



Department of Environmental Conservation

Division of Hazardous Waste Remediation

Syracuse Fire Training Center
Onondaga County, New York
Site Number 734039

Record of Decision

TECHNOLOGY
SECTION
COPY

December 1992

Funded Under Title 3
of the
1986 Environmental Quality Bond Act



New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor* THOMAS C. JORLING, *Commissioner*

DECEMBER 1992
DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PREPARED BY

RECORD OF DECISION
SYRACUSE FIRE TRAINING CENTER
ONONDAGA COUNTY, NEW YORK
ID NUMBER 734039

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DECLARATION OF THE RECORD OF DECISION

SITE NAME AND LOCATION

Syracuse Fire Training Center
City of Syracuse
Onondaga County, New York
Site Code: 734039
Funding Source: 1986 Environmental Quality Bond Act

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the Syracuse Fire Training Center hazardous waste site which was chosen in accordance with the New York State Environmental Conservation Law (ECL), and consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC Section 9601, et., seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Exhibit B identifies the documents that comprise the Administrative Record for the site and includes the final Remedial Investigation and Feasibility Study (RI/FS) reports. The documents in the Administrative Record are the basis for the selected remedial action.

ASSESSMENT OF THE SITE

Actual or threatened release of hazardous substances from this site, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present a current or potential threat to public health, welfare and the environment.

SUMMARY OF GOVERNMENT PROPOSAL

Based upon the results of the RI/FS for the Syracuse Fire Training Center site and the criteria for selecting a remedy, the NYSDEC has selected the major elements of Alternative 3 with modifications, consisting of excavation and off-site disposal of higher contaminated Polychlorinated Biphenyls (PCB) and Mercury contaminated soil, on-site cover of Lead, PolyAromatic Hydrocarbon (PAH) contaminated soils and lesser contaminated PCB and mercury soils, as well as institutional controls.

The site will be fenced and will have deed restrictions to prevent future uses of the site that would interfere with the remedial measures. The excavated soils will be placed in a RCRA hazardous waste or TSCA chemical waste landfill. The remaining soils will be covered using engineering designs to mitigate direct exposure to the soils and limit the infiltration of water through these soils.

DECLARATION

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost-effective. Waivers are justified for applicable or relevant and appropriate requirements that will not be met. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable. However, because treatment of the principal

threats of the site was not found to be practicable, this remedy does not satisfy the statutory preference for treatment as a principal element.

Because this remedy will not allow for unlimited use and unrestricted exposure a five year review will be conducted. This evaluation will be conducted within five years after the completion of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

1/4/93

Date

Ann Hill DeBarbieri

Ann Hill DeBarbieri
Deputy Commissioner
Office of Environmental Remediation
New York State Department of Environmental
Conservation

I. Site Location and Description

The Syracuse Fire Training Center site is located at 312 State Fair Boulevard in the City of Syracuse, Onondaga County, New York (Figure 1). The property is 5.3 acres in size and of rectangular shape. It is bounded by State Fair Boulevard to the west, private properties to the north, Interstate 690 to the east, and a Niagara Mohawk natural gas right-of-way to the south. A number of buildings are located on-site including a five story fire training tower. The Fire Training Center was built upon an industrial and urban fill area. The urban fill consists of: construction and demolition debris, broken pottery, concrete, slag, ash, cinder, bricks and wood.

II. Site History

The Fire Training Center site is located in the Onondaga Lake basin, within a glacially formed valley. The area around the site was originally a large bog encompassing the southeastern end of Onondaga Lake. The area was gradually filled in with wastes from local industries and municipalities.

Deeper groundwaters in the area of the Fire Training Center, and the southern end of Onondaga Lake are saline as a result of salt deposited during the evaporation of a sea during the Silurian geologic period, 425 million years ago. Brine wells were installed to extract salt from the deeper groundwater. The Fire Training Center site was used for salt drying beds during the 1800's and early 1900's.

Various areas both on site and in the vicinity of the Fire Training Center were used for municipal and construction/demolition debris landfilling during the early to middle 1900's.

The Fire Training Center site was constructed in 1948 over wetlands filled with materials from unknown sources. It consisted of a five-story, brick, fire training tower; an underground 20,000 gallon cistern and an above-ground bermed burn pit. During its use, the unlined burn pit was filled with waste oil, fuel, or waste solvents, ignited, and then extinguished by trainees using chemical or water spray.

In 1969, the Fire Training Center was expanded eastward to its present size by filling in a wetland area with construction debris from the construction of the Interstate 690 highway.

The Syracuse Fire Training Center site was used by the City of Syracuse and by Niagara-Mohawk to train and educate fire department personnel, introducing them to different types of fire fighting techniques and situations. The fuels used for the fires varied from wood, mattresses, and furniture, to flammable liquids such as gasoline, diesel fuel, jet fuel, waste solvents and waste oils.

During various periods of the training facility's history, fire department personnel, along with Niagara Mohawk, stored waste oils and flammable liquids in 55 gallon drums at several locations throughout the site.

In the fall of 1981, the 55 gallon drums that were stored along the northern fenceline were removed by Niagara Mohawk, at the request of the City of Syracuse Fire Department and the NYSDEC. Each drum was analyzed by Niagara Mohawk personnel for PCBs. Of the eighty-five drums tested, five contained PCB concentrations in excess of 10,000 parts per million (ppm), three contained between 1,000 and 10,000 ppm PCBs, thirteen

contained between 50 and 500 ppm PCBs, thirty-four contained between 1 and 50 ppm PCBs, and thirty contained less than 1 ppm PCBs.

Previous soil sampling on-site occurred at the time of drum removal which detected PCBs in the soil at 25 ppm. Subsequent sampling in 1982 detected PCBs in the soils ranging from <1 ppm to 400 ppm total PCBs (18 samples collected).

Concern from the Firemen's union prompted sampling within the fire training tower and the smoke house. Wipe samples were collected from the walls of these buildings. The samples did not detect PCBs.

III. Enforcement Status

Orders on Consent

<u>Date</u>	<u>Index No.</u>	<u>Subject of Order</u>
March 20, 1989	A6-0146-88-03	Implementation of Remedial Program

The 1986 Environmental Quality Bond Act is being used to reimburse the City for up to 75 percent (75%) of the costs for the remedial program.

IV. Current Site Status

A. Summary of Field Investigations:

The following paragraphs summarize the components and conclusions of the field investigations performed at the site. The Remedial Investigation was conducted in accordance with plans formally approved by the NYSDEC in March 1990. For more detailed information regarding the Remedial Investigation or for additional regional information, refer to the Remedial Investigation Report, dated September 1992.

The Remedial Investigation (RI) was conducted by the consulting firm of Calocerinos and Spina. The Remedial Investigation found soil contamination of PCBs, Lead, PAHs and Mercury. Site investigation activities were undertaken to completely characterize the surface and subsurface conditions at the site, including the extent of soil contamination, groundwater contamination and flow patterns, any air contaminant pathways, and any impacts that the Fire Training Center might be having on the environment. These include historical research, geophysical investigation, over 250 soil samples collected at the surface and at a depth of one foot below ground surface, drilling of 9 borings and construction of 9 monitoring wells, in-situ hydraulic conductivity testing of the completed wells, groundwater monitoring, determination of groundwater flow velocities, and two rounds of sampling for chemical analysis of groundwater, surface water and sediments of Harbor Brook.

B. Summary of Site Conditions:

The subsurface investigation revealed urban fill (i.e., construction and demolition debris, pottery, cinders, wood, etc.) ranging to a depth of 16 to 24 feet below the ground surface (bgs). Below this urban fill, was a low permeability layer of peat, silt and marl. Five shallow groundwater monitoring wells were installed at depths

ranging from 16 to 21 feet bgs. Four deep groundwater monitoring wells were installed at depths ranging from 45 to 58 feet bgs. Flow direction in the deep groundwater is toward Onondaga Lake. This deep zone has not been impacted by the site nor has it been impacted by the urban fill. Shallow groundwater in this area has been impacted with inorganic contamination, most likely from the urban fill. The shallow groundwater was contaminated with lead ranging from 3.1-4.1 parts per million (ppm) both upgradient and downgradient. Due to the high background concentrations of lead, it appears the urban fill in this general area, not the site itself, is the source of shallow groundwater contamination. There is no usage of the aquifer near the site and public drinking water is readily available in this area.

The sediments of Harbor Brook were found to have lead concentration of 71 ppm and further downstream at 91 ppm. Harbor Brook is an urban stream which has numerous road drainage contributions. This stream also travels through areas of industrial and urban fill, and it is logical to conclude that impacts to the Harbor Brook sediments are primarily attributable to inputs other than the site. However, given the numerous actions on this property in the past, historical impacts from this site cannot be ruled out.

Groundwater present in the overburden is contaminated with inorganics which may be attributed to the urban fill materials historically used to reclaim this part of the City from swampland. The deeper aquifer has been protected from contamination by a low-permeability layer of peat, silt and marl. Neither the overburden nor the deeper groundwater is used for human consumption in the vicinity of the site.

Air monitoring at this site was conducted using high volume polyurethane foam (PUF) samplers. The tests were conducted on two different days for a period of 24 hours. The samples were analyzed for metals, PCBs and total suspended particulates (TSP). The test results detected concentrations of PCBs at or less than one percent of the Ambient Guidance Concentrations in the New York State Department of Environmental Conservation's "Air Guide-1". The TSP values were 30-35 percent of the NYS ambient air quality standard. Using "Air Guide-1," Lead was recorded at seven percent of the Ambient Guidance concentrations the highest percentage for all inorganics analyzed.

C. SUMMARY OF SITE RISKS:

The Risk Assessment for the Syracuse Fire Training Center, shows slight risks to individuals onsite from inadvertent ingestion of, or direct contact with contaminated soils. Polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), mercury and lead are the contaminants of concern. The selected remedial action would eliminate human exposures to contaminants at the site.

V. Goals for the Remedial Actions

The overall remedial goal for this site is to achieve a remedy which best fits the following criteria:

1. Is protective of both human health and the environment.
2. Obtains compliance with State standards, criteria and guidance.

3. Minimizes short-term impacts.
4. Maximizes long-term effectiveness and performance.
5. Is technically and administratively implementable.
6. Reduces the toxicity, mobility or volume of contaminants.
7. Is cost-effective.

In the selection of a remedy, the following hierarchy of remedial technologies are considered. They are listed in descending order of desirability:

1. Irreversible destruction or detoxification of all or most of the hazardous wastes to "acceptable clean-up levels."
2. Permanent and significant reduction in the volume of waste mixed with hazardous wastes.
3. Permanent and significant reduction in the mobility of the hazardous wastes.
4. Significant reduction in the toxicity of the hazardous wastes.
5. Off-site land disposal of the hazardous waste.

Based upon the findings of the Remedial Investigation the remedial response objectives for the Syracuse Fire Training Center site are to:

- o Eliminate the high level PCB and Mercury contamination present within the soils on-site.
- o Eliminate the threat to surface waters by containing any future surface runoff from the Lead, PAH, residue Mercury and low-level PCB contaminated soils on-site.
- o Eliminate the potential for direct human or animal contact with the contaminated soils on-site.

VI. Summary of the Evaluation of the Remedial Alternatives

The Syracuse Fire Training Center site has been evaluated as a single "operable unit." That is, the site consists essentially of a single contaminated area and the evaluations would not benefit from dividing the site into separate units.

The FS screened different technologies for technical implementability in achieving the remedial goals. The following section describes the alternatives considered in the detailed analysis. More complete descriptions of the alternatives can be found in the RI/FS Report.

Alternative 1 involves No Action at the site. Although the no action alternative does not include operations to reduce existing contaminant exposure risks, respective site personnel are currently prohibited from accessing or utilizing non-paved site areas,

minimizing contact with site contaminants. Alternative No. 1 would not meet applicable or relevant and appropriate standards, criteria, and guidance (SCGs). There is no justification for waiving all SCGs.

Time to Implement: 0 weeks Cost: \$0.00

Alternative 2, Institutional Controls, addresses the risk of exposure pathways by restricting site access with the reparation of the perimeter fence. Alternative 2 includes restrictions on the use of the facility so that training does not disturb or allow contact with the contaminants left on-site. For this alternative, fire training personnel will be informed of the presence and location of contaminants on-site. Personnel will be informed of the procedures to minimize contaminant contact and maintain the integrity of institutional controls. The final component of Alternative 2 is to place deed restrictions on the site. Alternative 2 will also include a long-term monitoring program.

Although Alternative 2 reduces risks associated with direct exposure by fencing, and institutional control will help protect human health, Alternative 2 is not fully protective of human health and the environment. Contaminant levels in the surface soils will continue to pose a risk to fire training personnel and wildlife that trespass on-site. Alternative 2 will not satisfy SCGs, and there is no justification for waiving all SCGs.

Present Worth: \$181,247.00 Annual Cost: \$12,860.00
Capital Cost: \$ 29,818.00 Time to Implement: 6 weeks

Alternative 3 excavation and off-site disposal of PCBs and Mercury contaminated soils and capping of Lead and PAH contaminated soils. This alternative involves the excavation and transportation of PCB/Mercury contaminated soils to a permitted and compliant off-site landfill for disposal. In particular, PCB contaminated soils will be excavated down to a level of approximately 2 ppm. Imported fill will be placed in the area where the soil was excavated. An asphalt cover will be placed over the area where Lead, PAH and PCB contamination concentrations exceed clean-up goals. This alternative will significantly reduce the volume and toxicity of the soils on-site and the mobility of the contaminants associated with the soils will be significantly reduced.

This alternative would also require by the recording of a Deed Restriction by the City of Syracuse in the Onondaga County Clerk's Office, the implementation of Department approved institutional controls and the notification to, and approval by, the Department and the Department of Health of any physical alteration or construction constituting a substantial change of the use of the site. This Deed Restriction must meet the requirements set forth in 6 NYCRR Part 375-1.6 as promulgated in May of 1992. In addition, a copy of this Record of Decision shall be attached and made a part of such a Deed Restriction. Alternative 3 would comply with SCGs except those where waivers were justified.

Present Worth: \$1,361,776.00 Annual Cost: \$23,300.00
Capital Cost: \$1,276,648.00 Time to Implement: 14 weeks

Alternative 4 excavation and off-site disposal of PCB, Mercury, Lead and PAH contaminated soils. As with Alternative 3, this involves the excavation of said soils and disposal in a qualified off-site

landfill. Imported clean fill will be placed in the area where the soil was excavated. This alternative will significantly reduce the volume and toxicity of the soils on-site, and the mobility of the contaminants associated with this site will be significantly reduced. Alternative 4 would comply with SCGs except those where waivers were justified.

Present Worth:	\$8,625,720.00	Annual Cost:	\$0.00
Capital Cost:	\$8,625,720.00	Time to Implement:	43 weeks

Alternative 5 is the excavation and off-site incineration of PCB and Mercury contaminated soils and an asphalt cover for Lead and PAH contaminated soil. This alternative requires the excavation of PCB and Mercury contaminated soils. The soils are transported to a qualified off-site rotary-kiln incineration facility for treatment. Imported clean fill will be placed in the area where the contaminated soils were removed. The Lead and PAH contaminated areas will be covered in place. This alternative will significantly reduce the volume and toxicity of the soils on-site, and the mobility of the contaminants associated with this site will be significantly reduced.

This alternative would also require by the recording of a Deed Restriction by the City of Syracuse in the Onondaga County Clerk's Office, the implementation of Department approved institutional controls and the notification to, and approval by, the Department and the Department of Health of any physical alteration or construction constituting a substantial change of the use of the site. This Deed Restriction must meet the requirements set forth in 6 NYCRR Part 375-1.6 as promulgated in May of 1992. In addition, a copy of this Record of Decision shall be attached and made a part of such a Deed Restriction. Alternative 5 would comply with SCGs except those where waivers were justified.

Present Worth:	\$3,309,022.00	Annual Cost:	\$23,300.00
Capital Cost:	\$3,223,942.00	Time to Implement:	21 weeks

Alternative 6 is the excavation and on-site soil washing of the PCB, Mercury, Lead and PAH contaminated soils. This alternative requires the placing of a soil washing treatment system on-site. The contaminated soils will then be excavated, sorted into size categories and treated by this system. The washing agent must then be treated. The soils would be returned from where they were excavated. This alternative will significantly reduce the volume and toxicity of the soils on-site, and the mobility of the contaminants associated with this site will be significantly reduced. Alternative 6 will comply with SCGs except those where waivers were justified.

Present Worth:	\$7,964,321.00	Annual Cost:	\$0.00
Capital Cost:	\$7,964,321.00	Time to Implement:	40 weeks

Alternative 7 is the excavation and off-site incineration of PCB, Mercury, Lead and PAH contaminated soils. This alternative requires the excavation of all contaminated soils. These soils will then be transported to a qualified rotary-kiln incineration facility for treatment. Imported clean fill will be placed in the area where soils were excavated. This alternative will significantly reduce the volume and toxicity of the soils on-site, and the mobility of the contaminants associated with this site will be significantly reduced. Alternative 7 will comply with SCGs except those where waivers were justified.

Present Worth: \$54,966,552.00
Capital Cost: \$54,966,552.00

Annual Cost: \$0.00
Time to Implement: 55 weeks

The alternatives are evaluated in detail in Section 5 of the FS Report.

VII HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Fireman's Union has shown strong interest in this project during the remedial process. Public meeting and other events have been held to update the community and firemen on remedial activities, as summarized in the following chronology:

March 20, 1990: Public meeting concerning the RI/FS work plan.

October 23 to November 23, 1992: Public comment period on the Proposed Remedial Action Plan (PRAP).

November 10, 1992: Public meeting to present the PRAP.

A Citizen Participation (CP) Plan was developed and implemented by the City of Syracuse with oversight and participation by the NYSDEC. All major reports were placed in the document repositories in the vicinity of the site and made available to the public for review. A public contact list was developed and used to distribute meeting announcements.

Inquiries and comments (written and verbal) were received and responded to throughout the course of the project. Comments received regarding the PRAP have been addressed and are documented in the Responsiveness Summary (Exhibit C)

VIII Summary of the Government's Decision

The State's selected remedial action is Alternative 3 with modifications.

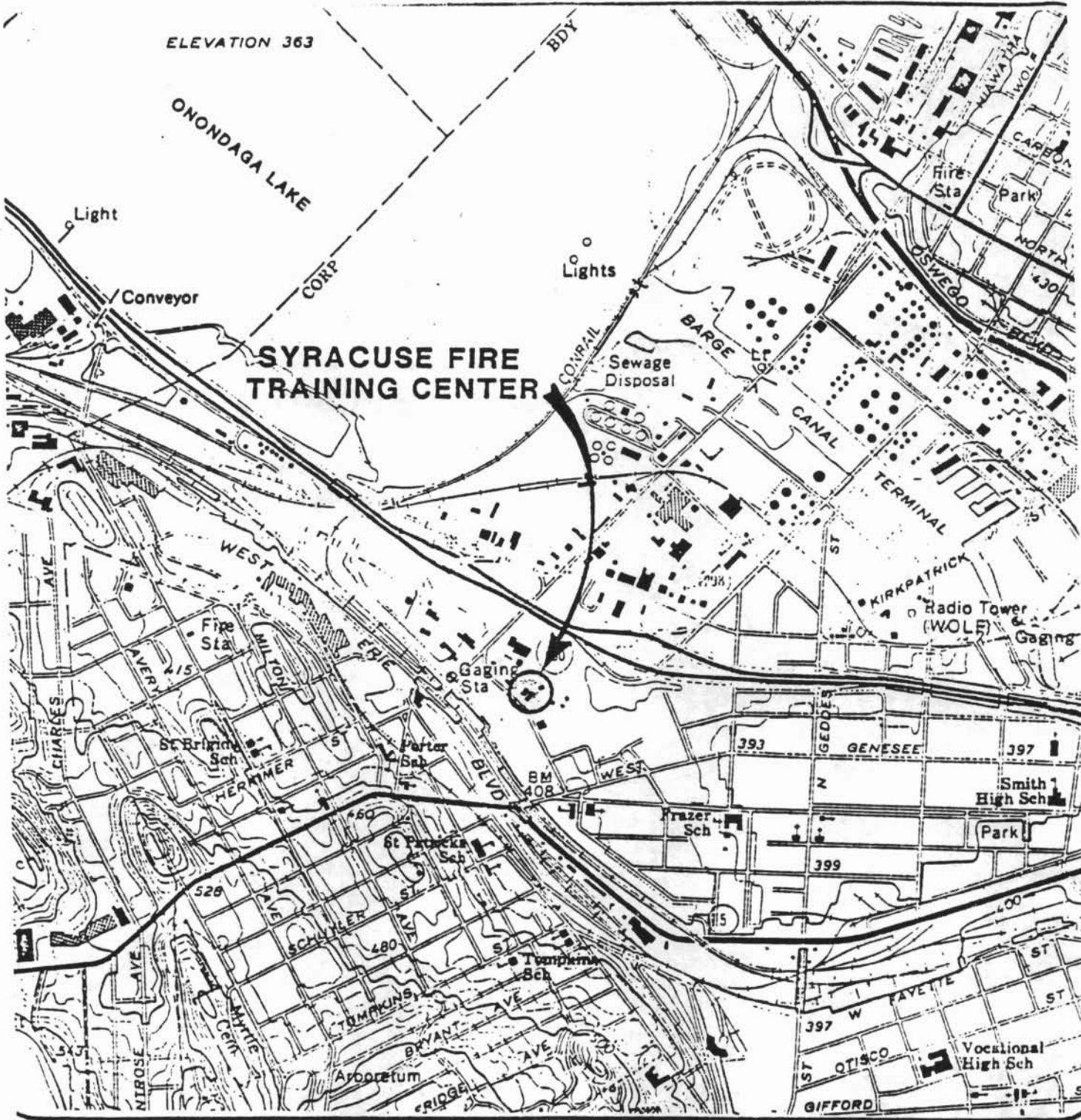
Alternative 3 with modifications consists of deed restrictions and the following activities: a) Excavation and off-site disposal of higher contaminated PCB (above 2 ppm at ground surface; 10 ppm one foot below ground surface) and Mercury (greater than 20 ppm) soils, and b) an engineered asphalt cover of Lead contaminated soils above 500 ppm and PAH contaminated soils above 40 ppm including Mercury contaminated soils between 1 and 20 ppm. c) Surface soil PCB contamination between one and two ppm will be covered by either the asphalt cap or a 6" top-soil barrier which will be graded and seeded. The cost for the excavation and disposal is \$486,365.00. The cost associated with the asphalt cover including operation and maintenance is \$826,777.00. There is an estimated \$48,634.00 cost for mobilization/demobilization, health and safety and construction inspection. The total PW cost of modified Alternative 3 is \$1,361,776.00

This alternative would also require by the recording of a Deed Restriction by the City of Syracuse in the Onondaga County Clerk's Office, the implementation of Department approved institutional controls and the notification to, and approval by, the Department and the Department of Health of any physical alteration or construction constituting a substantial change of the use of the site. This Deed Restriction must meet the requirements set forth in 6 NYCRR Part 375-1.6 as promulgated in May of 1992. In addition, a copy of this Record of Decision shall be attached and made a part of such a Deed Restriction.

Modified Alternative 3, when implemented, will prevent human exposure to contaminated soils, will protect the environment from migration of contaminants and will be effective in the long term. The actions can be implemented with common construction practices and costs are appropriate based upon the costs associated with similar PCB soil remediation and installation of Asphalt capping. Other alternatives or combinations may meet the criteria set-forth, but the recommended alternative is thought to be the most effective and economical.

IX. Cost Estimate for the Selected Remedial Alternative

Selected Alternative	Present Worth	Capital Cost	O&M (Present Worth)	Annual O&M
Alternative 3 with modifications	\$1,361,776.	\$1,276,648.	\$85,128.00	\$23,300.00



**SYRACUSE FIRE TRAINING CENTER
 SYRACUSE, NEW YORK
 GENERAL LOCATION PLAN**

FIGURE 1

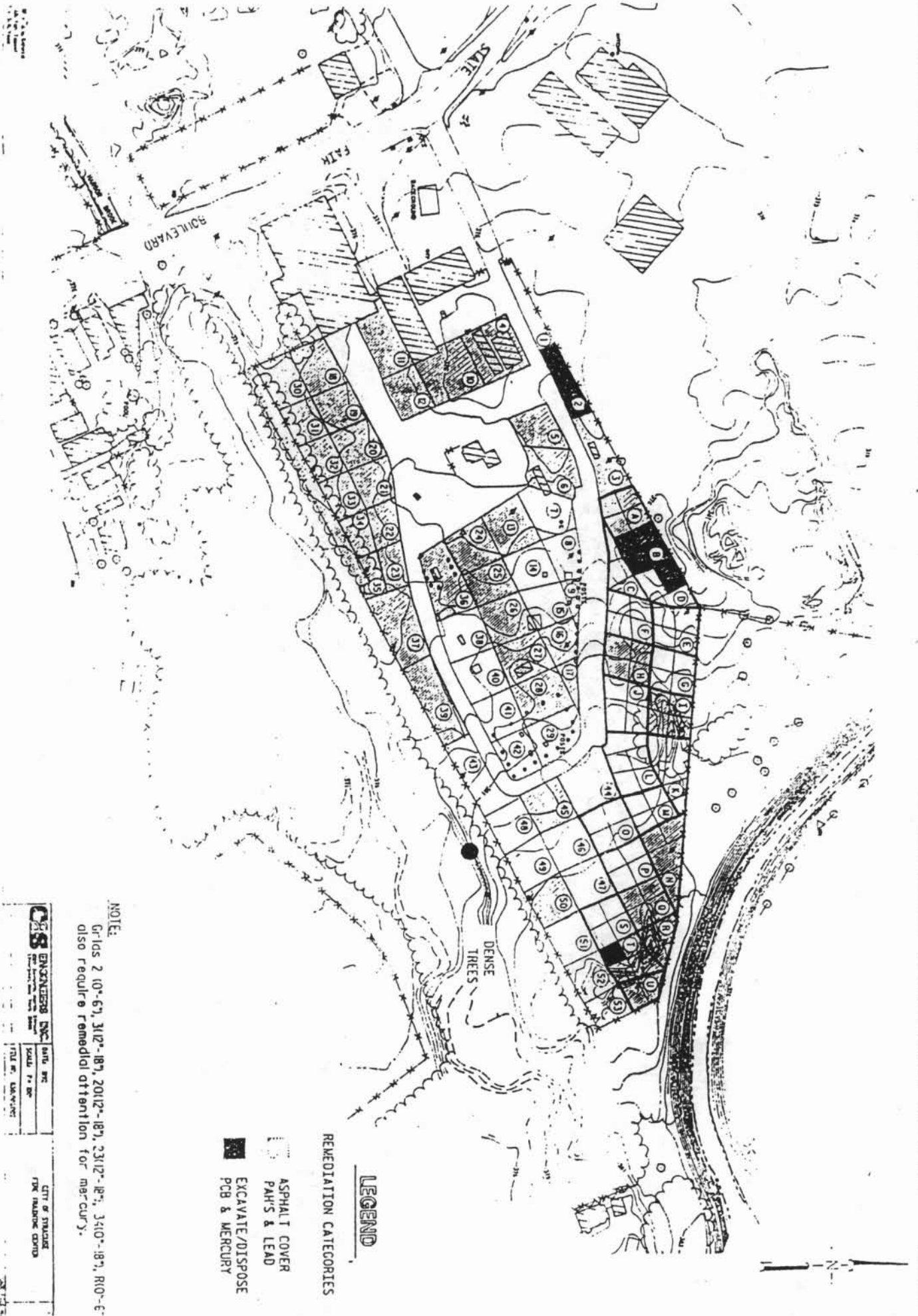


FIGURE 2

EXHIBIT A

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 7 SITE CODE: 734039
EPA ID:
NAME OF SITE : Syracuse Fire Training School
STREET ADDRESS: 312 State Fair Boulevard
TOWN/CITY: COUNTY: ZIP:
Syracuse Onondaga 13204

SITE TYPE: Open Dump- X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 6.2 Acres

SITE OWNER/OPERATOR INFORMATION:

CURRENT OWNER NAME.....: City of Syracuse
CURRENT OWNER ADDRESS.: City Hall, 233 E. Washington St., Syracuse
OWNER(S) DURING USE....: Same
OPERATOR DURING USE....: City of Syracuse
OPERATOR ADDRESS.....: City Hall, 233 E. Washington St., Syracuse
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1940's To 1980

SITE DESCRIPTION:

This property was used by the City for training firefighters. Solvents and PCB oils were burned and extinguished on site as part of the training activities. Samples taken of the on-site soils have revealed contamination by both PCB's and lead. PCB contamination of 400 ppm has been found in one sample. DEE has negotiated a Consent Order (CO) for a Remedial Investigation/Feasibility Study (RI/FS). The RI is ongoing.

HAZARDOUS WASTE DISPOSED: Confirmed-X
TYPE

Suspected-
QUANTITY (units)

PCB's

unknown

SITE CODE: 734039

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater- Soil-X
Sediment-

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE...: Consent Order RI-FS
State- X Federal-
STATUS: Negotiation in Progress- Order Signed- X

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:

SOIL TYPE: Gravelly till & loam
GROUNDWATER DEPTH: Approximately 6 feet

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

High levels of PCB's on site may contaminate the local groundwater and a nearby swampy area.

ASSESSMENT OF HEALTH PROBLEMS:

Surface soils showed PCB contamination up to 400 ppm in 1982. About 100 barrels of liquid waste were removed by Nimo in 1981, eliminating the potential for future release of contaminants. Areas of known contamination are now vegetated and have been roped off by the fire department, whose personnel are aware of the findings. A PCB serum study was performed by the Onondaga County Health Department; there were no significant differences between firemen regularly using the training center and control firemen. The site is fenced and there is no public access.

EXHIBIT B
ADMINISTRATIVE RECORD
SYRACUSE FIRE TRAINING CENTER
INACTIVE HAZARDOUS WASTE SITE NO. 734039

A. Reports and Work Plans:

1. "Proposed Remedial Action Plan; Syracuse Fire Training Center; Onondaga County, New York ID No. 734039," prepared by the New York State Department of Environmental Conservation, dated October 1992.
2. "Feasibility Study; Syruacuse Fire Training Center; Syracuse, New York," with appendices, prepared by C & S Engineers, Inc., dated October 1992.
3. "Supplemental and Analytical Services Protocol (ASP) Investigation Report; Syracuse Frie Training Center; Syracuse, New York," with Analytical Data Index, prepared by C & S Engineers, Inc., dated October, 1992.
4. "Initial Remedial Investigation Report; Syracuse Fire Training Center; Syracuse, New York," with Appendices, prepared by C & S Engineers, Inc., dated September 1992.
5. "Syracuse Fire Training Center; Remedial Investigation; Supplemental Investigation Workplan," prepared by C & S Engineers, Inc., dated July, 1991.
6. "Remedial Investigation/Feasibility Study Work Plan; Syracuse Fire Training Center; Syracuse, New York; Site No. 734039; September 18, 1989; Revision No. 1; March 26, 1990," prepared by C & S Engineers, Inc.

B. Court Orders:

1. Order on Consent between the New York Stae Department of Environmental Conservation and the City of Syracuse, Index No. A601468803, dated March 20, 1989.

C. Correspondence:

1. Letter dated December 9, 1989 from G. Burke (NYSDEC) to S. Beyers (City of Syracuse) Re: Approval of Work Plan.
2. Letter dated May 9, 1990 from G. Burke (NYSDEC) to D. Lerner (City of Syracuse) Re: Soil Sampling Plan.
3. Letter dated October 10, 1990 from M. Distler (Galson Tech. Services, Inc.) to J. Jeraci (Syracuse Research Corp.) Re: Ambient Air Sampling Methods.

4. Letter dated October 17, 1990 from J. Kanoza (CS Engineers, Inc.) to G. Burke (NYSDEC) Re: Ambient Air Sampling Methods.
5. Letter dated October 31, 1990 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Approval of Ambient Air Sampling Methods.
6. Letter dated November 9, 1990 from J. Kanoza (CS Engineers, Inc.) to G. Burke (NYSDEC) Re: Dioxin Soil Sampling.
7. Letter dated July 10, 1991 from B. Seeley (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Data Validation comments.
8. Letter dated July 10, 1991 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Comments and approval of supplemental soil sampling.
9. Letter dated August 1, 1991 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Supplemental Work Plan.
10. Letter dated August 20, 1991 from J. Kanoza (CS Engineers, Inc) to G. Burke (NYSDEC) Re: Response to comments on the Supplemental Remedial Investigation Report.
11. Letter dated August 26, 1991 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: PCB soil sampling results.
12. Letter dated September 5, 1991 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Elimination of volatile organic compounds from from background soil samples.
13. Letter dated October 15, 1991 from J. Kanoza (CS Engineers, Inc.) to G. Burke (NYSDEC) Re: Project meeting synopsis concerning the Remedial Investigation and Feasibility Study.
14. Letter dated March 3, 1992 from J. Kanoza (CS Engineers, Inc.) to G. Burke (NYSDEC) Re: Feasibility Study and Analytical Services Protocol schedule.
15. Letter dated March 4, 1992 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Revised Schedule and method for determining acceptable laboratory data quality.
16. Letter dated March 10, 1992 from G. Burke (NYSDEC) to J. Kanoza (CS Engineers, Inc.) Re: Method to determine laboratory performance capability.
17. Letter dated July 20, 1992 from G. Burke (NYSDEC) to R. D'Eredita (City of Syracuse) Re: Approval of Initial Remedial Investigation report.

18. Letter dated December 1, 1992 from G. Burke (NYSDEC) to R. D'Eredita (City of Syracuse) Re: Approval of the Supplemental Remedial investigation Report and the Feasibility Study.
19. Transcript:City of Syracuse Fire Training Center; Public Meeting; Remedial Investigation/Feasibility Study, dated November 10, 1992.

EXHIBIT C
RESPONSIVENESS SUMMARY

Syracuse Fire Training Center Site (734039)

INTRODUCTION:

The issues and questions addressed in the following Responsiveness Summary were raised during a public meeting held by the New York State Department of Environmental Conservation (NYSDEC) on November 10, 1992 at the Syracuse Fire Training Center and letters received during a 30 day comment period. The purpose of the meeting was to discuss the results of the Remedial Investigation/Feasibility Study (RI/FS) of the Syracuse Fire Training Center Inactive Hazardous Waste Site (#734039) and receive comments on NYSDEC's Proposed Remedial Action Plan (PRAP) for the site. Representatives of the NYSDEC, The New York State Department of Health (NYSDOH), and the City of Syracuse were present at the meeting.

The following individual submitted written comments regarding the proposed remedy:

Sylvester Durandette, Syracuse, New York.

QUESTIONS AND RESPONSES:

Q: For many years, hundreds, possibly thousands of gallons of transformer oil was burned on this site. The "negative" test results lead me to believe that the walls of the fire tower have been cleaned. I am requesting that the DEC initiate more extensive testing of the fire tower.

R: The purpose of the RI/FS was to determine what areas on-site are contaminated with hazardous wastes from past activities and what should be done to remove the threat of these contaminants from the site. The fire tower wipe samples showed no appreciable amount of contaminants and demonstrated that there is no need to resample the fire tower.

Q: Where is the lion's share of that million dollars going towards?

R: Approximately one-half million dollars will be used to excavate and landfill PCB and high Mercury contaminated soils. \$800,000 will be used to install an engineered cover for Lead and PolyAromatic Hydrocarbons (PAHs) contaminated soils and to maintain the integrity of the remedial action.

Q: Is there a clean-up level established for the excavation portion of it, and has there been a PCB clean-up level established for the capping or are we capping the entire area?

R: For excavation of the soils, 2 parts per million (ppm) were used as a clean-up level at the surface and 10 ppm for subsurface pcb contaminated soils. PCBs above 1 ppm will be covered for surface areas remaining on-site.

Q: What will the site look like after the remediation?

R: During the remedial design, an evaluation will be made of consolidating the areas that need remediation or just covering these areas in place.

Q: What is the purpose of the cap?

R: The purpose of the cap is two-fold. Number one, it eliminates any direct contact or direct exposure to the contaminants and, number two, it prevents migration of the contaminants via infiltration and surface run-off.

Q: What is the basis for the PCB clean-up level that is selected?

R: The 1 ppm surface soil clean-up goal was selected to prevent any unacceptable environmental impacts from run-off of the PCBs to more sensitive areas. The 10 ppm is based upon the possible routes of exposure which is minimal below the surface and on the protection of groundwater.

Q: Is there clean-ups that will occur in Harbor Brook?

R: The sediments of Harbor Brook shows no direct impacts from the fire training center and therefore do not warrent remediation.