Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Former American LaFrance Site
Elmira (C), Chemung County
Site Number B-00011-8

March 2002

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* Erin M. Crotty, *Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Former American LaFrance Environmental Restoration Site
City of Elmira, Chemung County, New York
Site No. B-00011-8

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Former American LaFrance environmental restoration site which was chosen in accordance with the New York State Environmental Conservation Law.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Former American LaFrance environmental restoration site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous substances and petroleum products from this site, if not addressed by implementing the remedy selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Former American LaFrance site and the criteria identified for evaluation of alternatives, the NYSDEC has selected removal of the underground storage tank, establishment of grass cover, development of a soil management plan, and deed restriction. The components of the remedy are as follows:

- removal of an underground storage tank (UST) containing 6000 gallons of non-hazardous # 6 fuel oil and approximately 500 cubic yards of associated contaminated soil in accordance with 6NYCRR Part 613 and TAGM 4046;

- establishment of grass cover over the exposed soil areas of the site to minimize exposure to surface soil;

- development of a long-term soil management plan (SMP) to address remaining contaminated soils excavated at the site during future redevelopment or excavation. The plan will include but not be limited to soil management, characterization, and disposal in accordance with applicable NYSDEC regulations. Additionally, the SMP will include placement of a minimum one foot thick soil cover in all areas of the site to be green space under the proposed redevelopment plan. A geotextile fabric or similar material will be installed between the soil cover and the existing surface soils to stabilize and serve as a demarcation between the cover and the contaminated soils below. Areas to be paved or where buildings are planned will not require the placement of the soil cover. The SMP must be submitted to and approved by the NYSDEC before any redevelopment or excavation occurs at the site; and

- implementation of a deed restriction to limit future site use to industrial or commercial use. The future commercial use of the site will exclude activities such as day care centers. Further, the deed restriction will require that site redevelopment or excavation shall proceed in compliance with the approved SMP and, that the future property owners shall annually certify to the NYSDEC that the remedy continues to be maintained in accordance with the ROD.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

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.

3/28/2002
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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Environmental Restoration
RECORD OF DECISION

Former American LaFrance Site
City of Elmira, Chemung County
Site No. B-00011-8
March 2002

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy to address the threat to human health and/or the environment created by the presence of hazardous substances at the Former American LaFrance brownfield site.

The 1996 Clean Water/Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Under the Environmental Restoration (Brownfields) Program, the State may provide grants to the City of Elmira to reimburse up to 75 percent of the eligible costs for site remediation activities. Once remediated the property can then be reused.

This 4.357-acre site is located at the western corner of Erie Street and Home Street in a New York State Economic Development Zone in the City of Elmira. The site is currently a vacant parcel owned by the City of Elmira. As more fully described in Sections 3 and 4 of this document, plating, painting, and machine shop operations as well as the presence of an underground storage tank have resulted in the disposal of a number of hazardous substances, including organic compounds, heavy metals and petroleum-based products at the site. These disposal activities have resulted in the following potential threats to the public health and the environment:

- a potential threat to human health associated with ingestion and/or inhalation of contaminated surface soil and dust; and
- a potential environmental threat associated with release of petroleum-based compounds from the underground storage tank to groundwater.

In order to eliminate or mitigate the potential threats to public health and /or the environment that the hazardous substances disposed at the Former American LaFrance brownfield site may have caused, the following remedy was selected to allow for proposed commercial/industrial use of the site:

- removal of an underground storage tank (UST) containing 6000 gallons of non-hazardous # 6 fuel oil and approximately 500 cubic yards of associated contaminated soil in accordance with 6NYCRR Part 613 and TAGM 4046;

- establishment of grass cover over the exposed soil areas of the site to minimize exposure to surface soil;

- development of a long-term soil management plan (SMP) to address remaining contaminated soils excavated at the site during future redevelopment or excavation. The plan will include but not be limited to soil management, characterization, and disposal in accordance with applicable NYSDEC regulations. Additionally, the SMP will include placement of a minimum one foot thick soil cover in all areas of the site to be green space under the proposed redevelopment plan. A geotextile fabric or similar material will be installed between the soil cover and the existing surface soils to stabilize and serve as a demarcation between the cover and the contaminated surface soils. Areas to be paved or where buildings are planned will not require the placement of the soil cover. The SMP must be submitted to and approved by the NYSDEC before any redevelopment or excavation occurs at the site; and

- implementation of a deed restriction to limit future site use to industrial or commercial use. The future commercial use of the site will exclude activities such as day care centers. Further, the deed restriction will require that site redevelopment or excavation shall proceed in compliance with the approved SMP and, that the future property owners shall annually certify to the NYSDEC that the remedy continues to be maintained in accordance with this ROD.

The selected remedy, discussed in detail in Section 8 of this document, is intended to attain the remediation goals selected for this site in Section 6 of this ROD in conformity with applicable standards, criteria, and guidance (SCGs).

SECTION 2: SITE LOCATION AND DESCRIPTION

The 4.357-acre site is located in a light industrial/commercial-residential setting in the City of Elmira, Chemung County. It is bounded on the west by the Consolidated Rail property, on the east by Erie Street, on the north by East LaFrance Street, and on the south by Home Street. Currently, the site is a vacant plot. The area is served by public water and sewer facilities. The nearest public water supply wells are located approximately 1.5 miles west of the site. The Chemung River is located approximately ¾ of a mile north of the site. The Former Chemung Foundry, a simultaneously investigated brownfield project (Site # B-00014-8), is located within ¼ mile of the site. Please refer to Figure 1 for a site location plan.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site is the location of a former fire truck manufacturing facility (1903-1980). All phases of fire truck and fire extinguisher manufacturing took place on this site. There are no waste disposal records available. Fire trucks were undercoated at this facility which may have released petroleum compounds at the site. Also foundries, machine shops, paint shops, paint spray booths and plating operations may have released heavy metals and organic compounds at the site.

The site was acquired by the City of Elmira in the early 1980s through tax foreclosure proceedings. In 1983, an oil spill containing polychlorinated biphenyls (PCBs) occurred at the site due to illegal salvaging of transformers stationed on the roofs of site buildings.

3.2: Environmental Restoration History

The 1983 PCB spill at the site was immediately cleaned up by the City of Elmira under NYSDEC supervision. The cleanup met the levels established by existing regulations. Approximately 250 cubic yards of contaminated material were removed from the site for appropriate off-site disposal. In 1984, all the buildings on the property were demolished by the City of Elmira and the debris disposed of off-site. In December 1996, a Phase I Environmental Assessment report was prepared by the City of Elmira. The Phase I report identified two potential environmental concerns: 1) liquid tar-like material on the ground surface and 2) unknown potential environmental conditions as the result of former industrial site use.

In 1997, the project was accepted as an Environmental Restoration Project under Title 5 of the New York State 1996 Clean Water/Clean Air Bond Act, making it eligible for up to 75% State financial assistance.

SECTION 4: SITE CONTAMINATION

To determine the nature and extent of contamination by hazardous substances at this environmental restoration site, the City of Elmira has completed a Site Investigation/Remedial Alternatives Report (SI/RAR).

4.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of contamination resulting from previous activities at the site. The SI was conducted between September 1998 and February 2000. A report entitled Site Investigation Report for the Former American LaFrance Site dated December 2000 has been prepared which describes the field activities and findings of the SI in detail.

The SI included the following activities:

- collection of surface soil samples to determine the potential for human exposure to contaminants;
- geophysical (magnetometer) survey to determine the presence of underground tanks;
- excavation of test pits to verify the anomalies identified during the geophysical survey;
- soil gas sampling to determine if volatile organic compounds are present in soil; and
- installation of soil borings and monitoring wells for analyses of soils and groundwater as well as physical properties of soil and hydrogeologic conditions.

To determine which media (soil, groundwater, etc.) are contaminated at levels of concern, the SI analytical data were compared to environmental standards, criteria, and guidance (SCGs). Groundwater and drinking water SCGs identified for the Former American LaFrance site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 of the New York State Sanitary Code. For soils, NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 provides soil cleanup guidelines for the protection of groundwater, background conditions, and health-based exposure scenarios. In addition for soils, background concentration levels can be considered for certain categories of contaminants.

Based on the Site Investigation results in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the SI Report.

Chemical concentrations are reported in parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium.

4.1.1: Site Geology and Hydrogeology

The site overburden is comprised of gravelly fill and foundation remnants of previous buildings to a depth of approximately 5 feet. The subsurface soils are Howard gravelly silt loam consisting of deep, well-drained and somewhat excessively drained, medium-textured soils that developed in stratified glacial outwash deposits of sand and gravel.

The site is located over a major aquifer on a tributary of the Susquehanna River Basin on the south side of the City of Elmira. Groundwater occurs at a depth of approximately 10 feet below ground surface and flows in a northeasterly direction.

4.1.2: Nature of Contamination

As described in the SI report, soil and groundwater samples were collected at the site to characterize the nature and extent of contamination. Results of the SI indicate the site contamination is attributable to industrial activity. Test pits were excavated, based on the

anomalies identified during the geophysical survey. No buried tanks, other than the known buried tank containing non-hazardous # 6 fuel oil, were found. No evidence of hazardous waste disposal was found. Surface soils and subsurface soils at isolated locations are contaminated with elevated levels of metals and semivolatile organic compounds (SVOCs). Analyses of surface soils have also detected slightly elevated levels of PCBs at one location. Data indicate on-site groundwater is not impacted. Figure 2 presents the sample locations for soil and groundwater.

4.1.3: Extent of Contamination

Table 1 summarizes the extent of contamination for the contaminants of concern in soil, compares the data with the SCGs for the site, and indicates the frequency of exceeding SCGs. The following media were investigated and a summary of the findings is presented below.

Soil

The results of the SI indicate contamination in surface soil (0 - 3 inches) with metals, SVOCs, and PCBs exceeding SCGs (TAGM 4046 Recommended Soil Cleanup Objectives). The highest metal concentration detected was mercury at 6.5 ppm (SCG - 0.1 ppm). The highest concentrations of SVOCs detected include benzo(a)anthracene at 2.7 ppm (SCG - 0.224 ppm), chrysene at 2.7 ppm (SCG - 0.4 ppm), benzo(b)fluoranthene at 2.9 ppm (SCG - 1.1 ppm), benzo(k)fluoranthene at 1.2 ppm (SCG - 1.1 ppm), and benzo(a)pyrene at 2.4 ppm (SCG - 0.061 ppm). The highest concentration of PCBs (Aroclor 1260) detected was 1.4 ppm (SCG - 1 ppm).

The SI results also indicate isolated locations of subsurface soil contamination by metals, SVOCs, and a volatile organic compound (VOC) exceeding SCGs (TAGM 4046 Recommended Soil Cleanup Objectives). The highest concentrations of metals detected include arsenic at 17.2 ppm (SCG - 7.5 ppm or site background), lead at 640 ppm (SCG - 200 to 500 ppm), and mercury at 0.85 ppm (SCG - 0.1 ppm) in a sample collected from 1.5 - 2.5 feet below the surface at test pit B1; barium at 342 ppm (SCG - 300 ppm or site background) in a sample collected from 1 - 3 feet below the surface at soil boring G-8; and cadmium at 12.7 ppm (SCG - 1 ppm or site background) in a sample collected from 2 - 4 feet below the surface at soil boring G-4. The highest concentrations of SVOCs detected include benzo(a)anthracene at 16 ppm (SCG - 0.224 ppm), benzo(a)pyrene at 12 ppm (SCG - 0.061 ppm), chrysene at 26 ppm (SCG - 0.4 ppm), 2-methylnaphthalene at 62 ppm (SCG - 36.4 ppm), naphthalene at 15 ppm (SCG - 13 ppm), and phenanthrene at 53 ppm (SCG - 50 ppm) in a sample collected from 3 - 6 feet below the surface at test pit H1 near the UST. The highest VOC concentration detected was TCE at 1.4 ppm (SCG - 0.7 ppm) in a sample collected from 3.5 - 4 feet below the surface at soil boring GW-3.

Groundwater

The SI results indicate the November 2, 2001 groundwater analyses detected slightly elevated levels of certain metals, but these samples contained excessive turbidity. Generally, metals remain tightly bound to the soil and are not readily soluble in water. The January 11, 2001 samples collected with a low-flow pump (turbidity < 50 NTU) did not detect metals or detected them at

levels well below the SCGs. VOCs detected are below the SCGs. Groundwater results are presented in Table 2.

Waste Materials

The waste material in the underground storage tank was sampled and analyzed for Toxicity Characteristic Leaching Procedure (TCLP) and target compound list parameters. The results indicate the material is non-hazardous and is # 6 fuel oil.

4.2: Summary of Human Exposure Pathways

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 6.0 of the SI report.

An exposure pathway is the manner by which an individual may come in contact with a contaminant. The five elements of an exposure pathway are: 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

The potential exposure pathways identified at the site are incidental ingestion, inhalation, and dermal contact with contaminated surface soil by people entering the site. Also, these three would be possible future exposure pathways for on-site utility and construction workers, if the site were redeveloped for industrial or commercial purposes.

Groundwater use is unlikely in the area around the site because homes and businesses are provided with public water from a distant source.

4.3: Summary of Environmental Exposure Pathways

This section summarizes the types of environmental exposures and ecological risks which may be presented by the site. The following pathways for environmental exposure or ecological risks have been identified:

There are no nearby surface waters or wildlife habitats that could be impacted by contaminated surface soils. Therefore, no current environmental exposure pathways exist at the site. However, measures must be taken to mitigate potential environmental concerns from the underground storage tank.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, and haulers. Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However,

legal action may be initiated at a future date by the State to recover State response costs should PRPs be identified. The City of Elmira will assist the State in its efforts by providing all information to the State which identifies PRPs. The City will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all SCGs and be protective of human health and the environment. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and to the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The proposed future use for the Former American LaFrance site is light industrial or commercial. The goals selected for this site are:

- to reduce, control, or eliminate to the extent practicable the contamination present within the site soil;
- to eliminate the potential for direct human exposure to contaminated soils on-site; and
- to prevent, to the extent possible, migration of site contaminants in the site soil to groundwater.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost effective and comply with other statutory requirements. Potential remedial alternatives for the Former American LaFrance site were identified, screened and evaluated in a remedial alternatives report. This evaluation is presented in the report entitled Remedial Alternatives Report dated December 2000. In-situ treatment of the petroleum contaminated soil associated with the fuel oil tank was not viable because: 1) the consistency of the product is such that air sparging and vapor extraction are not appropriate treatments and 2) an oxygen release compound (ORC) has been evaluated and found to be prohibitive in cost compared to source removal. Therefore, the evaluation of remedial alternatives focused on source removal options. A summary of the detailed analysis follows.

As presented below, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy or procure contracts for design and construction.

7.1: Description of Remedial Alternatives

The potential remedies are intended to address the contaminated soils and groundwater at the site.

Alternative 1 - No Action

Present Worth: . . . . . $ 28,188
Capital Cost: . . . . . $ 0
Annual O&M: . . . . . $ 1,875
Time to Implement: . . . . . NA

The No Action alternative is typically evaluated as a procedural requirement and as a basis for comparison. It only requires continued long-term monitoring of the existing wells, allowing the site to remain in an unremediated state. The source (UST) would continue to release contaminants to subsurface soil, and eventually, groundwater. Therefore, this alternative would not provide any additional protection to human health or the environment.

Alternative 2 - Source (UST) Removal, Grass Cover, Soil Management Plan, and Deed Restriction

Present Worth: . . . . . $ 204,887
Capital Cost: . . . . . $ 204,887
Annual O&M: . . . . . $ 0
Time to Implement: . . . . . 6 months

This alternative would include removal of the UST containing 6,000 gallons of non-hazardous # 6 fuel oil) and an estimated 500 cubic yards of associated contaminated soil in accordance with 6NYCRR Part 613 and TAGM 4046. It would also include establishment of grass cover over the exposed soil areas to minimize exposure to surface soil until development commences. Additionally, a soil management plan (SMP) would be developed that would include but not be limited to soil management, characterization, and disposal in accordance with applicable NYSDEC regulations. The SMP would also include placement of a minimum one foot thick soil cover in all areas of the site to be green space under the future redevelopment plan. A geotextile fabric or similar material would be installed between the soil cover and the existing surface soils to stabilize and serve as a demarcation between the cover and the contaminated soils below. Areas to be paved or where buildings are planned would not require the placement of the soil cover. A deed restriction would be placed on the property to limit future site use to industrial or commercial use. Future commercial use of the site would exclude such activities as day care centers. Further, the deed restriction would require that the site redevelopment or excavation shall proceed in compliance with the NYSDEC-approved SMP and, that the future property owners shall annually certify to the NYSDEC that the remedy continues to be maintained in accordance with the site ROD.

Alternative 3 - Source (UST) Removal, Contaminated Surface Soil Removal, Soil Management Plan, and Deed Restriction

Present Worth: . . . . . $ 564,630
Capital Cost: . . . . . $ 564,630
Annual O&M: . . . . . $ 0
Time to Implement: . . . . . 1 year

This alternative would include all the remedial components of Alternative 2, except grass cover. Additionally, this alternative would include excavation and removal of surface soil to a depth of 6 inches with contaminant concentrations exceeding TAGM 4046 levels. It is estimated that 3,500 cubic yards of contaminated surface soil would be removed from the site and disposed of at a NYSDEC- permitted landfill. The deed restriction required would be similar to the one described in Alternative 2.

Alternative 4 - Source (UST) Removal and Removal of Contaminated Surface and Subsurface Soil Exceeding SCGs

Present Worth: . . . . . $ 664,889
Capital Cost: . . . . . $ 664,889
Annual O&M: . . . . . $ 0
Time to Implement: . . . . . 1.5 years

This alternative would include removal of the UST as described in Alternatives 2 and 3. Additionally, this alternative would include excavation and removal of surface and subsurface soil (up to 3 feet below grade) with contaminant concentrations exceeding TAGM 4046 levels. It is estimated that up to 4000 cubic yards of contaminated soil would be removed from the site and disposed of at a NYSDEC-permitted landfill.

7.2: Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of environmental restoration project sites in New York State (6 NYCCR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is included in the Remedial Alternatives Report.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

The most significant SCGs that the remedy at this site should meet are: 6NYCRR Part 613, Section 613.9 - Closure of Out-of Service Tanks; Division of Environmental Remediation Technical and Administrative Guidance Memorandum (TAGM) # 4046 - Determination of Soil Cleanup Objectives and Cleanup levels; 6NYCRR Part 703 - groundwater standards; and 10NYCRR Part 5 - drinking water standards.

Alternative 1 would not meet the New York State SCGs as no action beyond continued monitoring will occur, leaving unacceptable contamination in soil. Alternatives 2 and 3 would include source (UST) removal and remediate contaminated surface soil to comply with SCGs, but would not remediate isolated areas of contaminated subsurface soil. Alternative 4 would include source (UST) removal and would remediate contaminated surface soil as well as isolated locations of contaminated subsurface soil, to comply with SCGs. However, for the intended industrial or commercial use of the site, Alternatives 2, 3, and 4 would meet the remedial goals established for the site.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternative 1 would not meet this criterion because it involves no remedial action, leaving unacceptable contamination in soil. Alternatives 2 and 3 include source (UST) removal and remediation of surface soil. Also, a soil management plan would be implemented during site restoration and future ground intrusive site activities to protect on-site workers. These measures would help minimize current and future human and environmental exposures. Alternative 4 would also remediate subsurface soil. For intended industrial or commercial use of the site, however, Alternatives 2, 3, and 4 would all be protective of human health and the environment and would meet this criterion.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

There would be no short-term impacts from the implementation of Alternative 1. Alternatives 2, 3 and 4 would disturb contaminated soil and would have potential to generate fugitive dust. However, remedial actions under these alternatives include a soil management plan which should minimize exposure to workers and the nearby community. Therefore, Alternatives 2, 3 and 4 would equally satisfy this criterion.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the

magnitude of the remaining risks; 2) the adequacy of the controls intended to limit the risk; and 3) the reliability of these controls.

Alternative 1 would not meet this criterion as it would leave contaminants on-site without controls. Alternatives 2 and 3 would include placement of 12 inches of soil cover to address soil contamination. Additionally, Alternative 3 would include excavation and removal of contaminated surface soil. Alternatives 2 and 3 would also include deed restrictions limiting site use, and a soil management plan for future ground intrusive site activities to protect workers and the community. Alternative 4 provides the most comprehensive removal action and thus best achieve this criterion. For the intended industrial or commercial use of the site, however, all these are considered adequate and reliable long-term controls. Therefore, Alternatives 2, 3 and 4 would all satisfy this criterion, with Alternative 4 being a more permanent remedy, as it removes all soils contaminated above SCGs.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the hazardous substances at the site.

Alternative 1 would not meet this criterion as it does not involve any remedial action. Alternative 2 would reduce volume (UST removal) and mobility (soil cover) of site contaminants. Alternative 3 would reduce the volume of contaminants more than Alternative 2 by removing contaminated surface soil. Alternative 4 would reduce the volume of contaminants more than Alternative 3 as, in addition to removing contaminated surface soil, it would also remove contaminated subsurface soil. Therefore, Alternatives 4 would better satisfy this criterion than Alternative 3. Likewise, Alternative 3 would better satisfy this criterion than Alternative 2.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

Alternative 1 would meet this criterion as no action would be required. Alternatives 2 and 3 are easy to implement and effectively monitor and would meet this criterion. Alternative 4 would entail a greater level of effort in light of the deeper excavation, however, this could be accomplished via standard construction techniques.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 3.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the SI/RAR reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" included as Appendix A presents comments received and the Department's response to the concerns raised. In general the public comments received were supportive of the selected remedy. Several comments were received, however, pertaining to cancer cases in the area. These comments mainly included reference to the 1972 Chemung River floods that brought contamination to their properties, including contaminants from the American LaFrance property. The comments did not require any change in the remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the results of the SI/RAR, and the evaluation presented in Section 7, the NYSDEC is selecting Alternative 2 as the remedy for this site.

This selection is based on the evaluation of the four alternatives developed for this site. With the exception of the No Action alternative, each of the alternatives will comply with the threshold criteria for the intended industrial or commercial future site use and will achieve the remedial goals. In addition, except the No Action alternative, all alternatives are similar with respect to the majority of the balancing criteria. The only major difference between these alternatives is cost. While Alternatives 2, 3, and 4 will remove the fuel oil tank and associated contaminated soil, Alternatives 3 and 4 will provide limited additional environmental benefit at substantial increase in cost. For the intended industrial or commercial use of the site, all the three alternatives are considered technically similar. Therefore, Alternative 2 (UST removal, grass cover, soil management plan, and deed restriction) is the selected remedy for this site. Please refer to Figure 3 for a conceptual sketch of the selected remedy.

The estimated present worth cost to implement the remedy is $204,887 which is the cost to construct the remedy. No operation and maintenance costs are involved in this remedy.

The elements of the selected remedy are as follows:

- removal of an underground storage tank (UST) containing 6000 gallons of non-hazardous # 6 fuel oil and approximately 500 cubic yards of associated contaminated soil in accordance with 6NYCRR Part 613 and TAGM 4046;

- establishment of grass cover over the exposed soil areas of the site to minimize exposure to surface soil;

- development of a long-term soil management plan (SMP) to address remaining contaminated soils excavated at the site during future redevelopment or excavation. The plan will include but not be limited to soil management, characterization, and disposal in

accordance with applicable NYSDEC regulations. Additionally, the SMP will include placement of a minimum one foot thick soil cover in all areas of the site to be green space under the proposed redevelopment plan. A geotextile fabric or similar material will be installed between the soil cover and the existing surface soils to stabilize and serve as a demarcation between the cover and the contaminated surface soils. Areas to be paved or where buildings are planned will not require the placement of the soil cover. The SMP must be submitted to and approved by the NYSDEC before any redevelopment or excavation occurs at the site; and

- implementation of a deed restriction to limit future site use to industrial or commercial use. The future commercial use of the site will exclude activities such as day care centers. Further, the deed restriction will require that the site redevelopment or excavation shall proceed in compliance with the approved SMP and, that the future property owners shall annually certify to the NYSDEC that the remedy continues to be maintained in accordance with this ROD.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As the part of the Former American LaFrance site environmental restoration project, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site.

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials, local media, and other interested parties.
- A fact sheet containing the information about the upcoming environmental investigation was distributed using the mailing list in September 1998.
- A fact sheet announcing the public meeting and the availability of the Proposed Remedial Action Plan (PRAP) was distributed using the mailing list in February 2002.
- In March 2002, a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

Table 1
Former American LaFrance Environmental Restoration Site
City of Elmira, Chemung County

Nature and Extent of Contamination

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	CONCENTRATION RANGE*	FREQUENCY OF EXCEEDING SCGs OR BACKGROUND	SCG/ BACKGROUND
Soil (subsurface)	volatile organic compounds (VOCs)	trichlorethene (TCE)	ND - 1.4	2 of 20	0.7
	SVOCs	2-methylnaphthalene	ND - 62	1 of 20	36.4
		benzo(a)anthracene	ND - 16	4 of 20	0.224
		benzo(a)pyrene	ND - 12	4 of 20	0.061
		chrysene	ND - 26	4 of 20	0.4
		naphthalene	ND - 15	1 of 20	13
		phenanthrene	ND - 53	1 of 20	50
	metals	arsenic	ND - 17.2	1 of 20	7.5
		cadmium	ND - 12.7	1 of 20	10
		lead	4.86 - 640	1 of 20	200 - 500**
		mercury	ND - 0.85	5 of 20	0.1
		barium	65.2 - 342	1 of 20	300
Soil (surface)	SVOCs	benzo(a)anthracene	ND - 2.7	2 of 3	0.224
		chrysene	ND - 2.7	2 of 3	0.4
		benzo(b)fluoranthene	ND - 2.9	2 of 3	1.1
		benzo(k)fluoranthene	ND - 1.2	1 of 3	1.1
		benzo(a)pyrene	ND - 2.4	2 of 3	0.061
	metals	mercury	0.089 - 6.5	2 of 3	0.1
	PCBs	arochlor 1260	ND - 1.4	1 of 3	1

* soil concentrations are expressed in ppm.
**Typical range of average background levels in metropolitan or suburban areas.

Table 2
Former American LaFrance Environmental Restoration Site
City of Elmira, Chemung County

Compounds/Analytes Detected in Groundwater

Category	Compound/ Analyte of Concern	MW-1		MW-2		MW-3		SCGs
		11/2/99	1/11/01*	11/2/99	1/11/01*	11/2/99	1/11/01*	
VOCs	acetone	ND	NA	0.041	NA	ND	NA	0.05
	chloroform	0.005	NA	ND	NA	ND	NA	0.007
metals	arsenic	0.006	ND	0.034	ND/**ND**	0.065	ND/**ND**	0.025
	barium	0.199	0.16	0.3	0.22/**0.245**	1.17	0.162/**0.172**	1
	cadmium	ND	ND	ND	ND/**ND**	ND	0.001/**ND**	0.005
	chromium	0.01	ND	0.027	ND/**ND**	0.057	ND/**ND**	0.05
	lead	0.01	0.011	0.021	0.004/**ND**	0.12	0.035/**0.0077**	0.025
	mercury	ND	ND	ND	ND/**ND**	0.0006	ND/**ND**	0.0007

Notes: -All concentrations are in ppm
-ND = none detected, NA = not analyzed
-NYSDEC split sample results are in bold type
*1/11/01 samples were collected with low-flow pump

Table 3
Former American LaFrance Environmental Restoration Site
City of Elmira, Chemung County

Remedial Alternative Costs

Remedial Alternative		Capital Cost	Annual O&M	Present Worth of Annual O&M	Total Present Worth
Number	Description				
1	No action	$0	$1,875	$28,188*	$28,188
2	Source (UST) removal, grass cover, soil management plan, and deed restriction	$204,887	0	0	$204,887
3	Source (UST) removal, contaminated surface soil removal, soil management plan, and deed restriction	$564,630	0	0	$564,630
4	Source (UST) removal and contaminated surface and subsurface soil removal	$664,889	0	0	$664,889

Note: Cost estimates are for feasibility study comparison purposes only and are not to be used for construction budgeting or bid purposes.
* Present worth cost for 30 years @ 5% interest rate.

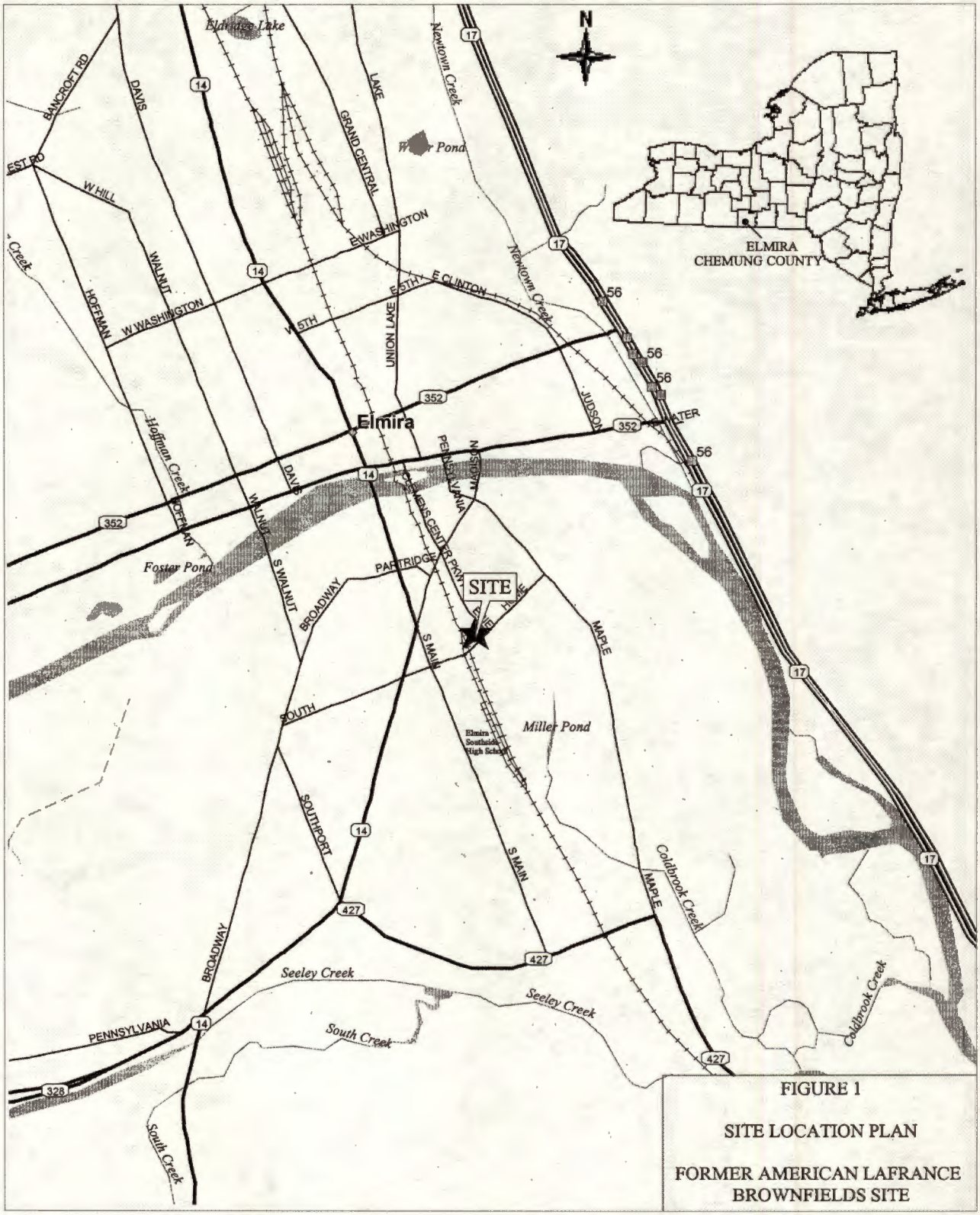

FIGURE 1

SITE LOCATION PLAN

FORMER AMERICAN LAFRANCE
BROWNFIELDS SITE

ERIE STREET
E. LAFRANCE ST.
HOME STREET
CONSOLIDATED ARTERIAL RAIL
MANDEL'S RESTAURANT PROPERTY
FORMER FACTORY BUILDING
MACHINE SHOP
PAINT SHOP
PAINTING
FOUNDRY
SMOKE STACK AREA
NO GW RECOVERY
PAVED AREAS
SPRAY BOOTH AREA
MAINTENANCE BUILDING
MW-1 (COUNTY PROPERTY) OFF-SITE
MW-2
MW-3
837.8
838
838.2
839
838.4
838.6
838.8
839.2
839.4
LEGEND
GEOPROBE LOCATIONS (18)
GEOPROBE GROUNDWATER SAMPLE LOCATIONS (5)
SURFACE SOIL SAMPLES, DOH (4)
MONITORING WELL LOCATIONS (3)
UST UNDERGROUND STORAGE TANK
GEOPROBE BACKGROUND LOCATIONS (2)
GRID SPACING = 50'
PROPERTY BOUNDARY
D1 GEOPHYSICAL ANOMALY TEST PIT
TEST PIT SAMPLED
FIGURE 2
SAMPLE LOCATION PLAN
SCALE : 1"=60'
FORMER AMERICAN LAFRANCE BROWNFIELDS SITE

ERIE STREET
E. LA FRANCE ST.
HOME STREET
MANDEL'S RESTAURANT PROPERTY
FORMER FACTORY BUILDING
PAINTING
PAINT SHOP
MW-2
MW-3
MACHINE SHOP
SMOKE STACK AREA
PAVED AREAS
FOUNDRY
FORMER FACTORY BUILDING
MACHINE SHOP
PAVED AREAS
FORMER FACTORY BUILDING
FORMER FACTORY BUILDING
SPRAY BOOTH AREA
FORMER FACTORY BUILDING
CONSOLIDATED ARTERIAL RAIL
MW-1 (COUNTY PROPERTY) OFF-SITE
MAINTENANCE BUILDING
SELECTED REMEDY
● REMOVAL OF UST CONTAINING 6000 GALLONS OF NON-HAZARDOUS # 6 FUEL OIL AND A PPROX. 500 YD^3 OF ASSOCIATED CONTAMINATED SOIL
● ESTABLISHMENT OF GRASS COVER IN EXPOSED SOIL AREAS OF THE SITE TO MINIMIZE EXPOSURE TO SURFACE SOIL
● DEVELOPMENT OF A LONG-TERM SOIL MANAGEMENT PLAN (SMP)
● A DEED RESTRICTION TO LIMIT FUTURE SITE USE TO INDUSTRIAL OR COMMERCIAL USE. I T WILL ALSO REQUIRE COMPLIANCE WITH THE NYSDEC-APPROVED SMP.
● FUTURE PROPERTY OWNERS WILL BE REQUIRED TO ANNUALLY CERTIFY THAT THE REMEDY HAS BEEN MAINTAINED IN ACCORDANCE WITH THE RECORD OF DECISION
LEGEND
PROPERTY BOUNDARY
UST & ASSOCIATED SOIL REMOVAL
FIGURE 3
SELECTED REMEDY
SCALE : 1"=60'
FORMER AMERICAN LAFRANCE BROWNFIELDS SITE

APPENDIX A - RESPONSIVENESS SUMMARY

Former American LaFrance site
Environmental Restoration Proposed Remedial Action Plan
City of Elmira, Chemung County

The Proposed Remedial Action Plan (PRAP) for the Former American LaFrance site, was prepared by the New York State Department of Environmental Conservation (DEC) and issued to the local document repository on February 5, 2002. This plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil at the Former American LaFrance site. The preferred remedy is: excavation and removal of the underground storage tank containing 6000 gallons of #6 fuel oil and associated contaminated soil; establishment of grass cover over the exposed soil areas of the site; development of a soil management plan (SMP) for future ground intrusive site activities; implementation of a deed restriction limiting site use to industrial or commercial and requiring compliance with the SMP; and annual certification by the future property owners that the remedy continues to be maintained as described in the ROD.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on February 13, 2002 which included a presentation of the site investigation and a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period ended on March 20, 2002.

This Responsiveness Summary responds to all questions and comments raised at the February 13, 2002 public meeting.

The following are the comments received at the public meeting, with the DEC's responses.

COMMENT 1: How does the surface soil sampling results and the contaminants found effect the residents in the area?

RESPONSE 1: Sampling conducted during the investigation indicates that the contamination is limited to the on-site area. Hence, the public would only be exposed to site contaminants if they go on-site and have direct contact with the contaminated soil. Runoff concerns are minimized due to the existing grass cover over most of the site. The PRAP includes establishing grass cover over the remaining isolated exposed soil areas of the site.

COMMENT 2: I lived on Falck Street from 1968-1990. In 1972 the Chemung River flooded, and contaminants from American LaFrance came into our yards. My son died from leukemia and there was another little boy nearby who also died from leukemia. My family doctor asked if my son was exposed to benzene. Wasn't benzene found on the site?

RESPONSE 2: Benzene was detected at low levels in a few soil vapor samples collected from 4 to 12 feet below ground on the site. The presence of benzene at this depth and at the levels detected would not present an exposure concern to neighborhood residents.

COMMENT 3: The DEC is stating they want to clean up this one block where the old factory site was, but there's an area 250 feet wide by 800 feet long where 12 residents have cancer - 4 are still living, and 8 are deceased. There's a cancer cluster at Southside High School. I have called the DOH and asked them to look at the geographics on this. Why didn't the DEC & DOH check the grounds/yards for contaminants after the 1972 flood? I hope this won't be a situation where the City finds out everyone died of cancer from groundwater and soil in their yards.

RESPONSE 3: We can't comment on why no sampling was done after the flood, but during that period of time environmental sampling for hazardous waste was not usually done. The regulation of hazardous waste began in 1976 with the passage of Federal Resource Conservation and Recovery Act (RCRA). Considering the huge volume of water which flowed through the Elmira area during the 1972 flood, any contamination that may have been transported from the site would have been diluted to levels that should not present a concern. Unfortunately, cancer is a very common disease. It is actually not one disease, but many different diseases, with different risk factors. One out of two men and one out of three women will be diagnosed with some type of cancer during their lifetime.

COMMENT 4: Is the DEC looking at the bigger picture beyond this site? What about the homes on contaminated ground now?

RESPONSE 4: This site was investigated under Title 5 of the 1996 Clean Water/Clean Air Bond Act, which established a $ 200 million Environmental Restoration Projects fund known as the Brownfields Program. Brownfields are abandoned, idled, or under-used properties where expansion or redevelopment is complicated by real or perceived environmental contamination. The purpose of this program is to provide grants to municipalities for the investigation and/or remediation of municipally owned properties known or suspected to be contaminated with hazardous substances or petroleum. A residential property(ies) contaminated by a brownfield site could be included in the ongoing investigation and remediation. However, in this case, NYSDEC does not believe site contaminants are migrating off-site. Also, as indicated in Response 3, any contamination that may have been transported from the site during the 1972 flood should not present a concern. Therefore, NYSDEC has no plans to sample residential properties near the site.

COMMENT 5: I lived on Overland Street during the (1972) flood. The flood brought American LaFrance barrels in our backyard. Workers came by 3 - 4 days later in hazmat suits and retrieved the barrels. Grass never grew in our yard since the flood, not until we replaced the soil. Both my parents died of cancer. Other neighbors could not grow gardens or grass in their yards either.

RESPONSE 5: Unfortunately the NYSDEC has no records of this incident, including the type of material(s) which may have been in these drums. As explained in Response 3, however,

considering the huge volume of water which flowed through the Elmira area during the 1972 flood, any contamination that may have been transported from the site would have been diluted to levels that should not present a concern.

COMMENT 6: Are you going to clean up the site and build homes? Could a school be built on the site? Are there any deed restrictions on the site?

RESPONSE 6: Currently, this site is zoned industrial or commercial. The PRAP meets the cleanup objectives set for future industrial or commercial use of the site, and includes a deed restriction to limit the future use to industrial or commercial. Future commercial use of the site would exclude activities such as schools and day care centers. The property owner must provide an annual certification to NYSDEC that these deed restrictions are in-place. If the City of Elmira decides to rezone this property for residential purposes or for a school, additional cleanup would be required at the site to meet more stringent cleanup objectives, and the deed restriction language could then be amended with NYSDEC approval .

COMMENT 7: I live on Catherine Street. My husband died of cancer. Are contaminants still in the groundwater? When the underground tank with #6 fuel oil is removed, where are the contaminants that are in the groundwater going? Which way is the groundwater flowing? Do you know what is in the groundwater and soils in the nearby neighborhoods?

RESPONSE 7: To assess the impact of past industrial site use, three groundwater monitoring wells were installed and sampled during the site investigation. One well was located near the intersection of Erie Street and Home Street, in the direction of groundwater flow which is to the east. Each groundwater sample was analyzed for 148 parameters. While metals were detected in groundwater, their concentrations were well below the New York State groundwater standards. No #6 fuel oil constituents were detected in any of the groundwater monitoring wells. Regarding soils, surface soils at the site are slightly contaminated with semivolatile organic compounds and metals and most of the site surface is covered with grass. Therefore, on-site soils or groundwater are unlikely to impact off-site soils or groundwater. Drinking water in the area is supplied by the Elmira Water Board from wells located approximately 1.5 miles west of the site.

COMMENT 8: Regarding the soil management plan, is there a New York State standard for the thickness of the groundcover soil? Is it 6 or 12 inches?

RESPONSE 8: There is no New York State standard for the thickness of soil cover over contaminated surface soils. A minimum of 12 inches of soil cover is commonly recommended for ~~such~~ industrial sites as it provides an adequate layer of protection from the contaminated soils. The PRAP calls for a minimum of 12 inches of soil cover in all areas of the site to be green space under the proposed redevelopment plan.

COMMENT 9: Are there any hot spots at the site now?

RESPONSE 9: Based on the results of the site investigation, the only hot spot at the site is the location of the underground storage tank. The PRAP includes excavation, removal, and appropriate off-site disposal of the underground tank with 6000 gallons of #6 fuel oil and associated contaminated soil. Surface soils and pockets of subsurface soils are contaminated with semivolatile organic compounds and metals at levels above the NYSDEC Recommended Soil Cleanup Objectives, but these areas are not considered hot spots.

COMMENT 10: Were Sanborn maps used to indicate what type of manufacturing was done at the site in the past?

RESPONSE 10: Yes, available Sanborn maps from 1887 to 1990 were used to indicate the types of activities that occurred at the site in the past. American LaFrance Company operated at this site from 1925 to 1980 under different names: American LaFrance Fire Engine Co., American LaFrance and Foamite Co., American LaFrance Foamite Corporation, American LaFrance - a division of Sterling Precision Instruments, and American LaFrance - a division of Automatic Sprinkler Corporation.

COMMENT 11: Will the soil management plan mandate proper disposal of the excavated soil? Can you be sure this soil won't end up in someone's back yard?

RESPONSE 11: As outlined in the PRAP, a soil management plan would be developed by the City of Elmira and approved by the NYSDEC. The soil management plan would ensure that the soils excavated at the site are properly characterized, and contaminated soil disposed of in accordance with applicable NYSDEC regulations.

COMMENT 12: The building on the corner of Erie Street and Mechanic Street is being excavated without soil sampling. American LaFrance used that building as a paint shop. Why wasn't this building ever tested? The State taxes we pay should cover this testing. Can DOH initiate a soil sampling of this site? Would it be the DOH or DEC who would test this building and site?

RESPONSE 12: The building on the corner of Erie street and Mechanic Street is privately owned and not a part of this project. The City owned 4.35-acre former American LaFrance site was investigated under the State's Brownfields Program. As explained in Response 4, the fund provides financial assistance to municipalities to investigate and/or remediate brownfield properties known or suspected to be contaminated with hazardous substances or petroleum. The State would not investigate an off-site property, even if it may have been historically used by the industry at the Brownfield site unless, it is determined that the on-site contamination has impacted that off-site property. Based on the results of investigation at the Former American LaFrance site, the State does not believe any off-site properties are impacted by the on-site contamination. Therefore, the site you describe was not investigated. If you have information regarding hazardous waste disposal at the property on the corner of Erie Street and Mechanic Street, please submit it to the New York State Department of Environmental Conservation, 6274 E. Avon-Lima

Road, Avon, NY 14414, Attn: Todd Caffoe, P.E.; we will evaluate this information and assess if sampling is warranted.

COMMENT 13: Who determines how the fact sheets are mailed? I live on Falck Street and got the mailings, but I know other people who would like to be on the mailing list.

RESPONSE 13: The Project Manager working with the Citizens Participation Specialist determines how fact sheets are mailed. By NYSDEC policy, residents adjacent to the site, property owners adjacent to a site, and owners of rights of way adjacent to a site (e.g. utilities), are added to the list. In addition, the municipality may add names to the list. In this case, the City of Elmira added names of residents and property owners beyond the adjacent property owners.

Additionally, a portion of the mailing list includes media, elected officials, environmental interest groups, Federal, State, and Local Government agencies. Document repositories are set up to send all information on the site cleanup to public access points, such as libraries, town halls, or neighborhood associations. Fact sheets are also put on the NYSDEC's regional website.

There are return mailers attached to fact sheets sent out. The mailers allow people who are on the initial list to add/change/or delete names from the mailing list. Therefore, if a friend or neighbor did not receive the mailing, they have the opportunity to send back the mailer and request to be added to the mailing list. The fact sheets also have the names and numbers of the project manager and Citizens Participation Specialist to contact for inclusion or deletion from the mail list. All citizens are welcome to be placed on any mailing list for any site they may be interested in.

COMMENT 14: Can acid rain mix with the contaminants and create any sort of chemical compound mixture that is hazardous and can effect the community?

RESPONSE 14: Metals and semivolatile organic compounds in site soil exceed the NYSDEC Recommended Soil Cleanup Objectives. Acid rain can cause very small amounts of metals present in soil to leach into groundwater and surface water. However, all soils are not equally susceptible to acidification. Counteracting forces such as the buffering capacity of soil, texture, pH, salt content, and soil permeability could mitigate the overall final effect. At this site, concentrations of metals detected in groundwater are well below the New York State groundwater standards. Additionally, drinking water in the area is supplied by the Elmira Water Board. The semivolatile organic compounds (SVOCs) present in soil at the site would not be affected by acid rain. Therefore, no adverse effects from site contaminants are anticipated because of acid rain.

APPENDIX B - ADMINISTRATIVE RECORD

Former American LaFrance site
Environmental Restoration Proposed Remedial Action Plan
City of Elmira, Chemung County

1. Proposed Remedial Action Plan dated February 2002

2: Groundwater Sampling Report dated January 11, 2001

3: Final Remedial Alternatives Report dated December 2000

4: Final Site Investigation Report dated December 2000

5: Addendum # 2 to Final Site Investigation Work Plan dated July 1999

6: Addendum # 1 to Final Site Investigation Work Plan dated May 1999

7: Data Usability Summary Report (DUSR) dated May 1999

8: Final Site Investigation Work Plan dated September 1998

9: Brownfield Application dated April 1997