NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

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In the Matter of the Implementation
of an Investigation Program for a facility located in Pelham, New York

AGREEMENT

by

(INDEX NO. D3-0002-97-04)

Levin Properties, L.P.,
Volunteer.

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CONSIDERING,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of the Environmental Conservation Law of the State of New York ("ECL"). This Agreement is entered into pursuant to the Department's authority under that law.

2. The site consists of a parcel of land, approximately 20 acres in size, situated along Boston Post Road and Pelham Parkway in the Village of Pelham Manor (the "Site"). Exhibit "A" of this Agreement is a map of the Site showing its general location.

3. A. Levin Properties, L.P. ("Levin") is the ground lessee of the Site, which is owned in fee by John Hancock Mutual Life Insurance Company ("Hancock"). Levin is a New Jersey limited partnership, with offices located at 893-917 Rt. 22W, North Plainfield, New Jersey 07061. References in this Agreement to "Volunteer" are to Levin.

B. Volunteer intends to maintain the Site's use as a shopping center and to expand the shopping center by constructing an additional building of approximately 80,000 square feet for retail use.

C. Volunteer represents, and for the purposes of this Agreement the Department relies on those representations, that:

1. Hancock is the current owner of the Site, having acquired the Site in 1966, and that Levin is authorized by Hancock to enter into this Agreement; that the involvement of Volunteer with the Site is limited to the ownership, construction and operation of a shopping center on the site; and that Levin did not cause or contribute to the Existing Contamination and did not discharge, dispose of, or release at the Site any hazardous substances, contaminants or analytes of concern existing on the Site as of the effective date of this Agreement (the "Existing Environmental Concerns") and is not otherwise responsible under

law to remediate the Existing Environmental Concerns.

2. The Site was formerly used as a town gas production facility from approximately 1911-12 until approximately 1967. Most of the facility components used for the production of gas from oil and coal were removed from the Site by 1959. In about 1958, underground storage tanks for the feedstock used in producing liquid petroleum-air gas were installed along the western edge of the Site. These tanks and the liquid petroleum-air gas production equipment at the Site were retired in late 1967, and were dismantled and removed from the Site shortly thereafter.

3. The previously described operations appear to have resulted in the presence of soil and groundwater contamination in the form of volatile organic compounds ("VOCs"), primarily benzene, toluene, ethylbenzene and xylenes ("BTEX"), and possibly other compounds and analytes of concern at the Site, the full extent of which has yet to be determined (the "Existing Contamination"). These compounds and constituents are described in the April 1994 Site Investigation of AKRF, Inc., previously submitted to the Department.

4. The Department has the power, inter alia, to provide for the prevention and abatement of water, land, and air pollution. ECL 3-0301.1.i.

5. A. Volunteer wishes to enter into this Agreement in order to resolve its potential liability as a responsible party under ECL Article 27, Title 13, under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), or under comparable statutory or common law theories of remedial liability for the investigation of the Existing Environmental Concerns at the Site. The Department finds that such resolution, undertaken in accordance with the terms of this Agreement, is in the public interest.

B. Volunteer, desirous of implementing an investigation program acceptable to the Department, consents to the terms and conditions of this Agreement.

6. The Department and Volunteer agree that the goals of this Agreement are for Volunteer to (i) implement a Department-approved investigation program for the Site ("Investigation Program"); and (ii) reimburse the State's administrative costs as provided in this Agreement.

7. Volunteer agrees to be bound by the terms of this Agreement. Volunteer consents to and agrees not to contest the authority or jurisdiction of the Department for the sole purpose of entering into or enforcing this Agreement, and agrees not to contest the validity of this Agreement or its terms.

IN CONSIDERATION OF AND IN EXCHANGE FOR THE DEPARTMENT'S NOT CONSIDERING LEVIN OR HANCOCK TO BE A RESPONSIBLE PARTY UNDER ECL ARTICLE 27, TITLE 13, UNDER CERCLA, OR UNDER COMPARABLE STATUTORY OR COMMON LAW THEORIES OF REMEDIAL LIABILITY MERELY FOR HAVING INVESTIGATED THE SITE UNDER THE CIRCUMSTANCES SET FORTH IN THIS AGREEMENT AND FOR OTHER GOOD AND VALUABLE CONSIDERATION, VOLUNTEER AGREES TO THE FOLLOWING:

I. Performance and Reporting of the Investigation Program

A. Within 30 days after the effective date of this Agreement, Volunteer shall commence implementation of the Investigation Program work plan (the "Work Plan") attached to this Agreement and made part of it as Exhibit "B."

B. Volunteer shall perform the Investigation Program in accordance with the Work Plan. Volunteer shall notify the Department of any significant difficulties that may be encountered in implementing the Work Plan or any Department-approved modification to the Work Plan and shall not modify any obligation unless first approved by the Department.

C. During the implementation of the sampling and field investigation activities identified in the Work Plan, Volunteer shall have on-Site a full-time representative who is qualified to supervise the work done.

D. In accordance with the schedule contained in the Work Plan, Volunteer shall submit to the Department a Final Investigation Report. The Final Investigation Report shall:

1. include all data generated and all other information obtained during the investigation;

2. provide all of the assessments and evaluations identified in the Work Plan;

3. identify any additional data to be collected; and

4. include a certification by the individual or firm with primary responsibility for the day to day performance of the investigation that all activities that comprised the investigation were performed in full accordance with the approved Work Plan.

E. The Department shall not consider Volunteer or Hancock to be responsible parties for the Existing Environmental Concerns at the Site merely for having carried out the activities that comprise the investigation under the Work Plan.

II. Progress Reports

A. Volunteer shall submit to the individuals identified in Subparagraph IX.A.1 in the numbers specified therein copies of written monthly progress reports that:

1. describe the actions which have been taken toward achieving compliance with this Agreement during the previous month;

2. include all results of sampling and tests and all other data relating to the Site received or generated by Volunteer or Volunteer's contractors or agents in the previous month, including quality assurance/quality control information, whether conducted pursuant to this Agreement or conducted independently by Volunteer;

3. identify all reports and other deliverables required by this Agreement that were completed and submitted during the previous month;

4. describe all actions, including, but not limited to, data collection and implementation of the Work Plan, that are scheduled for the next month and provide other information relating to the progress at the Site;

5. include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of Volunteer's obligations under the Agreement, and efforts made to mitigate those delays or anticipated delays; and

6. include any modifications to the Work Plan that Volunteer has proposed to the Department and any that the Department has approved.

B. Volunteer shall submit these progress reports to the Department by the twentieth day of every month following the effective date of this Agreement.

C. Volunteer also shall allow the Department to attend, and shall provide the Department at least five days advance notice of any meeting solely between Volunteer and one or more professionals retained by Volunteer relating to the Work Plan's implementation, other than meetings which include counsel of Volunteer.

III. Review of Submittals

A. The Department shall review each of the submittals Volunteer makes pursuant to this Agreement to determine whether it was prepared, and whether the work done to generate the data

and other information in the submittal was done, in accordance with this Agreement and generally accepted technical and scientific principles. The Department shall notify Volunteer in writing of its approval or disapproval of the submittal. All Department-approved submittals shall be incorporated into and become part of this Agreement.

B. 1. If the Department disapproves a submittal, it shall so notify Volunteer in writing and shall specify the reasons for its disapproval within 30 days after its receipt of the submittal and may request Volunteer to modify or expand the submittal; provided, however, that the matters to be addressed by such modification or expansion are within the specific scope of work as described in the Work Plan. Within 30 days after receiving written notice that Volunteer's submittal has been disapproved (or within such other period of time agreed to by Volunteer and the Department), Volunteer shall make a revised submittal to the Department which endeavors to address and resolve all of the Department's stated reasons for disapproving the first submittal.

2. After receipt of the revised submittal, the Department shall notify Volunteer in writing within 30 days of its approval or disapproval. If the Department disapproves the revised submittal, the Department and Volunteer may pursue whatever remedies at law or in equity (by declaratory relief) that may be available to them, without prejudice to either's right to contest the same. If the Department approves the revised submittal, it shall be incorporated into and become part of this Agreement.

IV. Enforcement

A. This Agreement shall be enforceable as a contractual agreement under the laws of the State of New York.

B. Volunteer shall not suffer any penalty under this Agreement or be subject to any proceeding or action if it cannot comply with any requirement of this Agreement because of fire, lightning, earthquake, flood, adverse weather conditions, strike, shortages of labor and materials, war, riot, judicial intervention or intervening action of a competent governmental agency or court, obstruction or interference by adjoining landowners, or any other fact or circumstance beyond Volunteer's reasonable control ("force majeure event"). Volunteer shall, within five working days of when it obtains knowledge of any such force majeure event, notify the Department in writing. Volunteer shall include in such notice the measures taken and to be taken by it to prevent or minimize any delays and shall request an appropriate extension or modification of this Agreement. Volunteer shall have the burden of proving by a preponderance of the evidence that an event is a defense to compliance with this

Agreement pursuant to this Subparagraph IV.B of this Agreement.

V. Entry upon Site

Volunteer hereby consents to the entry upon the Site or areas in the vicinity of the Site under the control of Volunteer by any duly designated employee, consultant, contractor, or agent of the Department or any State agency having jurisdiction with respect to the Work Plan for purposes of inspection, sampling, and testing and to ensure Volunteer's compliance with this Agreement. The Department shall abide by the health and safety rules in effect for the work being performed at the Site under the terms of this Agreement. Upon request, Volunteer shall permit the Department full access to all records relating to Work Plan (other than those portions of records constituting attorney-client communications that are protected by the attorney-client privilege or that are otherwise privileged) and to job meetings.

VI. Payment of State Costs

Within thirty days after receipt of an itemized invoice from the Department, Volunteer shall pay to the Department a sum of money which shall represent reimbursement for the State's reasonable expenses including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for reviewing and revising submittals made pursuant to this Agreement, overseeing activities conducted pursuant to this Agreement, collecting and analyzing samples taken in accordance with standard Department procedure, and administrative costs associated with this Agreement; provided, however, that Volunteer's obligation to reimburse the Department under this Paragraph VI of this Agreement shall not exceed $2,500.00. Each such payment shall be made by certified check payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (e.g., supplies, materials, travel, contractual) and shall be documented by expenditure reports.

VII. Reservations of Rights

A. Nothing contained in this Agreement shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights with respect to any party other than Volunteer and Hancock.

B. Nothing contained in this Agreement shall prejudice any rights of the Department to take any investigatory or remedial action it may deem necessary if Volunteer fails to comply with this Agreement.

C. Nothing contained in this Agreement shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

D. Nothing contained in this Agreement shall be construed to affect the Department's right to terminate this Agreement at any time during its implementation if Volunteer fails to comply substantially with this Agreement's terms and conditions.

E. Except as otherwise provided in this Agreement, Volunteer and Hancock specifically reserve all defenses they may have under applicable law respecting any Departmental assertion of remedial liability against them; and reserve all rights Volunteer and Hancock may have respecting the enforcement of this Agreement by the Department, including the rights to notice, to be heard, to appeal and any other rights to due process of law. The existence of this Agreement shall not be construed as an admission of liability, fault, or wrongdoing by Volunteer or Hancock; and shall not give rise to any presumption of law or finding of fact which shall inure to the benefit of any third party.

VIII. Indemnification

Volunteer shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Agreement by Volunteer and/or any of Volunteer's directors, officers, employees, servants, agents, successors, and assigns; provided, however, that such indemnity and hold harmless obligation shall not apply to acts or omissions constituting negligence, gross negligence or intentional misconduct of the Department, the State of New York or their representatives or employees.

IX. Communications

A. All written communications required by this Agreement shall be transmitted by United States Postal Service, by private

courier service, or hand delivered.

1. Communication from Volunteer shall be sent to:

Ramanand Pergadia, P.E.
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, N.Y. 12561-1696

with copies to:

G. Anders Carlson, Ph.D.
Director, Bureau of Environmental Exposure
Investigation
New York State Department of Health
2 University Place
Albany, New York 12203

Charles E. Sullivan, Jr., Esq.
New York State Department of Environmental Conservation
50 Wolf Road, Room 410A
Albany, New York 12233-5550

Copies of work plans and reports shall be submitted as follows:

- Four copies (one unbound) to Mr. Pergadia
- Two copies to Dr. Carlson
- One copy to Mr. Sullivan

2. Communication to be made from the Department to Volunteer shall be sent to:

Evelyn Leonard, Esq.
Levin Properties, L.P.
893-917 Rt. 22W
North Plainfield, N.J. 07061

with copies to:

Mark A. Chertok, Esq.
Sive, Paget & Riesel, P.C.
460 Park Avenue
New York, New York 10022-1906

Arnold Fleming
AKRF, Inc.
117 East 29th Street
New York, N.Y. 10016

B. The Department and Volunteer reserve the right to

designate additional or different addressees for communication on written notice to the other given in accordance with this Paragraph IX.

X. Miscellaneous

A. 1. By entering into this Agreement, Volunteer certifies that it has fully and accurately disclosed to the Department all readily available information known to it and all readily available information in the possession or control of it's employees, contractors, and agents which relates in any way to the Existing Environmental Concerns. Volunteer also certifies that it has not caused or contributed to a release or threat of release of hazardous substances or pollutants or contaminants at, or from, the Site.

2. If the Department determines that information Volunteer provided and certifications made are not materially accurate and complete, this Agreement, within the sole discretion of the Department, shall be null and void, and the Department shall reserve all rights that it may have.

3. Subject to Subparagraph X.B.2 of this Agreement, Volunteer's entry into this Agreement and compliance with its terms shall not in any way be construed as an admission that Volunteer or Hancock has any remedial liability respecting the Site.

C. 1. Volunteer shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Agreement. The responsibility for the performance of the professionals retained by Volunteer shall rest solely with Volunteer. Subject to the foregoing, Volunteer retains the right to select or change professionals in its sole discretion.

2. The Department acknowledges that AKRF, Inc. is an acceptable consulting firm to assist Volunteer in carrying out the terms of this Agreement.

D. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Volunteer, and the Department also shall have the right to take its own samples. Volunteer shall make available to the Department the results of all sampling and/or tests or other data generated by Volunteer with respect to implementation of this Agreement and shall submit these results in the progress reports required by this Agreement. Volunteer shall have the right to obtain split samples and/or a copy of the analytical results of all substances and material samples

obtained or taken by the Department.

E. Volunteer shall notify the Department at least five working days in advance of any field activities to be conducted pursuant to this Agreement.

F. 1. Subject to Subparagraph X.F.2 of this Agreement, Volunteer shall seek to obtain all permits, easements, rights-of-way, rights-of-entry, approvals, or authorizations necessary to perform its obligations under this Agreement.

2. In carrying out the activities identified in the Work Plan, the Department may exempt Volunteer from the requirement to obtain any Department permit for any activity that is conducted on the Site and that satisfies all substantive technical requirements applicable to like activity conducted pursuant to a permit.

G. Volunteer and its officers, agents, servants, and employees (in the performance of their designated duties on behalf of Volunteer) shall be bound by this Agreement. Any change in ownership of Volunteer including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Volunteer's responsibilities under this Agreement.

H. Volunteer shall be responsible for ensuring that its contractors and subcontractors perform the work in satisfaction of the requirements of this Agreement.

I. All references to "days" in this Agreement are to calendar days unless otherwise specified.

J. The paragraph headings set forth in this Agreement are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Agreement.

K. 1. No term, condition, understanding, or agreement purporting to modify or vary any term of this Agreement shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other submittal shall be construed as relieving Volunteer of its obligation to obtain such formal approvals as may be required by this Agreement.

2. If Volunteer desires that any provision of this Agreement be changed, Volunteer shall make timely written application, signed by Volunteer, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be delivered or mailed to Mr. Peragadia and to Mr. Sullivan.

L. This Agreement is not subject to review under the State Environmental Quality Review Act. 6 NYCRR 617.5(c)(18).

M. In undertaking the work required under this Agreement, Levin and its general partner, employees, representatives, agents, contractors and subcontractors are deemed for the purpose of ECL 27-1321.3 and any other similar provision of state or federal law, to be performing services related to cleanup or restorative work which is conducted pursuant to a contract with the Department.

N. The provisions of this Agreement do not constitute and shall not be deemed a waiver of any right Volunteer otherwise may have to seek and obtain contribution, recovery and/or indemnification from other potentially responsible parties or their insurers, or Volunteer's insurers, for payments made previously or in the future for response costs. To the extent authorized under 42 USC 9613 and any other applicable law, Volunteer shall not be liable for any claim, now or in the future, in the nature of contribution by potentially responsible parties concerning the investigation of the nature and extent of the Existing Environmental Concerns. In any future action brought by Volunteer against a potentially responsible party under Section 113(f) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended [42 USC 9613], the provision of 42 USC 9613(f)(3) shall apply.

O. Volunteer and its general partners, officers, employees, servants, agents, lessees, successors, and assigns hereby affirmatively waives any right they had, have, or may have to make a claim pursuant to Article 12 of the Navigation Law with respect to the costs incurred to effectuate the Work Plan at the Site, and further release and hold harmless the New York State Environmental Protection and Spill Compensation Fund from any and all legal or equitable claims, suits, causes of action, or demands whatsoever that any of same has or may have as a result of Volunteer's entering into or fulfilling the terms of this Agreement with respect to the costs incurred to effectuate the Work Plan.

P. The effective date of this Agreement shall be the date it is signed by the Commissioner or his designee.

DATED: APR 24 1997

JOHN P. CAHILL, ACTING COMMISSIONER
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

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CONSENT BY VOLUNTEER
LEVIN PROPERTIES, L.P.

Volunteer Levin Properties, L.P. hereby consents to the issuing and entering of this Agreement, waives Volunteer's right to a hearing herein as provided by law, and agrees to be bound by this Agreement.

LEVIN PROPERTIES, L.P.

By: JHL Holdings, Inc., general partner

_____ : By: _____
William A. Farber, Vice President

STATE OF NEW ~~YORK~~ JERSEY)
)s.s.:
COUNTY OF SOMERSET)

On this 31ST day of MARCH, 1997, before me personally came WILLIAM A. FARBER, to me known, who being duly sworn, did depose and say that HE is the above named individual and that HE signed the above document as HIS respective free act and did individually and in HIS capacity as general partner of Levin Properties, L.P.

JEANETTE KELLY
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires March 29, 1998

_____
Notary Public

EXHIBIT "A"

Map of Site

EXHIBIT "B"

Department-Approved Work Plan

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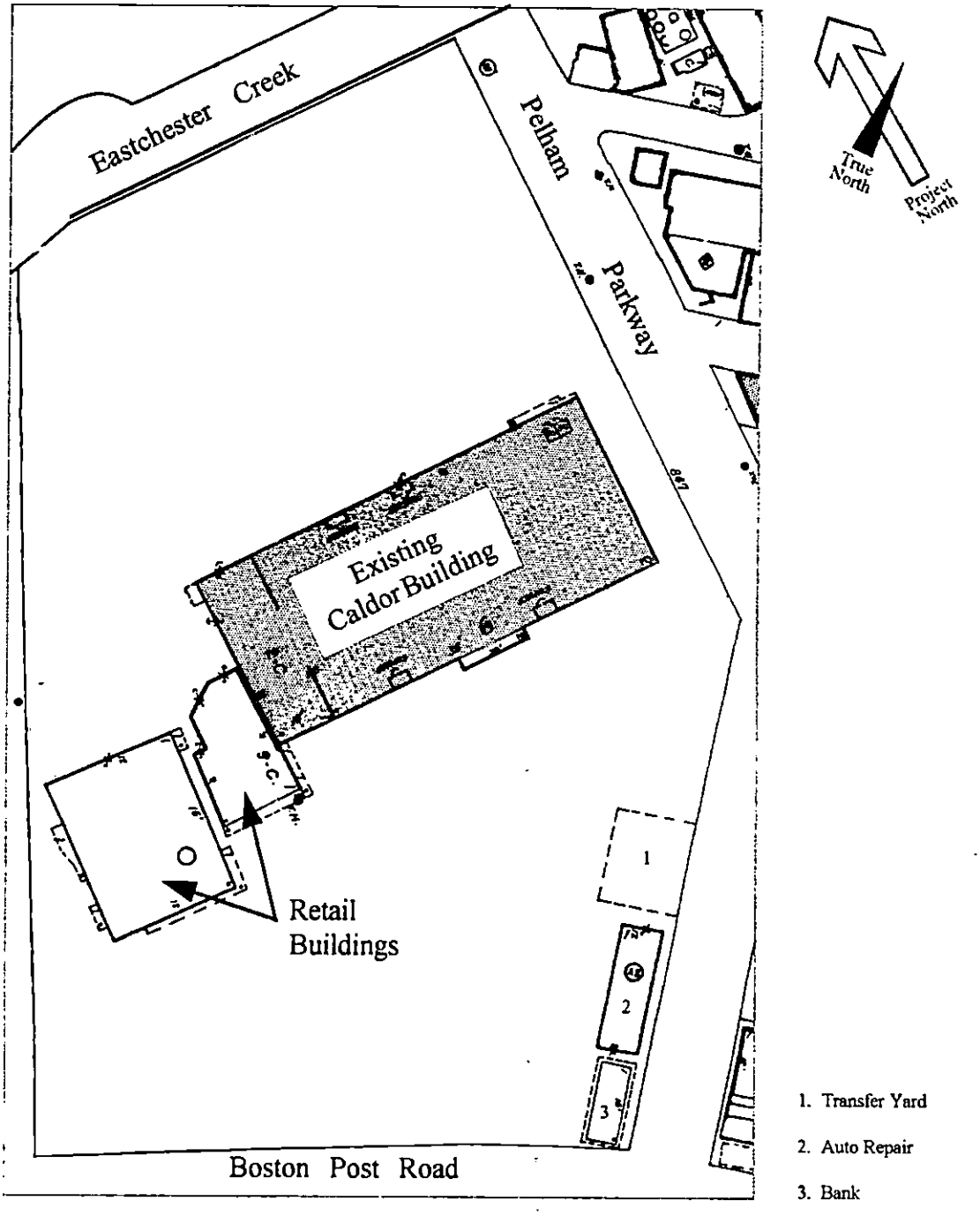
Caldor Shopping Center

Pelham Manor, New York



1989, 1990, & 1994 Sanborn Maps

AKRF, Inc.

Environmental Consultants
117 East 29th Street • New York, NY 10016 • 212/696-0670

FAX Number 212/447-5546

September 11, 1995

Mr. Keith Browne
Division of Hazardous Waste Remediation
New York State Department
of Environmental Conservation
21 South Putt Corners Road
New Paltz, NY 12561-1696

Re: Caldor Shopping Center
Pelham Manor, Westchester County

Dear Mr. Browne:

Thank you for the opportunity to meet with you and Mr. Ram Pergadia to discuss the above project. The following summarizes the discussions we had during the meeting and the understanding that was reached regarding future investigatory work on the site.

Our report "Site Investigation", February 1995 (which you have reviewed) documented the findings of our soil and groundwater sampling on the above site. Soil samples were collected from: areas planned for excavation (the proposed expansion areas of the shopping center and the proposed locations of new storm water drainage lines); and from the locations of groundwater monitoring wells installed along the Eastchester Creek. Groundwater samples were collected from the wells we installed and also from wells that were existing on the site (from previous site investigations). Our sampling program indicated elevated levels of some compounds in the soil and groundwater on the site.

A further investigation of the entire site will be performed to determine the horizontal and vertical extent of any contamination. Our previous sampling program was restricted to only those portions of the site that would be affected by the proposed expansion. The objective of the additional investigation would be to study the site in its entirety and determine if there are any "hot spots" (areas of significant contamination) present on the site.

The Division of Water (the DEC division previously overseeing the project) focused primarily on potential impairment of water quality in the Eastchester Creek and the implementation of a groundwater pump and treat system (without soil remediation). The Division of Hazardous Waste Remediation (DHWR) requested that a further investigation of the site for potential "hot spots" of contaminated soils or unknown underground storage tanks be performed (in addition to the groundwater study) to determine if additional remediation for the site is necessary.

The future work on the site would be conducted in a phased manner, with the results of one phase affecting the need for and scope of any subsequent phase. We agreed to perform the following tasks.

1. Obtain and study historical aerial photographs and Sanborn maps to determine the location of past process operations and any waste disposal areas.

2. Conduct a geophysical survey on the entire site to map areas of potential soil contamination and also to determine the presence of any underground tanks.

3. Perform a soil gas sampling program in any areas with anomalous readings to corroborate the findings of the EM survey.

4. Develop a Work Plan for an additional investigation, if necessary, based on the findings of the above three steps. The additional investigation would involve collection of soil and groundwater samples, and closure of tanks (if any are found on the site).

   The Work Plan would include a sampling plan (number of samples, locations and parameters to be analyzed), sampling methodologies (equipment and procedure), a quality assurance/quality control (QA/QC) program (equipment decontamination procedures, sample containerization and storage, chain of custody, etc.), and the laboratory analytical procedures.

   The soil and groundwater samples would be analyzed for volatile organics and Base-Neutral-Acid (B/N/A) compounds. The soil samples would also be tested for the hazardous waste characteristics of TCLP and Reactivity.

5. Develop a Health and Safety Plan for the investigative work.

6. Based on the results of the additional investigation, develop representative geologic cross-sections depicting groundwater table, surface topography, geologic formations, and boring locations.

7. Based on the results of the additional investigation, depict the horizontal and vertical extent of any contamination in soil and groundwater on a site map and on the cross-section maps.

8. Based on the results of the additional investigation, identify remedial alternatives and evaluate them to determine the most appropriate remediation for the site.

We have completed task #1, i.e., obtained and reviewed Sanborn maps and aerial photographs of the site (from 1918 through 1994) and have developed the attached Work Plan for conducting an EM Survey on the site. The Work Plan also includes performing soil gas sampling in the areas with anomalous readings to confirm the findings of the EM survey. If it is acceptable to you, we will proceed with conducting the EM survey and soil gas sampling, i.e., tasks #2 & #3. We will then submit a report to you that will contain: the findings of the above two tasks; a Work Plan for the additional investigation, if it is believed it is necessary; and a Health and Safety Plan for such additional investigative work (tasks #4 & #5).

If you have any questions, please do not hesitate to call us.

Sincerely,
AKRF, Inc.

Arnold F. Fleming, P.E.
President

Prasanna Shetty
Senior Environmental Engineer

cc: Mr. Mark von der Heyde, Levin Mgmt.
Mr. Mark Chertok, Sive Paget & Riesel

CALDOR SHOPPING CENTER
Pelham Manor, New York

WORK PLAN
for
EM SURVEY
&
SOIL GAS SAMPLING

AKRF, Inc.
117 E 29th Street
New York, NY 10016
(212)-696-0670

SEPTEMBER 1995

INTRODUCTION

The project site is approximately 20 acres in size and is occupied by a major shopping center. There are plans to expand the center by adding three new buildings to the shopping complex. A site investigation conducted in 1993 detected soil and groundwater contamination at the site in the form of volatile organic compounds, primarily benzene, toluene, ethylbenzene, and xylenes (BTEXs). The site was formerly a Consolidated Edison town gas production facility. The surrounding area adjacent to Eastchester Creek was largely used for petroleum off-loading and storage in the past. A Getty storage terminal is currently located adjacent to the site on the west.

The New York State Department of Environmental Conservation's Division of Hazardous Waste Remediation (DHWR) has asked for a Remedial Investigation (RI) to be performed on the site to determine the extent and magnitude of the soil and groundwater contamination. An EM Survey would be conducted on the entire site as a preliminary screening measure to gain an indication of which areas of the site are more contaminated than others. It would be followed by a soil gas sampling in any areas of significant contamination to corroborate the findings of the EM survey.

SITE HISTORY

The site history was compiled from reviewing historical Sanborn maps and aerial photographs (from 1918 through 1994) and from information provided by Levin Management (the ground leasee of the site). Specifically, we examined Sanborn maps from 1918, 1932, 1950, 1989, 1990, and 1994, and aerial photographs from 1947, 1954, 1959, 1966, and 1976. All the above Sanborn maps and aerial photographs are attached to this document.

The manufacturing of gas was started around 1911-1912, when the site was owned by Westchester Lighting Company. The 1918 Sanborn map shows a coal shed, generator house (where gas was made), scrubbers and condensers, purifiers, a light oil recovery plant, tar tanks and gas holders. The 1932 Sanborn map shows the addition of three oil tanks on the western side of the property. There is also a row of new smaller oil and tar tanks to the north of the light oil recovery plant. The 1947 aerial photograph showed the same structures shown on the 1932 Sanborn map. It also showed that the southwestern portion of the site was used for storage of various materials. The 1950 Sanborn map showed no change from the 1932 Sanborn map.

Prior to 1952, Consolidated Edison became a successor by merger with Westchester Lighting Company. The gas manufacturing operation on the site ceased in 1953 when the first natural gas pipeline in Westchester started operating. The 1954 aerial photograph shows that the facility was still intact and there some additional structures on the southern portion of the site, near the large gas holders. In 1958, Con Ed installed 18 underground tanks to store liquid petroleum. These tanks were located on the western edge of the property, adjacent to the Getty

property. The 1959 aerial photograph showed that most of the coal gas manufacturing facility had been dismantled and removed from the site.

In 1965, Con Ed sold the property to Barbara Realty Co., which in turn sold it to Douglaston Associates in 1966. After the sale, part of the site was leased to Con Ed for several months until Con Ed removed their remaining equipment and buildings. In 1966, John Hancock Mutual Life Insurance Company became the fee owner of the property and entered into a ground lease with Barbara Realty Co., predecessor in interest to Levin Properties, the current ground leasee and operator of the shopping center on the property. The 1966 aerial photograph shows the existing Caldor building and the 1976 aerial photograph shows the two additional retail buildings constructed to the west of the Caldor building. The 1966 aerial photograph is very useful to see where past operations were conducted on the site since it shows the existing Caldor building as well as the old boiler house and the long rectangular building (just south of the boiler house).

SITE OPERATIONS

Most of the gas produced at the former gas plant was "water gas", a mixture of gases made from coal, air, and steam. The steam was decomposed by passing it over a bed of coal. Its approximate composition was: carbon monoxide 40%, hydrogen 50%, carbon dioxide 3% and nitrogen 3%. The gas was generated in the building on the northeastern portion of the site (Generator House). Information on site specific operations was unavailable and hence the paragraph below refers to typical operations conducted at coal gasification facilities.

The manufactured gas was cooled in the condensers to remove the condensible fraction (tars). The gas was then cleaned in the scrubbers and purifiers to remove ammonia and toxic materials in the gas (such as hydrogen sulfide and cyanide). The removal of ammonia in the scrubbers was usually achieved by simply passing the gas stream through a sulfuric acid solution with the resultant formation of ammonium sulfate that was normally sold for the production of fertilizer. The purifiers typically used fixed bed boxes containing wood chips that were treated with iron oxide, which was used as a scavenger for hydrogen sulfide and cyanide in the gases. (Town Gas Plants - History, Problems and Approaches to Study by G.J. Anastos, G.M. Johnson, R.M. Schapot, and V.G. Velez, in *Proceedings of the Conference on Management of Uncontrolled Hazardous Waste Sites*, Hazardous Materials Control Research Institute, 1986; and Emerging Technologies for Recycling Manufactured Gas Plant Sites by D.J. Shosky Jr., J.J. Mahfood, R.A. Brown, and M. Jackson Jr, in *Pollution Engineering*, June 1995).

The large oil tanks shown on the western side of the property were probably used as fuel in the boiler house to generate steam that was used in the manufacture of water gas. It may also have been used as fuel in the generator house to heat the coal, over which steam was passed. The smaller oil tanks were probably used for storing light oil recovered from the condensible fractions and separated from the tar.

EM SURVEY

Electromagnetic surveys can be used for: detecting buried tanks, drums, and utility lines; delineating hydrogeological variations; and mapping soil and groundwater contaminant plumes. The electromagnetic (EM) method measures terrain conductivity using low frequency electromagnetic induction. The effective depth of exploration is about twenty feet, making it ideal for many geotechnical and soil and groundwater contaminant surveys.

The EM measurements are made without the use of electrodes or any ground contact whatsoever and hence surveys can be conducted with great speed. The continuous measurement while traversing the survey area allows increased rates of data acquisition and improved resolution for mapping small geohydrologic features, or localized areas of concern, such as buried tanks or contaminant "hot spots".

Principle of Operation

The electromagnetic (EM) method measures terrain conductivity using low frequency electromagnetic induction. A transmitter coil located at one end of the instrument induces circular eddy current loops in the earth. The magnitude of these current loops is directly proportional to the terrain conductivity in the vicinity of the loop. The current loops generate a magnetic field which is proportional to the value of the current flowing within that loop. The generated magnetic field is intercepted by the receiver coil and results in an output voltage which is also linearly related to the terrain conductivity.

The electrical conductivity of subsurface soil, rock and groundwater depends on the type of soil and rock, porosity, permeability and fluids which fill the pore space. Usually the conductivity of the pore fluids influences the measurement to the greatest extent. Hence, the EM method is useful not only for evaluating natural geohydrologic conditions, but also for mapping various contaminant plumes. Moreover, trench boundaries, buried wastes and drums, and metallic utility lines can be detected with this technique.

The EM31 provides an output of both the quadrature-phase (conductivity) in millisiemens per meter and the inphase component in parts per thousand (ppt) of secondary to primary magnetic field. The inphase component is especially useful for detecting buried metal drums, pipes, and other ferrous and non-ferrous metallic debris. The quadrature phase component is used to measure ground conductivity, and hence indicates natural geohydrologic conditions and the presence of contaminant plumes in the soil and groundwater.

Both the inphase and quadrature phase readings can be recorded simultaneously on a digital data recorder, which can also store survey geometry. Information from the data recorder is then inputted into software programs that plot the survey data on planimetric contour maps and three-dimensional topographic maps.

Survey grid spacing

Review of the Sanborn maps and aerial photographs indicate that the northern portion of the site (between the existing buildings and the Eastchester Creek) has the highest potential to be contaminated due to the past presence of tar and oil tanks and the building in which gas was generated. The southern portion of the site between the existing buildings and Boston Post Road and Pelham Parkway does not appear to have any potential sources of contamination. However, one of the samples of our previous sampling program (B-9) collected from an area south of the existing Caldor building (where a storm drain line was proposed to be located) showed elevated levels of contaminants. Examination of Sanborn maps and aerial photographs did not indicate any likely source of the contamination in the immediate vicinity. Hence, to be conservative it was decided to have a tight spacing of 20 feet between survey lines all over the site. This would ensure that we did not miss any "hot spots" on the site.

SOIL GAS SAMPLING

The soil gas sampling program is intended as a screening procedure to get a preliminary semi-quantitative indication of the extent of contamination, and to determine, if required, the best placement of soil borings and/or monitoring wells for detailed quantitative analysis of the area. The soil gas sampling locations will be in the areas with anomalous EM readings, if any, to corroborate the findings of the EM survey.

Sample Acquisition

At each soil gas sampling location, access to the soil will be gained by drilling through the surface asphalt with a 1-inch drill bit. To prevent saturation of the soil and displacement or absorption of soil gases, dry drilling (drilling without a lubricant) will be performed. Immediately upon completion of the boring through the surface asphalt, the sampling probe - a 2.5 foot long, 5/8 inch in diameter stainless steel shaft with a hardened point and slotted intakes - will be driven into the soil to a depth of 2 feet to obtain the soil gas sample.

Once the soil gas sampling probe has been driven to the desired depth, a vacuum source will be applied to the sampling probe head and the system purged to allow the collection and subsequent analysis of a representative sample of soil gas. Purging will be carried out until the equivalent of two volumes of the probe and connecting tubing are removed.

Sample Analysis

The sampling probe will be attached directly to an Organic Vapor Meter (OVM) which will measure the concentration of organic contaminants in the soil gas vapors. The location and readings of all soil gas samples tested will be recorded in the field notes so that conclusions reached from these data can be readily reviewed.

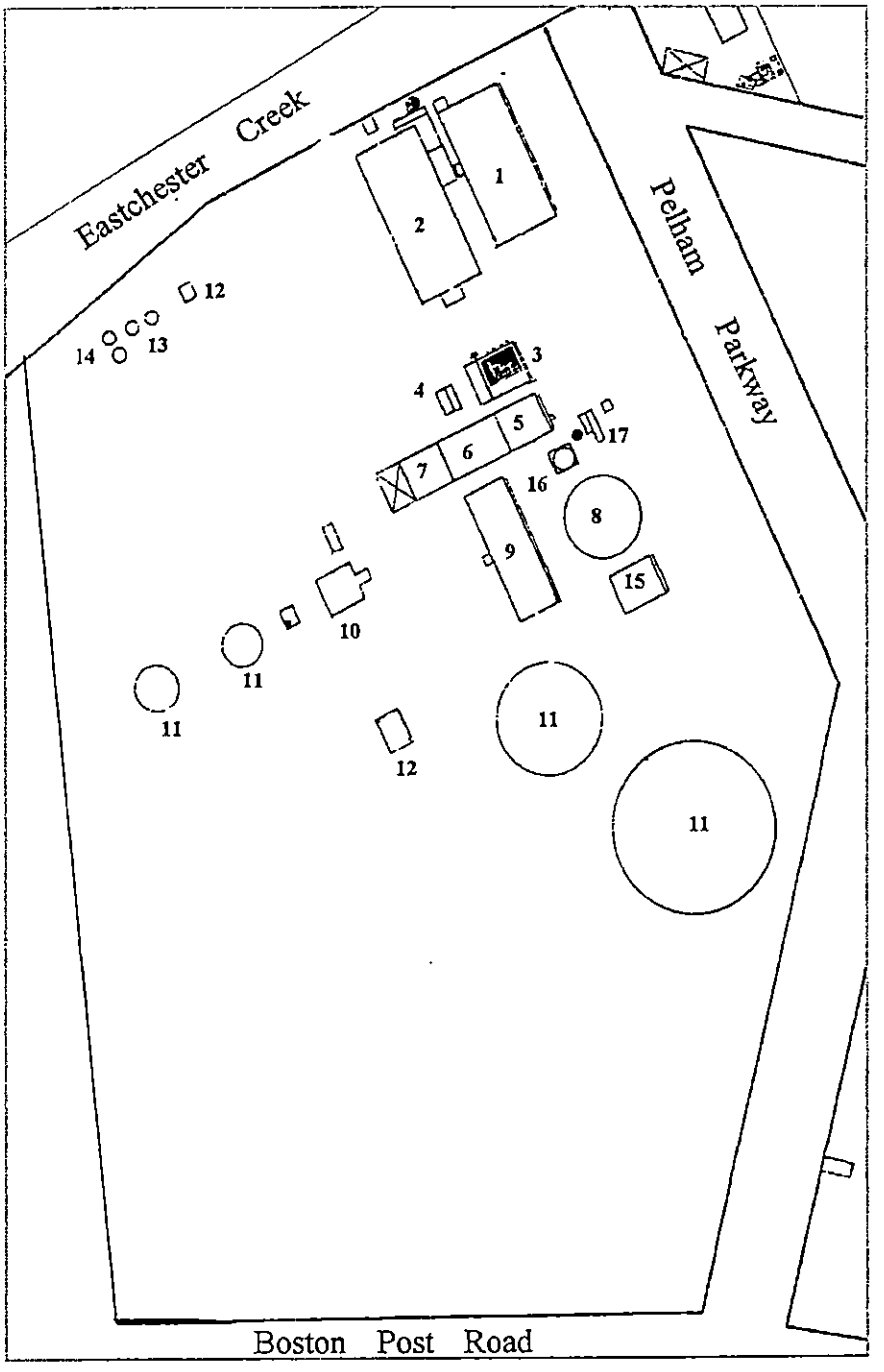
Quality Assurance/Quality Control

To prevent carry-over or cross-contamination of samples, the sampling probe, tubing and pump will be thoroughly purged and decontaminated between samples, by drawing atmospheric air through the system until readings are at atmospheric levels as determined by periodic samples of the ambient atmosphere at the site. If the probe is contaminated it will be washed out by rinsing with distilled water and will then be air dried. If badly contaminated soil is encountered, the probe will be cleaned with soap and hot water, followed by a methanol rinse, and an interior and exterior wipe with distilled, deionized water. If the tubing is the source of the contamination it will be replaced.

The OVM will be calibrated with isobutylene in accordance with the manufacturers recommendations.

Caldor Shopping Center

Pelham Manor, New York

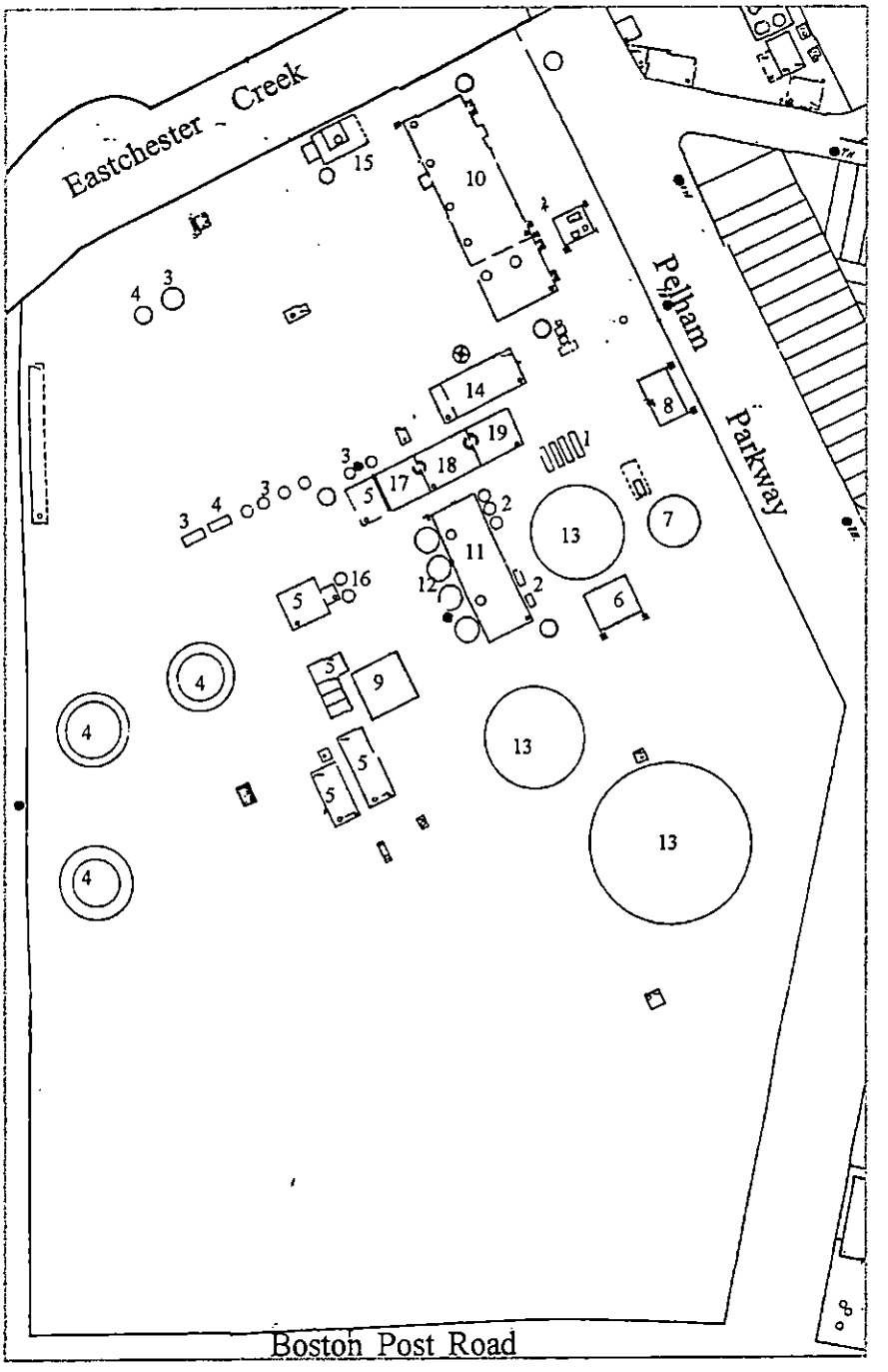


1. Generator House
2. Coal Shed
3. Pump Room
4. Brine Tanks
5. Exhauster
6. Scrubber and Condenser
7. Machine Shop
8. Relief Holder
9. Purifiers
10. Light Oil Recovery Plant
11. Gas Holders
12. Storage
13. Tar Tanks
14. Water Tanks
15. Office and Meter House
16. Salt Water Tank
17. Condenser

1918 Sanborn Map

Caldor Shopping Center

Pelham Manor, New York

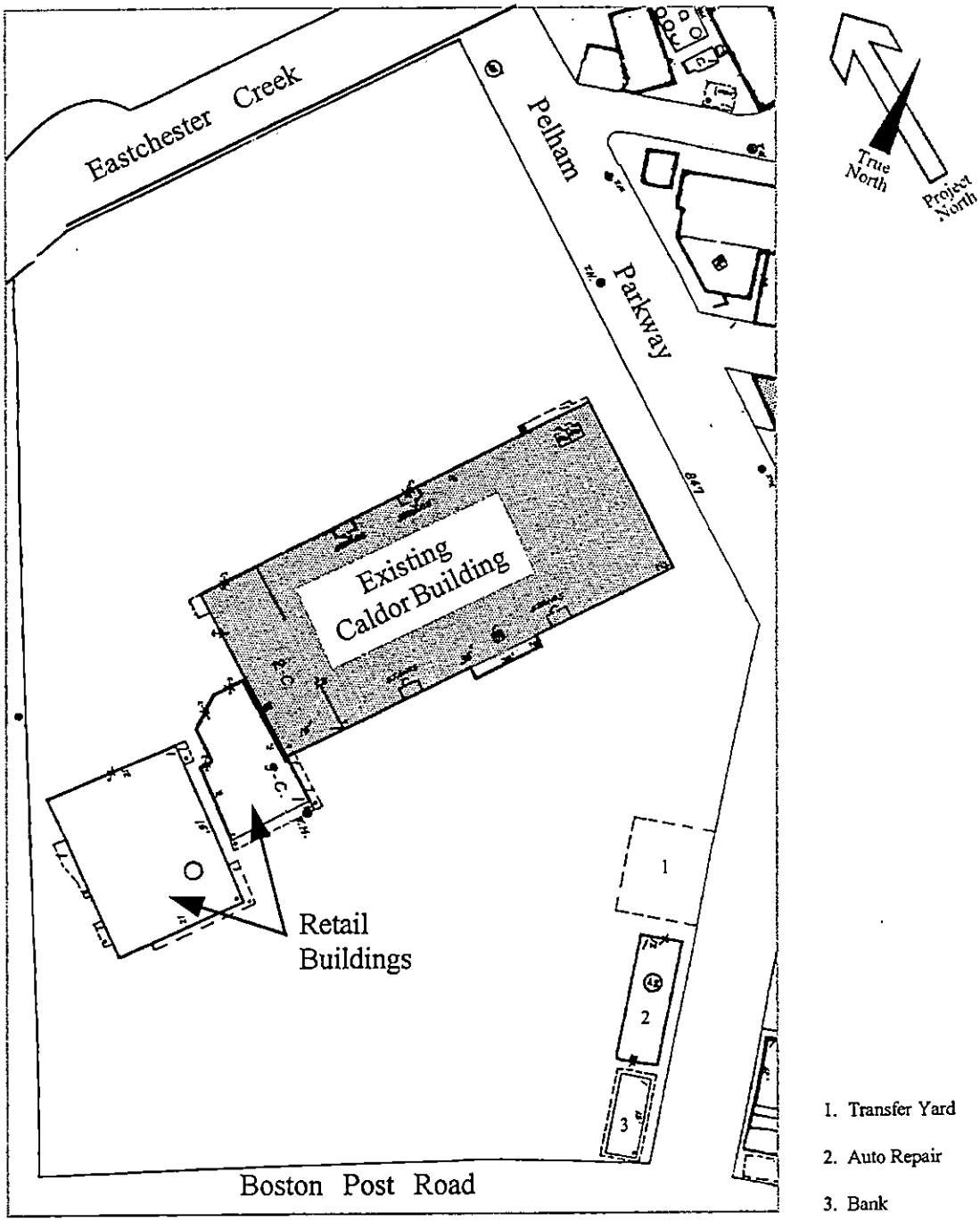


1. Gas Condensers
2. Scrubbers
3. Tar Tank
4. Oil Tank
5. Storage
6. Meter House
7. Reservoir
8. Office
9. Compressor Room
10. Generator House
11. Purifier House
12. Purifiers
13. Gas Holders
14. Boiler House
15. Coal Hoist
16. Oil Scrubbers
17. Metal Shop
18. Pusher Room
19. Exhauster Room

1932 & 1950 Sanborn Maps

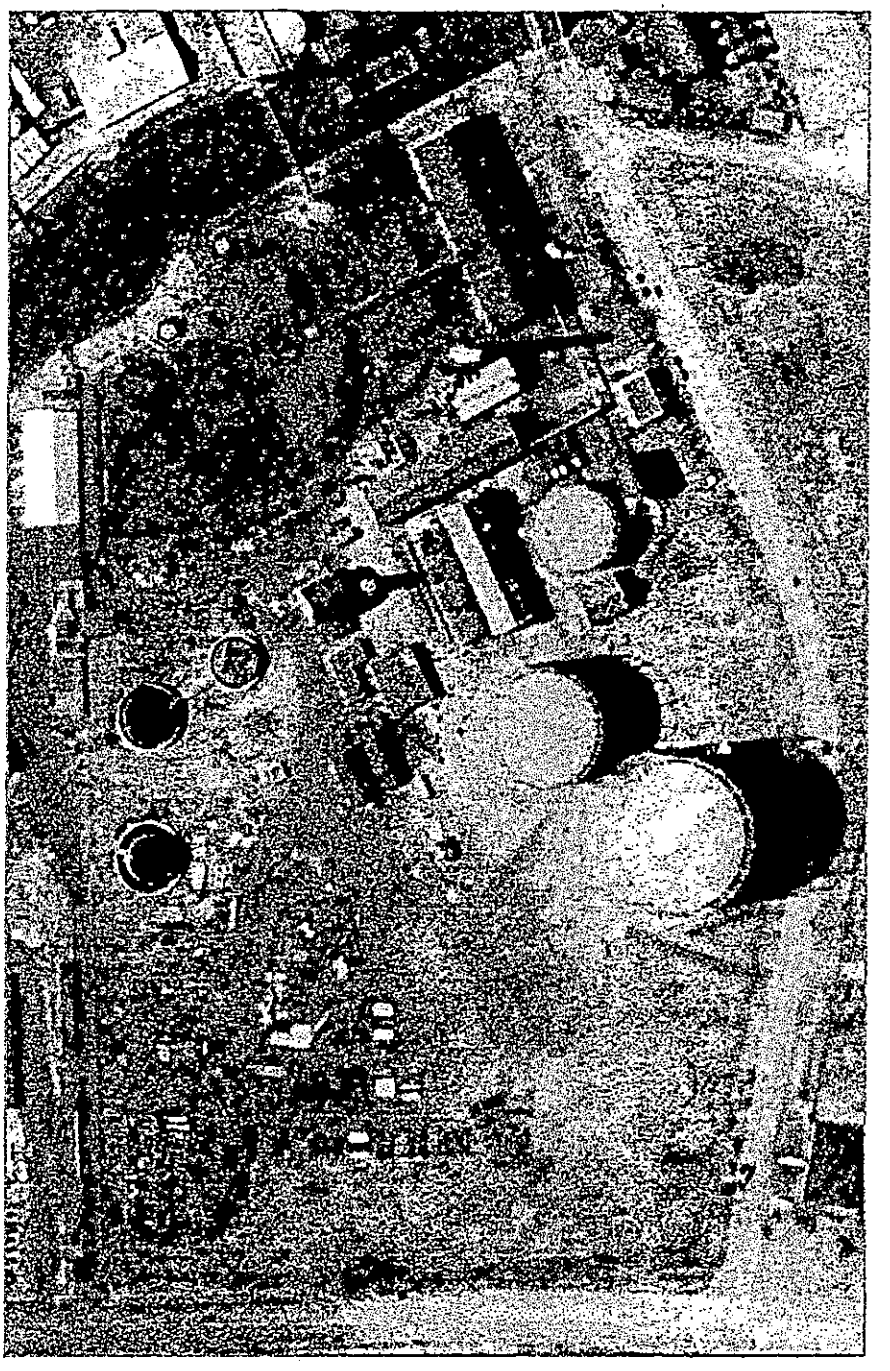
Caldor Shopping Center

Pelham Manor, New York



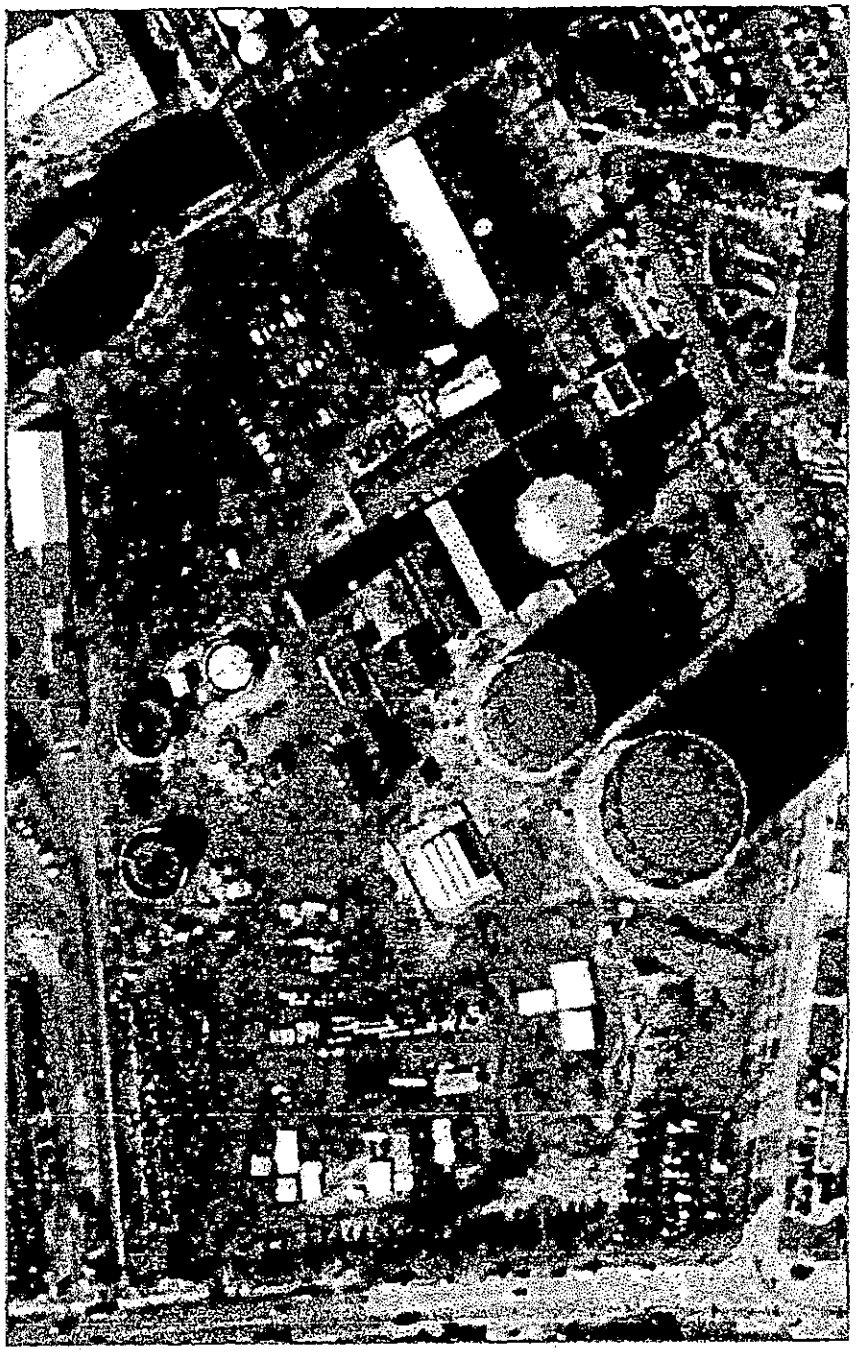
1. Transfer Yard
2. Auto Repair
3. Bank

1989, 1990, & 1994 Sanborn Maps



Caldor Site

1947 Aerial Photograph



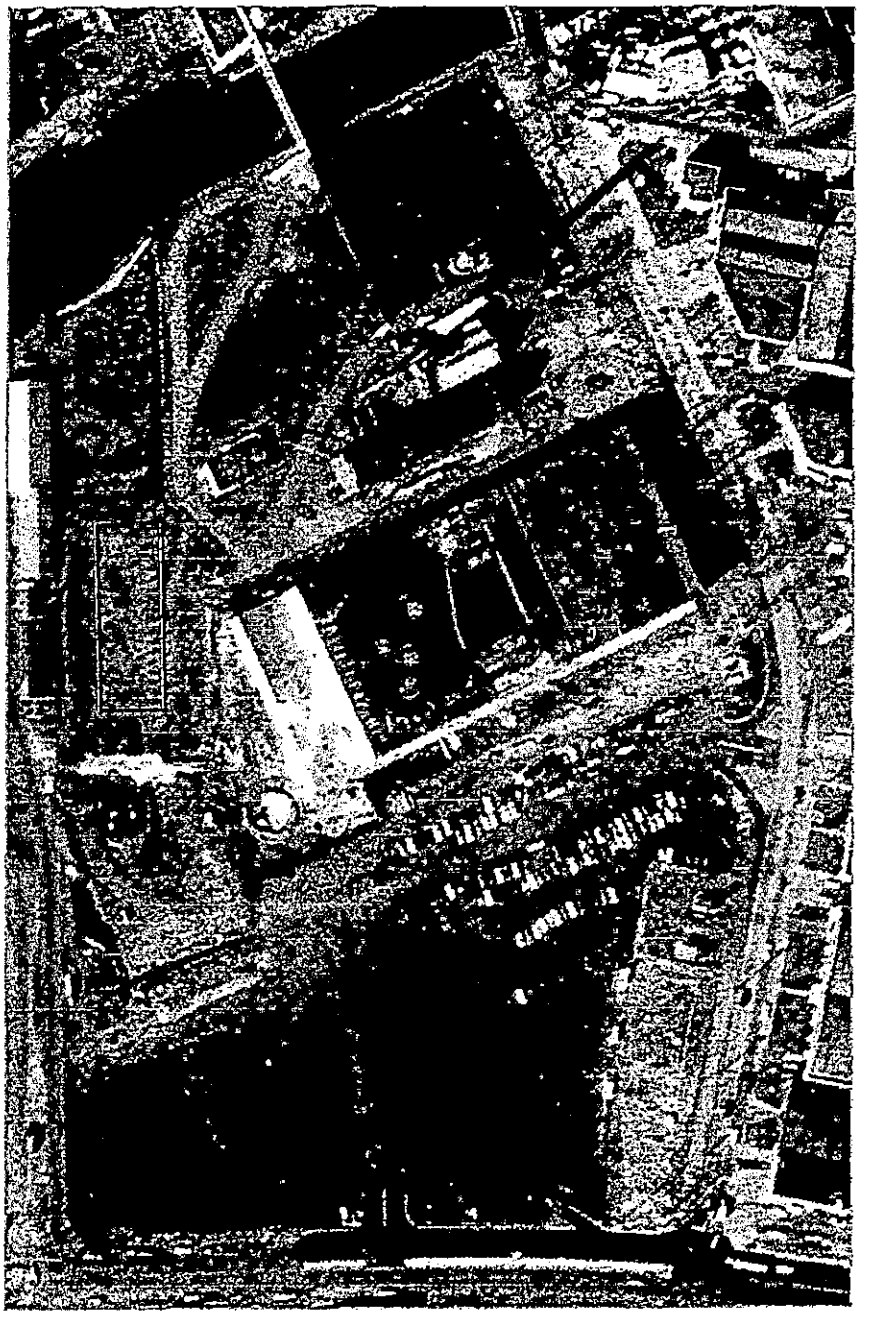
Caldor Site

1954 Aerial Photograph

Caldor Site

1959 Aerial Photograph

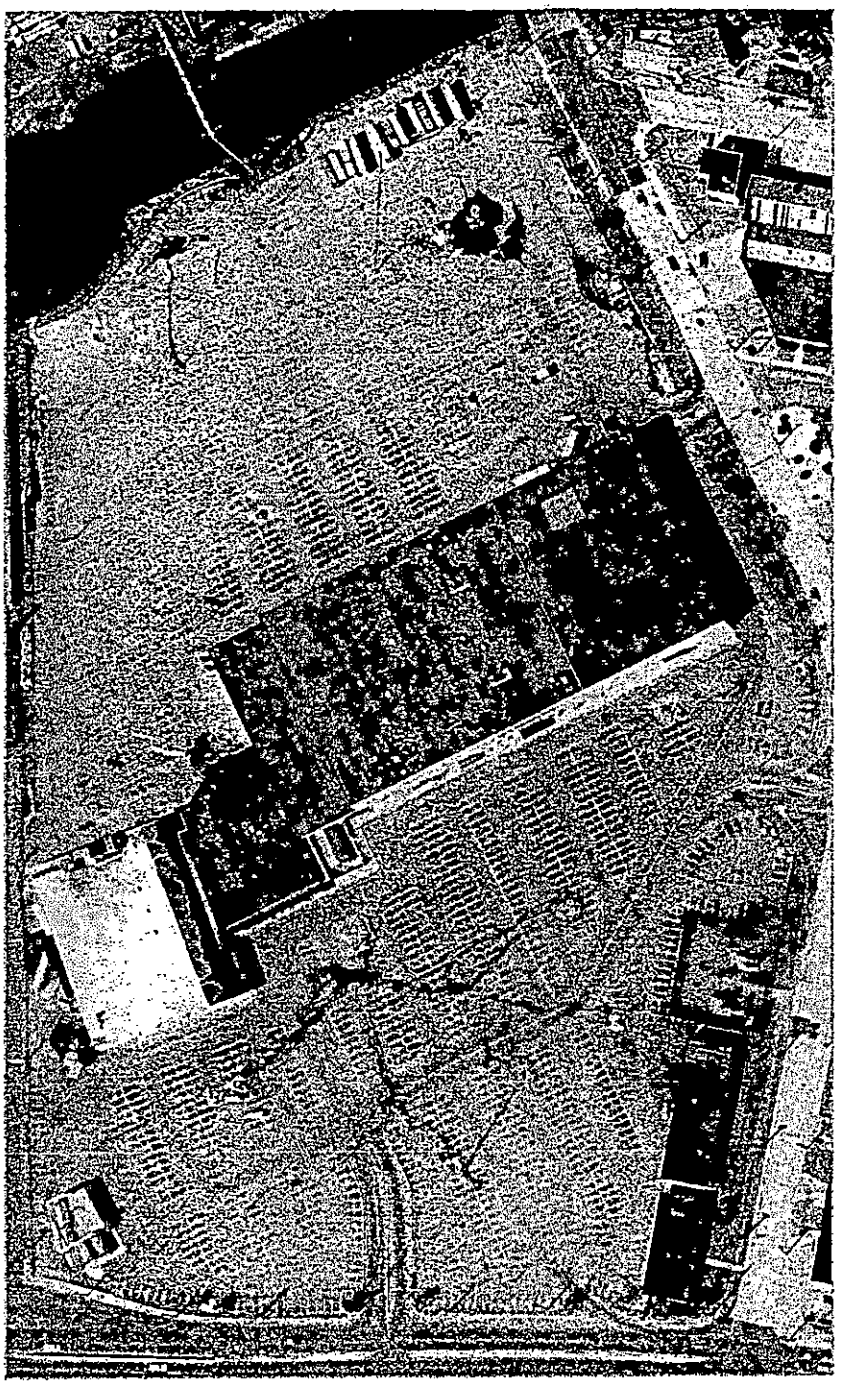
Location of Liquid Petroleum Tanks



Caldor Site

1966 Aerial Photograph

Location Of Liquid Petroleum Tanks



Caldor Site

1976 Aerial Photograph

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1696
914-256-3000 FAX: 914-255-3414

Michael D. Zagata
Commissioner

October 17, 1995

MR ARNOLD FLEMING PRESIDENT
AKRF INC
117 EAST 29TH ST
NY NY 10016

Re: Workplan Comments
Caldor Shopping Center
Pelham Manor, Westchester County

Dear Mr. Fleming:

I have reviewed the correspondence of September 11, 1995, which included a letter addressed to me, a workplan for an EM survey and a soil gas survey, site maps, and aerial photographs. I have commented on the letter and workplan. The workplan for conducting the two surveys is satisfactory. The following are my comments:

- The letter listed elements needed to conduct an additional investigation of the site. Please provide a workplan of items 4 - 8 for review. In item 4, please add cyanides to the analysis of the groundwater and the soils.

- Please provide maps of the EM survey and the soil gas survey areas with sampling grids.

This letter is only a comment letter and does not give approval of the workplan or any of the proposed investigation. The Department can only give approvals when a consent order is signed by the PRP. If there are any questions about the site, I can be contacted at (914)256-3152.

Sincerely,

Keith Browne

Keith Browne
Environmental Engineer

cc: C. Sullivan
J. Van Hoesen
S. Bates
M. von der Heyde

New York State Department of Environmental Conservation
Region 3
Division of Hazardous Waste Remediation
21 South Putt Corners Rd., New Paltz, NY 12561-1696
Telephone: (914) 256-3000 FAX: (914) 255-4238

Michael D. Zagata
Commissioner

MR PRASANNA SHETTY
AKRF INC
117 E29TH ST
NY NY 10016

April 10, 1996

Re: Caldor Shopping Center
Pelham Manor, Westchester County

Dear Mr. Shetty:

With the comments being incorporated into the workplan and the Voluntary Clean up Agreement being executed the workplan is approved by the Department. The comments on the workplan are in the attached October 17, 1995 letter.

Since the Voluntary Clean up Agreement is executed, all tasks stated in the September 11, 1995 workplan needs to be submitted to the Department for review. Item 5 - development of Health and Safety Plan needs to be submitted before the start of field work. Also a Citizen Participation plan should be developed since the site is in highly populated area. There should be a fair amount of public interest in the site when the field work starts.

Please submit the items to complete the workplan by May 2, 1996. If you have any questions please contact me at (914)256-3152.

Sincerely,

Keith Browne
Environmental Engineer

att.

cc: A. Klauss
R. Pergadia
C. Sullivan
M. Von der Heyde

CALDOR SHOPPING CENTER

Pelham Manor, New York

HEALTH AND SAFETY PLAN

SITE INVESTIGATION

(EM SURVEY & SOIL GAS SAMPLING)

AKRF, INC.
117 East 29th Street
New York, New York 10016
(212)696-0670

May 1996

TABLE OF CONTENTS

1. INTRODUCTION

The purpose of this health and safety plan (HSP) is to protect field personnel and others during sampling activities at the Caldor Shopping Center in Pelham Manor, Westchester County. The project site is approximately 20 acres in size and is occupied by a major shopping center. There are plans to expand the center by adding three new buildings to the shopping complex. A site investigation conducted by AKRF in 1993 detected soil and groundwater contamination at the site in the form of volatile organic compounds, primarily benzene, toluene, ethylbenzene, and xylenes (BTEXs). The site was formerly a Consolidated Edison town gas production facility. The surrounding area adjacent to Eastchester Creek was largely used for petroleum off-loading and storage in the past. A Getty storage terminal is currently located adjacent to the site on the west.

The New York State Department of Environmental Conservation (NYSDEC) has asked for additional investigations to be performed on the site to determine the extent and magnitude of the soil and groundwater contamination. The 1993 sampling program was restricted to only those portions of the site that would have been affected by the proposed expansion. The objective of the RI would be to study the site in its entirety and determine if there are any "hot spots" (areas of significant contamination) present on the site. The site investigative work would be conducted in a phased manner, with the results of one phase affecting the need for and scope of any subsequent phase. An EM survey would be conducted on all the open areas of the site to map areas of potential soil contamination and also to determine the presence of any underground tanks. It would be followed by a soil gas sampling program in any areas with anomalous EM readings to corroborate the findings of the EM survey. A Work Plan would be developed for a Remedial Investigation (RI), if necessary, based on the findings of the EM survey and the soil gas sampling. The RI would involve collection of soil and groundwater samples, and closure of tanks (if any are found on the site).

This HSP plan is for the EM survey and soil gas sampling program. It is in conformance with all AKRF, Inc. policies and procedures on health and safety, the various Occupational Safety and Health Administration (OSHA) standards, and other applicable regulations governing site investigation operations. It has been prepared to establish practices and procedures to protect the health of AKRF personnel, shoppers, employees of the shopping center, and others during site investigation activities. The HSP for the RI, if necessary, would be prepared later based on the scope of the RI.

2. HEALTH AND SAFETY GUIDELINES AND PROCEDURES

A. DESIGNATED PERSONNEL

AKRF will appoint one of its on-site personnel as the on-site Health and Safety Officer (HSO). This individual will be responsible for the implementation of the HSP. The HSO will have a 4-year college degree in occupational safety or a related science/engineering field, and 2 years of experience in implementation of air monitoring and hazardous materials sample programs. The HSO will have completed a 40-hour training course that meets OSHA requirements of 29 CFR Part 1910, Occupational Safety and Health Standards.

The HSO will be present on-site during the conduct of all field operations, and will be responsible for all health and safety activities and the delegation of duties to the field crew. The HSO has stop-work authorization, which he/she will execute on his/her determination of an imminent safety hazard, emergency situation, or other potentially dangerous situation. If the HSO must be absent from the field, he/she will designate a replacement who is familiar with the health and safety plan, air monitoring, and protection equipment.

B. TRAINING

All those who enter the work area must recognize and understand the potential hazards to health and safety. All field personnel must attend a training program, whose purpose is to:

- Make them aware of the potential hazards they may encounter;
- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make them aware of the purpose and limitations of safety equipment; and
- Ensure that they can safely avoid or escape from emergencies.

Each member of the field crew will be instructed in the above objectives before he/she goes onto the site. The HSO will be responsible for conducting the training program.

C. SITE WORK ZONES

The EM survey is a geophysical survey that is conducted without any ground intrusion. The survey area would be traversed while carrying the EM instrument and measurements would be recorded on the instrument's data logger. The soil gas sampling program is carried out with only minimal ground intrusion. The sampling probe (a 5/8 inch diameter stainless steel shaft) is driven into the ground to a depth of two feet and a vacuum source is applied to collect and analyze a soil gas sample.

Since the site investigation work would not result in any significant exposure to the contaminants in the site's soils, there is no need for a distinct delineation of the work area (i.e., Exclusion Zone, Contamination Reduction Zone, and Support Zone). The only work site limitations will consist of temporarily cordoning off the perimeter of the work area to prevent unauthorized entrance into the work area.

D. AIR MONITORING

An Organic Vapor Meter (OVM) will be used to perform air monitoring of the work area during the soil gas sampling program. The purpose of the air monitoring program is to avoid or minimize exposure of the field personnel and the public to potential environmental hazards in the soil. Results of the air monitoring will be used to determine the appropriate response action, if needed. The OVM will be calibrated with isobutylene in accordance with the manufacturers recommendations.

Work Zone Air Monitoring

Real time air monitoring will be done whenever soil gas sampling is being performed. Measurements will be taken for 1 minute every 60 minutes, with the OVM. These measurements will be made as close to the sampling activity as practical and at the breathing height of the workers. The HSO shall set up the equipment and confirm that it is working properly. His/her designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of sampling activities and will establish the background level for that day. The final measurement for the day will be performed after the end of sampling activities. The action levels and required responses are listed below.

ACTION LEVEL	RESPONSE ACTION
Less than 5 ppm above background	Continue work in Level D
Between 5 and 25 ppm above background	Upgrade to Level C Initiate perimeter community air monitoring
More than 25 ppm above background	Stop work. Resume work when source of vapors is abated and readings are less than 25 ppm above background

Perimeter Community Air Monitoring

During soil gas sampling activities, when air monitoring in the work zone indicates a need to conduct perimeter community air monitoring, it will be performed as follows. Air quality will be monitored at two locations at the perimeter of the work area that has been

cordoned off. One will be upwind and the other will be downwind of the sampling activity. In addition, air quality will be monitored at the location on the perimeter where shoppers or shopping center employees can come closest to the work area. Measurements will be taken for 1 minute every 60 minutes, with the OVM. The initial measurement will be performed when the action level listed above is triggered. Measurements will continue until the air monitoring in the work zone indicates that perimeter monitoring is no longer required, i.e., readings are less than 5 ppm above background in the work zone. The action levels and required responses are listed below.

ACTION LEVEL	RESPONSE ACTION
Less than 5 ppm above background	Continue work
More than 5 ppm above background	Stop work. Resume work when source of vapors is abated and readings are less than 5 ppm above background

Response Actions

AKRF will respond to the results of the air monitoring in accordance with the actions specified above. Compliance with the specified response action for the listed action levels will ensure the protection of the health and safety of the field personnel and the neighboring community.

E. PERSONAL PROTECTION EQUIPMENT

The personal protection equipment required for various kinds of site investigation tasks are based on 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear."

Since the EM survey is a non-invasive task, during this task AKRF field personnel shall wear Level D personal protective equipment. During soil gas sampling activities, modified Level D equipment will be worn unless the results of the air monitoring indicates that Level C equipment is warranted.

Level D

Respiratory Protection: None
Protective Clothing: Coveralls, work shoes

Modified Level D

Respiratory Protection:	None
Protective Clothing:	Coveralls, work shoes, gloves (1).

(1) Gloves will be used if there is a chance of contact with contaminated materials

Level C

Respiratory Protection:	Air purifying respirator with organic vapor cartridges.
Protective Clothing:	Same as modified Level D

F. GENERAL WORK PRACTICES

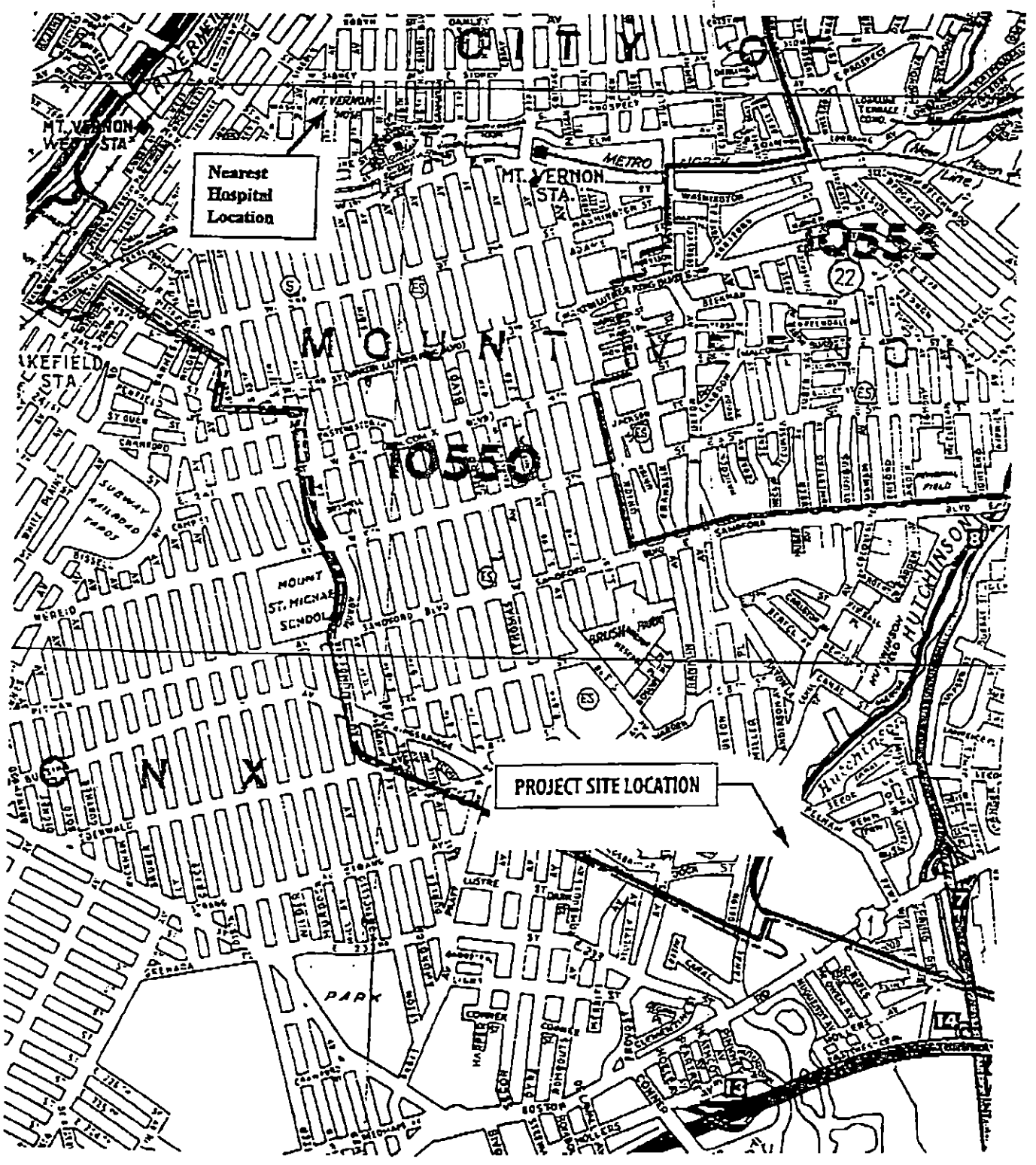
To protect the health and safety of the field personnel, all field personnel will adhere to the guidelines listed below.

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited, except in designated areas on the site. These areas will be designated by the HSO.
- Workers must wash their hands and face thoroughly on leaving the work area and before eating, drinking, or any other such activity. The workers should shower as soon as possible after leaving the site.
- Contact with contaminated or suspected surfaces should be avoided.
- Contact lenses should not be worn on-site.
- The buddy system should always be used; each buddy should watch for signs of fatigue, exposure, and heat stress.
- Whenever intrusive work is performed (during soil gas sampling), air quality will be monitored, and any necessary protective clothing and equipment will be donned.

G. EMERGENCY PROCEDURES AND EMERGENCY RESPONSE PLAN

The field crew will be equipped with emergency equipment, such as a first aid kit and disposable eye washes. In the case of a medical emergency, the HSO will determine the nature of the emergency and he/she will have someone call for an ambulance, if needed. If the nature of the injury is not serious—i.e., the person can be moved without expert emergency medical personnel—he/she should be driven to a hospital by on-site personnel. There will be an on-site field phone. The location of the nearest hospital is shown in Figure 1. The relevant telephone numbers are as follows:

Ambulance	911
Mt. Vernon Hospital 12 North 7th Ave Mt. Vernon, NY	(914) 664-8000



Location of Nearest Hospital

Figure 1

3. ACKNOWLEDGMENTS OF HSP

Below is an affidavit that must be signed by all workers who enter the site. A copy of the EHSP must be on-site at all times and will be kept by the HSO.

AFFIDAVIT

I, _____ (name), of _____ (company name), have read the Health and Safety Plan (HSP) for the Caldor Shopping Center site. I agree to conduct all on-site work in accordance with the requirements set forth in this HSP and understand that failure to comply with this HSP could lead to my removal from the site.

Signed _____ Date: _____