *review this data carefully (Figure 18) before selecting **ENTER** from the screen as you will not have another chance to edit*. After accepting the data, the scanner will remind you that you haven't filled the chemistry bottle, so just press the **Clear** button below the LCD screen. You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

Choose **Go to the Next Site** for the treated tap.

4.4.7.2. Treated taps

As the investigation at the treated tap involves collection of a chemistry sample, the card label must be scanned. After **Scanning the Sample Number** (Figure 10), you will be prompted to **Scan Sample Station** (Figure 11). In this case you will scan the barcode attached to the well tap. Once the barcode label at the well has been scanned, you will be directed to choose **CONTINUE?** from the screen to proceed. The next screen will be the **Pre Bottle Fill Scan Screen** (Figure 21). Select **ENTER** and you will be brought to the **Scan & Fill Bottles** screen (Figure 22). Scan the yellow chemistry "CA" bottle label and fill. Select **DONE** from the screen, and the next screen will remind you to enter the results from the field tests. Press **ENTER** to advance to the series of screens at which you will enter the field readings. After entering all the field measurements (Figures 13 – 17), *review this data carefully (Figure 18) before selecting **ENTER** from the screen as you will not have another chance to edit*. You will then be directed to a **SUB MENU** (Figure 24) which will then give you the following choices:

Go to the Next Site
Review Data File
Scan / Fill Sample Bottles
Trip End / pH Meter Check

Choose **Go to the Next Site** for the next well.

5. Trip-End pH Meter Check

After you have completed your run, you must enter the final pH buffer reading, then select **ENTER** (Figure 38). You will then be reminded to enter your trip-end mileage (Figure 39).

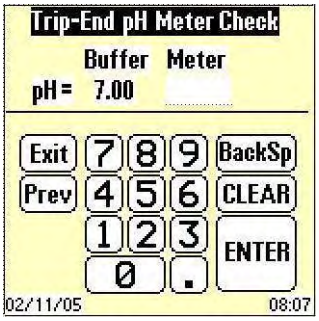

Figure 38

Figure 39

Figure 40

Figure 41

Figure 42

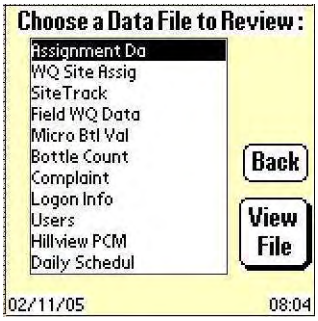

Figure 43

6. UTILITIES SUB-MENU

The **UTILITIES SUB-MENU** (Figure 40) offers several useful tools, including **Office Phone List** (Figure 41), **Instruction Menu** (Figure 42), **View Data File** (Figure 43), **Find SS Address** (Figure 44). Also included in this sub-menu is a second route for a few of the items to be entered from the **MAIN MENU**, including **Cl_2 Meter Check**, **Data File Upload** (Figure 45), **Vehicle Mileage**, and **Enter Meter Info.**

Figure 44

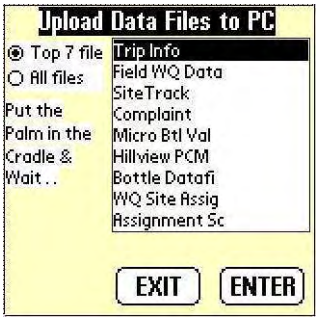

Figure 45

Figure 46

7. ISCO AutoSAMPLER

Select **ISCO AutoSAMPLER** from **MAIN MENU - 2** to reach the **Auto Sampler Bottle Scan** screen (Figure 46). Scan each autosampler bottle and manually enter the sample volume contained within. You must scan all bottles including chem, micro, and DI blank. When entering the volume, a maximum of three digits may be used. For a full bottle, enter "999" instead of 1000 mLs. For an empty bottle, please enter "0" for the volume. When all bottles have been scanned and the volume entered, select **DONE** from the screen. This will bring you back to **MAIN MENU - 1**. From this point, you must perform **MICRO BOTTLE CHECK** as described in Section 7 above.

8. MICRO BOTTLE CHECK

Select **MICRO BOTTLE CHECK** from **MAIN MENU - 2** to scan autosampler micro bottles prior to submission to the lab to ensure a valid QC date. Scan the QC label from each autosampler microbiological sample bottle followed by the yellow field label (Figure 46). The scanner will not allow you to scan the same bottle more than once. Once you have scanned both labels on each autosampler micro bottle, select **DONE** from the screen. This will bring you back to **MAIN MENU - 2**.

9. UPLOAD DATA TO PC

Upon your return to the lab, the field data file needs to be uploaded to the computer in the receiving room. The **UPLOAD DATA TO PC** option is available through two routes, through **MAIN MENU -1, UTILITIES SUB-MENU, Data File Upload**, or directly via **MAIN MENU -2, UPLOAD DATA TO PC**. The default selections on the left portion of the screen are **Top 7 files** and **Trip Info**. In order to transmit, choose **ENTER** from the keypad, the press the **Clear** button below the keypad, then firmly seat the scanner in the docking station. The status of the transmission will be displayed on the computer screen.

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APPENDIX I

FLUORIDE INCIDENT PLAN

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NEW YORK CITY DRINKING WATER
FLUORIDE INCIDENT PLAN

Background

The United States Environmental Protection Agency (EPA) does not regulate fluoride. Fluoride is regulated at the discretion of the primacy agency in each state. In 1964, the Board of Health of the New York City Department of Health (now called the Department of Health and Mental Hygiene [DOHMH]) made fluoridation a requirement for New York City's drinking water. The current New York State Department of Health Sanitary Code maximum contaminant level (MCL) for fluoride is 2.2mg/L.

Fluoride is added at Kensico in Shaft 18 for the Delaware Systems and at the Catskill Screen Chamber for the Catskill System. Fluoride application occurs for the Croton System at Dunwoodie, Shaft 18 of the New Croton Aqueduct. The current feed systems are due to be upgraded and will be able to automatically flow pace the fluoride feeds. Continuous monitoring equipment after the points of application, Shaft 19, Eastview and Shaft 18 ¼ for the Catskill, Delaware, and Croton Aqueducts respectively, have been installed that continuously monitor fluoride concentrations up to 10.0 ppm. The monitoring and recording equipment have telemetering and alarm notification capabilities, which are set to immediately alert the operators when the fluoride concentration exceeds 2.2 ppm.

Due to repeated system shutdowns at Kensico, necessitated by construction activities, the fluoride feeds are continually turned on and off. This disruption in the fluoride feed system has caused elevated concentrations of the initial dose of fluoride into the Catskill and Delaware water supplies, i.e., fluoride overfeeds. The long travel time of the water from Kensico to the Distribution system has allowed the short term elevated fluoride concentrations to decrease to acceptable levels before the water enters the distribution system. Despite the fact that the historical "fluoride overfeed incidents" have not caused a fluoride MCL violation in the City's distribution system, DEP has agreed to incorporate this Fluoride Incident Plan into its Distribution Sampling Site Plan. This Fluoride Incident Plan will define what actions DEP will take if a fluoride overfeed incident occurs.

Fluoride Incident Plan

A "fluoride overfeed incident" is defined as a spike in the fluoride concentration above 2.2 ppm for fifteen minutes, which is confirmed by two consecutive automated data log meter readings and by simultaneous, corresponding pH readings, measured prior to the distribution system entry point for the water supply. The following are the elements of DEP's Fluoride Incident Plan. This plan lists actions and those responsible for the actions during periods following a fluoride overfeed incident.

Key

DWQC	Bureau of Water Supply – Drinking Water Quality Control, Distribution Operations
Shaft 18	Bureau of Water Supply – EOH Operations, Kensico Operations
CLGH	Bureau of Water Supply – EOH Operations, Croton Lake Gatehouse
Res Ops	Bureau of Water and Sewer Operations – Reservoir Operations
DT1	Bureau of Water and Sewer Operations – Hillview Reservoir Downtake 1
DT2	Bureau of Water and Sewer Operations – Hillview Reservoir Downtake 2
GH5	Bureau of Water and Sewer Operations – Jerome Park Reservoir Gatehouse 5

****

Fluoride overfeed incident on the Delaware Aqueduct:

In the event of an overfeed of fluoride after Shaft 18 in the Delaware system, the following tasks must be performed:

- Shaft 18 determines travel time of fluoride spike to Hillview Reservoir
- Shaft 18 notifies Res Ops, DWQC and appropriate downstream communities of the fluoride overfeed and estimated arrival time at Hillview Uptake 2
- DT2 collects grab samples at Uptake 2 and Downtake 2 at arrival time designated by Shaft 18 plus travel time between chambers (a decrease in pH will indicate that fluoride spike has arrived as well)
- DWQC collects samples at entry point sites 1S03A and 1S03B based on flow and travel times (approximately one hour after Downtake 2 at site 1S03A and four hours after at site 1S03B)
- DWQC notifies NYSDOH and DOHMH of the overfeed event

****

Fluoride overfeed incident on the Catskill Aqueduct:

In the event of an overfeed of fluoride after Cat(Leff) in the Catskill system, the following tasks must be performed:

- Shaft 18 Ops determines travel time of fluoride spike to Hillview Reservoir
- Shaft 18 notifies Res Ops, DWQC and appropriate downstream communities of the fluoride overfeed and estimated arrival time at Hillview Uptake 1
- DT1 collects grab sample at Uptake 1 at estimated arrival time designated by Shaft 18 (a decrease in pH will indicate that fluoride spike has arrived as well)
- DT1 collects grab sample at Downtake 1 six hours after Uptake 1
- DWQC collects sample at entry point site 1S07 based on flow and travel times (approximately 4 hours after Downtake 1 at site 1S07)
- DWQC notifies NYSDOH and DOHMH of the overfeed event

****

Fluoride overfeed incident on the New Croton Aqueduct:

In the event of an overfeed of fluoride at Dunwoodie in the Croton system, the following tasks must be performed:

- CLGH determines travel time of fluoride spike to Jerome Park Reservoir
- CLGH notifies Res Ops, DWQC and appropriate downstream communities of the fluoride overfeed and estimated arrival time at Jerome Park Reservoir - Gatehouse 5
- GH5 performs grab sample at Gate House 5 site 00032 at estimated arrival time designated by CLGH (a decrease in pH will indicate that fluoride spike has arrived as well) and at site 00033* 30 minutes later
- DWQC notifies NYSDOH and DOHMH of the overfeed event
- DWQC collects daily sample at entry point site 3SC26

*Note: Drinking water from the Croton Aqueduct will remain in Jerome Park Reservoir for approximately 2 weeks prior to entering the distribution system. Collection of an entry point sample directly after a fluoride spike at Dunwoodie would not be representative of the overfeed incident. Site 00033 grab will indicate that elevated fluoride did not enter the distribution system.

Contact List

Name	Title	Office Phone	Beeper No.	Cell Phone
Tony Pironti	Kensico Fluoride	(914) 946-0610		
Croton Lake Gatehouse		(914) 692-2637		
Hillview Downtake #1		(914) 237-7527		
Hillview Downtake #2		(914) 237-6802		
Jerome Gatehouse #5		(718) 548-7000		
Joseph Licari	BWS Ops&Engr - EOH	(914) 428-6025		(347) 672-2934
Salome Freud	BWS Deputy Chief Distribution Ops	(718) 595-5367		(917) 513-4845
Lin Lu	BWS Distribution Field Operations	(718) 595-6361	(917) 706-1454	(917) 769-0861
Tom Tipa	BWSO Reservoir Operations	(914) 237-8888 (718) 595-5750	(917) 762-0201	(646) 879-3439
Joseph Hadden	BWSO Reservoir Operations	(914) 237-7527		(347) 203-1880