Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Franczyk Park Site
Buffalo(C), Erie County, New York
Site Number B-00174

March 2005

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* DENISE M. SHEEHAN, *Acting Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Franczyk Park Environmental Restoration Site
City of Buffalo, Erie County, New York
Site No. B-00174

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Franczyk Park site, an environmental restoration site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Franczyk Park environmental restoration site, and the public's 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 releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Franczyk Park site and the criteria identified for evaluation of alternatives, the NYSDEC has selected Limited Excavation and Cover Augmentation. The components of the remedy are as follows:

- A remedial design program would be implemented to provide the details necessary for the construction, maintenance, and monitoring of the remedial program;
- Excavation and off-site disposal of soil/fill determined to be hazardous;
- Augmentation of existing cover through the placement of at least 18 inches of clean fill in all park areas;
- Placement of at least six inches of topsoil and establishment of a vegetative cover in all greenspace areas or placement of at least 6 inches in thickness of concrete or asphalt paving in non-vegetated areas (buildings, roadways, parking lots, etc);

- Installation of geotextile and placement of six inches of pea gravel or other suitable material, in playground areas;
- Installation of a groundwater interceptor trench along Fleming Street;
- Demolition and replacement of all athletic facilities and playground equipment to facilitate the installation of the cover system;
- Imposition of an institutional control in the form of an environmental easement;
- Develop a Site Management Plan for implementation of the institutional and engineering controls including soil management, groundwater monitoring, and site use restrictions; and
- Certification to the Department that all institutional or engineering controls are in place and are being maintained.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is 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.

MAR 3 1 2005
Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

TABLE OF CONTENTS

Environmental Restoration
RECORD OF DECISION

Franczyk Park

City of Buffalo, Erie County, New York
Site No. B-00174
March 2005

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 a remedy for Franczyk Park. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this remedy.

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 provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated the property can then be reused.

As more fully described in Sections 3 and 5 of this document, poor housekeeping practices associated with historic operations, spills or leaks, and/or filling activities at the site have resulted in the disposal of hazardous substances, including semivolatile organic compounds (SVOCs) and metals. These hazardous substances have contaminated the subsurface soil/fill and groundwater at the site, and have resulted in:

- a threat to human health associated with potential exposure to surface and subsurface soil and groundwater.
- an environmental threat associated with the impacts of contaminants to wildlife utilizing the project site (e.g., rodents, birds, etc.), which have the potential to be exposed to the surface and subsurface soil and groundwater.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy to allow for the continued use of the site as a City park:

- A remedial design program will be implemented to provide the details necessary for the construction, maintenance, and monitoring of the remedial program;
- Excavation and off-site disposal of soil/fill determined to be hazardous;
- Augmentation of existing cover through the placement of at least 18 inches of clean fill in all park areas;

- Placement of at least six inches of topsoil and establishment of a vegetative cover in all greenspace areas or placement of at least 6 inches in thickness of concrete or asphalt paving in non-vegetated areas (buildings, roadways, parking lots, etc);
- Installation of geotextile and placement of at least six inches of pea gravel or other suitable material, in playground areas;
- Installation of a groundwater interceptor trench along Fleming Street;
- Demolition and replacement of all athletic facilities and playground equipment to facilitate the installation of the cover system;
- Imposition of an institutional control in the form of an environmental easement;
- Develop a Site Management Plan for implementation of the institutional and engineering controls including soil management, groundwater monitoring, and site use restrictions; and
- Certification to the Department that all institutional or engineering controls are in place and are being maintained.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

Franczyk Park is a public park totaling approximately 16.5 acres. The site is located at 564 Babcock Street in the City of Buffalo, Erie County, New York. The site is generally rectangular in shape and is bordered by Fleming Street to the southwest, Lewis Street to the northwest and Babcock Street to the southeast. A community center and an auto salvage yard bound the project site to the northeast. Land use in the site vicinity is a mixture of residential housing and industrial facilities. The location of the project site is shown on Figure 1, the layout of the project site is shown on Figure 2.

Baseball diamonds, a soccer field, tennis and basketball courts, and an asphalt parking area occupy portions of the project site. Grass covers the remainder of the project site. The topography of the project site is generally flat with an approximate elevation of 600 feet above mean sea level (AMSL) based upon USGS topographic mapping of the area. The majority of the storm water on the project site is conveyed by overland flow by a series of drainage swales located in the southern portions of the site to the local storm water sewer system.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site was first developed as an agricultural fertilizer manufacturing facility in the late 1800s and these manufacturing operations lasted almost a century. In the late 1930s, the southeast corner of the site was sold to rendering and soap manufacturers. In 1977, the site was sold to an automobile salvage yard. When the automobile salvage yard went bankrupt in 1981, a real estate company acquired the site and later sold it to the City of Buffalo in 1984. Soil/fill material was present on the project site at the time of the City's purchase, and the source of this material is not known. The City constructed a public park at the project site in 1987. Because an investigation conducted in 1985 indicated that contaminants were present in site soil/fill material, the City used additional off-site soil/fill and topsoil during the construction of the park to cover the soil/fill material previously at the site. Because it was covered, this soil/fill material is referenced in this PRAP as subsurface soil/fill. Potential sources of contaminants detected in this subsurface soil/fill include:

- The former operation of rail spurs on the project site;
- Historic industrial use of the project site and the adjacent properties;
- Poor housekeeping practices resulting in past releases of petroleum products and/or wastes used in connection with machine shop operations;
- The character of the soil/fill itself, which may have been brought to the site from an off-site source; and
- Past spills and/or leaks associated with the use of fuel oil and the fertilizer manufacturing facility.

3.2: Remedial History

The project site has been the subject of multiple environmental assessments and investigations as well as a limited interim remedial measure. The reports detailing these activities are listed below:

- *Report on the Investigation of the Babcock Street Site*, Ecology & Environment Inc., July 1985.
- *Environmental Groundwater Testing Results Gus Franczyk Park Babcock & Fleming Streets Buffalo*, NY, ECCO, April 1990.
- *Gus Franczyk Park Leachate Sampling, Babcock and Fleming Streets*, ECCO, July 1990.
- *Gus Franczyk Park Babcock & Fleming Streets*, ECCO, August 1990.
- *Franczyk Park Site Sampling and Analysis Report*, Acres International, July 1998.
- *Phase II ESA Report Franczyk Park Site, Buffalo*, NY, Benchmark Environmental Engineering & Science, PLLC, December 1998. (Two Reports)
- *Project Number FP-001 Franczyk Park*, Upstate Laboratories Inc., December, 1998.

- *Remedial Design Report for Drainage Improvement Project*, Acres International, October 1999.
- *Summary of Franczyk Park Geoprobe and Surface Soil Sample Investigation and Laboratory Analysis*, Acres International, October 2000.
- *Franczyk Park Drainage Improvement Project Near Surface Soil Investigation within Fenced Seep Areas – TCLP Lead and Full TCLP and RCRA Characteristics*, Acres International, December 2000.
- *Franczyk Park Drainage Improvement Project Report on Groundwater Trench Samples in Support of Buffalo Sewer Authority Discharge Permit*, Acres International, March 2000.
- *Franczyk Park Drainage Improvement Project Section 02923 - Topsoil Analytical Testing*, Acres International, April 2001.
- *Franczyk Park Drainage Improvement Project, Lead Surface Soils*, Acres International, April 2001.

The environmental data generated in 1985, prior to the construction of the public park, indicates that several surface soil/fill samples contained concentrations of SVOCs and metals, including arsenic and lead, above current regulatory guidance levels and background concentrations. Based on the findings of the 1985 investigation, the City of Buffalo placed off-site fill and topsoil across the entire project site to prevent exposure to the contamination in the soil/fill. Correspondence obtained from City records indicates that fill material excavated from the NFTA Bus Garage (Babcock Street) and Pilot Field (Swan and Washington Streets), construction sites was utilized as cover material on the Franczyk Park property prior to development of the site as a public park.

In 1990, groundwater monitoring was conducted to investigate potential impacts of the suspected soil contamination on groundwater quality. The results of this groundwater quality monitoring indicated the presence of metals, including arsenic, barium, copper, iron and lead, in groundwater at the site. While these parameters were detected at relatively low levels, the concentrations were above groundwater drinking water quality standards. No pesticides/herbicides were detected in the groundwater samples collected at that time. During a additional sampling event in 1990, a sample was collected from a groundwater seep, located along Fleming Street, near the southwest corner of the project site. The analysis of that sample showed trace levels of four of pesticides/herbicides, and low levels of metals, including arsenic, iron, selenium and lead, at concentrations that exceeded groundwater drinking water quality standards.

In 1998, groundwater seeps were again reported in the southeast and southwest corners of the project site. Water samples were collected from both seep areas for chemical analysis on several occasions. The results indicated the presence of numerous inorganic parameters, including arsenic and lead, at elevated concentrations. Low levels of volatile organic compounds (VOCs), SVOCs, and pesticides were also sporadically detected in the samples but were generally present at concentrations below the water quality standards.

Surface soil samples were also collected in the vicinity of the two seep locations for chemical analysis on several occasions in 1998. In general, SVOCs were detected in the surface soil samples from both areas at low levels that are typical for urban areas. The concentrations of arsenic detected in surface soil samples collected from both seep locations showed elevated levels of arsenic that significantly exceeded the regulatory guidance levels and approached levels typical to be considered hazardous. Subsurface soil/fill samples collected from test borings drilled in the vicinity of both seep areas also contained elevated arsenic concentrations, but lower than what had been detected in the surface sample results.

In order to delineate the extent of the elevated arsenic levels in surface soil samples collected from both seep locations, additional surface soil samples were collected on a 100-foot grid system established across the entire project site. This resulted in the collection and analysis of 101 grab samples for arsenic. Of these samples, only two contained arsenic concentrations above the site-specific background levels. Both of the samples with high concentrations of arsenic were collected within or adjacent to the groundwater seep areas where elevated arsenic levels had previously been detected.

In 2001, 28 additional surface soil samples were collected from the northern portion of the project site. The analytical results indicated that the lead concentration under the western swing set exceeded the regulatory guidance value. However, it is uncertain whether the sample was collected from the topsoil or the underlying soil/fill material that may have been exposed through erosion resulting from the use of the swings.

To mitigate the groundwater seeps, the City of Buffalo installed an interceptor trench drain system to collect groundwater in the vicinity of the seeps and convey the water to the sanitary sewer system. These interceptor trenches were installed along Lewis Street and in the southeastern portion of the site. Prior to constructing the interceptor trenches, subsurface soil/fill samples were collected along the trench alignments for disposal profiling purposes. The results identified some soil/fill material within the work areas as characteristic hazardous waste based upon leachable lead levels. Additional surface soil samples were also collected within the groundwater seep areas. The chemical analysis of these composite surface soil samples did not indicate any hazardous levels of lead or other parameters. At the conclusion of the trench installation, 504 tons of hazardous soil and 683 tons of non-hazardous soil had been excavated and disposed off site at permitted disposal facilities.

SECTION 4: 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 Buffalo will assist the state in its efforts by providing all information to the state which identifies PRPs. The City of Buffalo will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 5: SITE CONTAMINATION

The City of Buffalo has recently completed a site investigation/remedial alternatives report (SI/RAR) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between November 2003 and November 2004. A November 2004 report entitled "Final Site Investigation/Remedial Alternatives Report (SI/RAR) for Franczyk Park (NYSDEC No. B-00174-9)" was prepared to describe the field activities and findings of the SI in detail.

The following activities were conducted during the SI:

- Research of historical information;
- Site survey to develop a topographic base map and to locate the horizontal and vertical positions (where appropriate) of sample locations and relevant site features;
- Geophysical survey to determine if Underground Storage Tanks (USTs) and/or other metallic anomalies exist in the subsurface;
- Excavation of eleven test pits to determine the nature of anomalies detected during the geophysical survey;
- Advancement of 58 soil probes to characterize surficial geology across the site; define the areal extent and thickness of fill material; and identify areas of subsurface contamination;
- Collection of surface soil samples from eroded, high traffic areas to evaluate the degree of contamination in the surface materials;
- Collection of background soil samples to characterize background levels in the vicinity of the project site and facilitate the evaluation of the analytical results generated from on-site sampling;
- Drilling of six test borings to characterize the subsurface soil and facilitate the installation of groundwater monitoring wells in the soil/fill;
- Installation of six groundwater monitoring wells and one microwell to determine the groundwater flow direction, hydraulic gradient, and hydraulic conductivity of the upper-most water-bearing zone, as well as characterize the groundwater quality at the site; and
- Sampling of six new monitoring wells and one well point.

To determine whether the surface and subsurface soil and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code;
- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels". The regulatory values for inorganic analytes were determined by using average site background values; and
- Background soil samples were taken from five locations. These locations were the backyards of private residences and a local church located in the immediate vicinity of the site. The samples were analyzed for SVOCs and metals to characterize background levels in the vicinity of the site. The results of the analysis were compared to data from the SI (Table 1) to determine appropriate site remediation goals.

Based on the SI 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.

5.1.1: Site Geology and Hydrogeology

5.1.1.1 Site Geology

The overburden stratigraphy can be divided into four significant units, which are listed in descending order.

- Topsoil
- Cover Material
- Ten distinct Soil/Fill Units
- Native Material
- Bedrock

Topsoil

A thin layer of topsoil that ranges in thickness from less than one inch to 1.5 feet was typically present as the uppermost overburden layer. The topsoil is generally a brown silty soil with varying amounts of organic material. Topsoil was encountered at 48 of the 66 subsurface probe and boring locations. This unit constitutes a portion of the cover system.

Cover Material

The cover material was the most frequently encountered layer of soil material on the project site, was typically present below the topsoil, and was observed in 58 of the 66 probe and boring locations. This material was reportedly placed on the site in 1987 to cover the underlying contaminated fill. This layer of material, which varied in thickness from 0.5 feet to 6.7 feet, consisted of a red and brown silt and clay with some locations containing traces of gravel, brick and a coal-like material. The thickest deposits of the cover material were encountered in the subsurface investigation locations positioned along the northern portion of the site. This unit constitutes a portion of the cover system.

Soil/Fill Materials

Soil/fill materials were encountered in each of the 66 probe and boring locations and vary in thickness from 1.7 feet to 13.5 feet. The soil/fill materials were generally encountered immediately below the cover material. No visual or olfactory evidence of significant contamination was observed in the soil samples collected at the project site, and the soil screening and headspace measurements did not reveal significant VOC impacts to the soil/fill material.

There are two predominant and visibly distinct types of fill that were generally encountered in distinct layers. Additionally, eight other miscellaneous soil/fill layers were less frequently encountered at various locations across the project site. In addition to lithologic components of soil (ie: clay, silt, sand, and gravel), the soil/fill contained wood pieces, glass, brick, and metals fragments.

Native Material

Native soil underlies the soil/fill material and consists of glaciolacustrine sediments and glacial tills. The uppermost native material, the glaciolacustrine sediments, primarily consists of very stiff to hard brown silts and clays with gray mottling. This layer was found across the project site and was encountered at approximately one-half of the probe and boring locations. It was not encountered in the remaining locations, likely because these probes and borings were terminated at shallower depths. This material was fully penetrated in only one boring during the subsurface investigation and was 8.8 feet thick in this boring.

A layer of glacial till was observed above the bedrock in two borings and was 0.2 feet and 1.2 feet thick, respectively. This layer was composed predominantly of gray stiff to hard, non-plastic, fine-grained sandy silt, with fractured pieces of shale encountered at both locations

Bedrock

Due to the nature of contamination at the project site, the bedrock was not penetrated during this investigation. However, the "Geologic Map of New York, Niagara Section" depicts the uppermost bedrock formation beneath the project site as the middle Devonian Period Onondaga Limestone that is more than 100 feet thick in Erie County. The observations made during the drilling program indicate that the top of bedrock is likely located 13 to 18 feet below grade at the project site.

5.1.1.2 Site Hydrogeology

Hydrogeologic conditions across the project site were investigated through the installation of six groundwater monitoring wells and one microwell. Each of the wells was screened in the upper-most water-bearing zone in the overburden soil/fill. Groundwater in the limestone bedrock was not assessed during this investigation because the fine-grained glacial sediments underlying the fill material at the site significantly limit the downward migration of groundwater in the overburden to the bedrock and groundwater is not used as a source of drinking water in the area.

Generally, the groundwater was present in the soil/fill material but not in the fine-grained cover material. Observations made during drilling activities indicate that the groundwater in the soil/fill is likely under confined or semi-confined conditions, with the fine-grained cover material acting as the confining layer. No groundwater was observed in the soil/fill material in a test boring completed in the southeastern portion of the site, near one of the interceptor trenches, because the trenches act to dewater the soil/fill material that is in close proximity to the trenches.

The depths to groundwater generally ranged from approximately 0.5 to five feet below grade. The groundwater contour maps indicate that groundwater flow is generally to the south and southwest. The elevations of the inverts of the two interceptor trenches are approximately five feet below the elevation of the groundwater surface in their respective locations. Therefore, the trenches intercept groundwater flow and impact the direction of groundwater flow along Lewis Street and a portion of Fleming Street.

5.1.2: <u>Nature of Contamination</u>

As described in the SI report, many soil and groundwater samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are semivolatile organic compounds (SVOCs) and inorganics (metals).

The SVOCs of concern consist of a subclass of compounds called polyaromatic hydrocarbons (PAHs), which are commonly associated with industrial applications involving petroleum-based products, and are found in heavy fractions of petroleum distillation, asphalt, coal tar, and creosote. The PAHs present at the site at elevated concentrations include anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, naphthalene, and phenanthrene. PAHs have a tendency to adsorb onto soil particles and are not expected to significantly affect groundwater quality or migrate substantially in the subsurface. This is supported by the relatively low concentrations of these analytes in the groundwater at the site.

The inorganic analytes of concern primarily include lead and arsenic. Each was detected at the site in soil at significantly elevated concentrations that exceed regulatory levels for a hazardous waste. Although the inorganics impact groundwater, the ability of the contamination to travel in the groundwater is minimal due to the low solubility (ability to dissolve) of the parameters and the entrainment of finely dispersed solids in the groundwater. This is also supported by the relatively low concentrations of these analytes in the groundwater at the site.

5.1.3: <u>Extent of Contamination</u>

This section describes the findings of the investigation for all environmental media that were investigated.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil and soil/fill. For comparison purposes, where applicable, SCGs are provided for each medium.

Table 1 summarizes the degree of contamination for the contaminants of concern in surface and subsurface soil/fill and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

Prior to the initiation of the Interim Remedial Measure (IRM), that is further discussed in Section 5.2, 101 surface soil samples were collected of the topsoil layer and analyzed for arsenic (Figure 7). An additional 28 surface soil samples were collected and analyzed for lead. The results of this investigation showed elevated arsenic levels in the areas of the two groundwater seeps. Soil from these areas was removed during the IRM activities. Elevated lead levels (above 400 ppm) were found only in the Playground swing area where the surface cover had been removed and subsurface fill had been exposed. This area was addressed during the IRM by the City by replacing the cover material. The extent of this work is further discussed in Section 3.2. During the Site Investigation a total of 14 surface soil samples were collected from depths of 0 to 2 inches below grade in eroded, high traffic areas to evaluate the degree of contamination in the surface materials, if any. The locations of the surface soil samples are included on Figure 4. The analytical results indicate that the contaminants of concern in the surface soil consist of metals, primarily arsenic and lead. Specifically, the highest concentrations of metals were detected in the two samples collected under the western-most swing set. These two surface soil samples displayed the most exceedances with eleven and ten metals, respectively, above the SCGs, while the remainder of the samples had four or fewer analytes exceeding the SCGs. In addition, these samples contained the highest concentrations of lead and arsenic, with arsenic exceeding the SCG in both samples and lead exceeding the SCG in SS-01. Mercury was detected in the sample that was collected in the toddler play area, as well as in the two samples collected from the western-most swing set, at concentrations exceeding the SCGs.

The presence of elevated concentrations of metals in these three samples is likely related to the erosion of the topsoil and cover material, exposing the underlying subsurface soil/fill material present at the project site prior to the construction of the park. It is this subsurface soil/fill that contains the elevated concentrations of contaminants. It should be noted that immediately following sampling of the play areas the City covered these areas with stone to prevent further human contact with the soil/fill layer.

Subsurface Soil

A total of 60 subsurface soil/fill samples were collected from the subsurface soil/fill at the project site. Five of the samples were collected from the cover material, 49 samples from the subsurface soil/fill, and 6 samples from the underlying native material. The subsurface sampling locations are shown on Figure 5.

Contaminants detected in the cover material at concentrations that exceed applicable regulatory guidance values consist of SVOCs and metals. SVOCs were detected in each of the five cover material samples with one or more analytes detected at concentrations above the SCGs. However, the maximum detected concentrations of individual SVOCs in the cover material samples were all below the average concentrations detected in the site background samples, indicating that the concentrations are indicative of the urban setting of the site rather than a contaminant source in the cover material. Lead and arsenic concentrations were below the SCGs in the samples collected from the cover material. Mercury concentrations were elevated in one of the samples collected from the cover material.

The analytical results indicate that the contaminants of concern in the subsurface soil/fill consist of metals, primarily arsenic and lead. Notably, characteristic hazardous waste concentrations of lead were detected near the interceptor trench along Lewis Street and arsenic was detected near the interceptor trench along Fleming Street. Based on the data the hazardous waste classified soil/fill is known not to be migrating from the site, and the locations of the material on the site are generally known. The extent of the soil/fill material containing characteristic hazardous waste concentrations was not determined during the Site Investigation. In addition, asbestos was detected in one sample collected at the site.

In general, the laboratory results indicated that no one particular soil/fill layer was significantly more or less contaminated than other layers present at the project site. However, two areas of the project site were determined to contain higher concentrations of metals, particularly lead and arsenic, than other portions of the project site, as described below.

SVOCs were detected in each of the subsurface soil/fill samples. Twenty-seven subsurface soil/fill samples contained up to 15 SVOCs exceeding the guidance values, while no SVOC concentrations exceeded the SCGs in the remaining seven samples analyzed for SVOCs. The samples contained up to 15 SVOCs at concentrations above the SCGs

Lead and arsenic were detected in each of the 34 samples collected during the initial investigatory phase from the subsurface soil/fill, with 25 samples exceeding the SCG for arsenic and 15 samples exceeding the SCG for lead. Concentrations of arsenic in the samples exceeding the SCG ranged from 20.3 ppm to 928 ppm. Concentrations of lead in the samples exceeding the SCG ranged from 684 ppm to 6,350 ppm. Arsenic concentrations exceeding SCGs were detected at depths ranging from 0.3 to 12 feet below grade and lead at depths ranging from 0.3 to 7.3 feet below grade. Mercury was also detected in four of the six samples analyzed for mercury at concentrations exceeding the SCG. The highest concentrations of metals were detected in the vicinity of the interceptor trenches that were installed along Lewis Street and in the southeastern portion of the site.

In order to determine if lead and arsenic were present at levels that constitute a characteristic hazardous waste, 13 samples were collected for analysis of lead and arsenic using the Toxicity Characteristic Leaching Procedure (TCLP) method. The samples were biased to those with the highest total lead and arsenic concentrations identified during the initial sampling activities and samples collected in the vicinity of the interceptor trenches. The results of the TCLP analysis revealed two samples with concentrations exceeding the maximum concentration of contaminants for toxicity characteristic. The sample from SP-55 was collected from a depth of 1.0 to 1.3 feet, while the sample from SP-57 was collected from a depth of 0.8 to 1.0 feet. The concentration of leachable lead in the sample collected from SP55 was 5.13 ppm, which slightly exceeds the regulatory value of 5.0 ppm. The concentration of leachable arsenic in the sample collected from SP57 was 39.4 ppm, which exceeds the regulatory value of 5.0 ppm. Based on these concentrations, the soil/fill at these two locations is defined as a hazardous waste. The remaining samples did not contain concentrations of lead or arsenic exceeding the regulatory values.

Eight samples collected from these soil/fill units were submitted for asbestos analysis. Only one sample indicated the presence of asbestos. The sample collected from Fill Unit B at a depth of 1.3 to 5.6 feet in soil probe SP-52 (SP52-D1.35.6) indicated the presence of chrysolite, which is one of the most common types of asbestos.

Although detected in each of the samples collected from the native material that underlies the soil/fill, the concentrations of SVOCs, lead, and arsenic did not exceed the SCGs.

Groundwater

A total of 13 groundwater samples were collected during the Site Investigation from seven groundwater monitoring locations, which are shown on Figure 6.

Five volatile organic compounds (VOCs) were detected in only one upgradient groundwater sample (MW-01) at concentrations above the SCGs. These compounds were not detected in any of the samples collected from downgradient locations. Historical records for the project site indicate that gasoline underground storage tanks (USTs) were located in the general vicinity of MW-01 and were later removed in 1977. In addition, a used oil UST was also located in the general vicinity of MW-01 and was removed in 1987. The presence of VOCs in the groundwater in MW-01 may be associated with the upgradient property immediately to the northeast, which has been a salvage yard since the late 1960's or early 1970's.

Semivolatile organic compounds were detected in each of the groundwater samples, with the exception of the sample collected from MW-06. The samples collected from MW-01 and MW-03 contained SVOCs at levels that exceeded the SCGs. The compounds 2,4-dimethylphenol, pentachlorophenol and naphthalene were detected in the groundwater sample collected from the upgradient MW-01 at concentrations exceeding the Water Quality Standards (WQS). Pentachlorophenol and 2,4-dimethylphenol are both associated with the manufacture of pesticides. The presence of these compounds is potentially attributable to poor housekeeping practices associated with historic operations at the project site that included the storage of pesticides. Naphthalene is commonly associated with gasoline and diesel fuel, and three USTs were formerly located in the general vicinity of MW-01.

The results of the metals analysis for the groundwater samples revealed contravention of the WQS for five or more parameters at each of the groundwater monitoring locations. Antimony, arsenic, beryllium, lead, nickel, and selenium were detected in at least one sample at concentrations above the WQS. The presence of these metals in the groundwater samples may potentially be related to the flow of groundwater through the soil/fill and the dissolution of metals from this material, or may be related to salvage operations upgradient of the project site. Metals were detected at similar concentrations in both the upgradient and down gradient monitoring wells with in a order of magnitude. The other inorganic analytes detected at concentrations above the WQS (iron, magnesium, manganese, and sodium) are commonly encountered in uncontaminated, natural environments and are associated more with the groundwater aesthetics than toxicity. It would appear that the results maybe typical of historically urban and industrialized areas of the City.

Background Samples

Five background soil samples were collected and analyzed for SVOCs and metals to characterize background levels in the vicinity of the project site and facilitate the evaluation of the analytical results generated from on-site sampling. Table 1 summarizes the background soil sampling analytical results. Numerous SVOCs, primarily polycyclic aromatic hydrocarbons (PAHs), were detected in all of the background samples. Because PAHs are formed through anthropogenic combustion processes such as the burning of coal, oil and gasoline, they are generally ubiquitous in soils, especially in urban settings. The presence of PAHs in these samples is consistent with the project area's current urban and historically urban/industrial character.

5.2: Interim Remedial Measures

An Interim Remedial Measure (IRM) was conducted at the site in March /April of 2001 to address groundwater seeps containing elevated levels of arsenic being discharged onto sidewalk areas along Fleming and Lewis Streets. The IRM consisted on the installation of approximately 300 feet of perforated drain line (french drain) in both areas of concern with discharge to the local sewer system. The project was successfully completed in April 2001 eliminating all surface seeps and this potential exposure threat.

5.3: 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 human exposure pathways can be found in Section 5.0 of the SI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g. ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Under the current and future use scenarios, park users could be exposed to SVOCs, heavy metals, and asbestos in the exposed subsurface soil/fill via inhalation of airborne particles, or the incidental ingestion of or dermal contact with the contaminated soil/fill in high traffic areas. Additional erosion of the cover system in the future could expose more of the contaminated soil/fill and increase the potential for exposure.

Groundwater in the vicinity of the project site is not utilized as a source of potable water. Therefore, exposure via ingestion of contaminated groundwater is not expected. However, it is likely that contaminants present in the groundwater enter the on-site groundwater interceptor trenches, which in turn are tied into the City sanitary sewer system. Under this scenario, there is the potential for utility workers involved with the cleaning and/or maintenance of drainage structures to be exposed to the contaminated groundwater present in these structures. Construction workers could also be exposed to the contaminated groundwater during excavation activities performed at the project site. Should the formation of new groundwater seeps occur, park users could be exposed to contaminated groundwater.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands. The SI report presents a detailed discussion of the existing and potential impacts to environmental receptors. The following environmental exposure pathways and ecological risks have been identified:

- Potential environmental receptors include wildlife utilizing the project site (e.g., rodents, birds, etc.);
- Under the current and future use scenarios, environmental receptors could be exposed to SVOCs, heavy metals, and asbestos in the exposed subsurface soil/fill via inhalation of airborne particles, the incidental ingestion of or dermal contact with the contaminated soil/fill in high traffic areas, and incidental ingestion of, or dermal contact with, water that has pooled in the high traffic areas and is in contact with contaminated material; and
- Should the formation of new groundwater seeps occur, environmental receptors could be exposed to groundwater via incidental ingestion of, or dermal contact with, the exfiltrating groundwater.

Site contamination has also impacted the groundwater resource in the overburden material. However, the surrounding area is serviced by the municipal water supply system of the City of Buffalo, which withdraws water from an intake in Lake Erie located more than one mile from the project site. In addition, the Buffalo River is the closest surface water body, and is located more than one-half mile from the project site.

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. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or 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 Franczyk Park is continued use as a public park.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- Exposures of persons at or around the site to SVOCs and metals in subsurface soil/fill and groundwater;
- Environmental exposures of flora or fauna to SVOCs and metals in subsurface soil/fill and groundwater;
- The release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and
- The release of contaminants from surface soil into ambient air through wind borne dust.

Further, the remediation goals for the site include attaining to the extent practicable:

- The removal of subsurface soil/fill with hazardous levels of lead and arsenic contamination.

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 Franczyk Park were identified, screened and evaluated in the SI/RA report, which is available at the document repositories identified in Section 1.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soil/fill and groundwater at the site.

Alternative A: No Action

Present Worth:	*$0*
Capital Cost:	*$0*
Annual OM&M:	*$0*

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. Under this alternative, the site would remain in its current state and no environmental monitoring, remedial activities, institutional or additional access controls would be implemented. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative B: Cover System Construction

Institutional Controls, Installation of Cover System and Environmental Monitoring.

Present Worth:	*$1,826,357*
Capital Cost:	*$1,624,978*
Annual OM&M:	*$13,100*

Alternative B would include a minimum two-foot thick cover system placed over the entire project site. This cover system would consist of clean fill and topsoil in greenspace areas and sub-base and asphalt in athletic courts and the parking lot. The cover would be installed to prevent exposure of human and environmental receptors to contaminants in the surface and subsurface soil/fill via dermal contact, incidental ingestion or inhalation of particulates.

While this alternative would achieve the RAOs for surface soil and non-hazardous subsurface soil/fill, it would not satisfy the RAOs for the protection of groundwater resources from the hazardous soil/fill. In addition, it would not remove any of the contaminated media from the project site. Therefore, a site management plan would be developed to address any future invasive activities at the site. To mitigate the threat of erosion of the cover system and exposure of the underlying soil/fill, a annual cover inspection program would also be recommended. Additionally, an groundwater monitoring program would be implemented to evaluate any changes to the quality of groundwater exiting the project site.

Alternative C: Limited Excavation and Cover Augmentation

Institutional Controls, Installation of Containment Structure, Limited Soil Removal and Environmental Monitoring

Present Worth:	*$2,709,049*
Capital Cost:	*$2,516,893*
Annual OM&M:	*$12,500*

In addition to the environmental monitoring and institutional controls in previous alternative, Alternative C would include removing the most severely contaminated material (viz., hazardous waste) to mitigate human and environmental receptors exposure to hazardous subsurface soil/fill. Also the existing cover system would be augmented such that the resulting cover system would be two feet thick or greater to prevent exposure of human and environmental receptors to contaminants in the surface and subsurface soil/fill via dermal contact, incidental ingestion or inhalation of particulates. The cover system would consist of clean fill and topsoil in greenspace areas and sub-base and asphalt in athletic courts and the parking lot. In addition, a groundwater interceptor trench would be in installed along Fleming Street preventing the off-site migration of impacted groundwater.

This alternative would achieve the RAOs for the surface soil, non-hazardous subsurface soil/fill, hazardous subsurface soil/fill and groundwater. However, some contaminated, non-hazardous media would remain on the project site, thereby limiting future use of the project site and requiring a site management plan for any future invasive activities at the site. To mitigate the threat of erosion of the cover system and exposure of the underlying soil/fill, an annual cover inspection program would be recommended. Additionally, a groundwater monitoring program would be implemented to evaluate any changes to the quality of groundwater exiting the project site.

Alternative D: Complete Excavation

Removal of All Soil/Fill from the Site

Present Worth:	*$22,160,966*
Capital Cost:	*$22,160,966*
Annual OM&M:	*$0*

This alternative is the most comprehensive, involving the removal and disposal of all soil/fill from the site. Following the excavation and off-site disposal of the fill, clean fill would be brought on site and graded to elevations at or above the sidewalk. This alternative is the most comprehensive, and achieves the RAOs for the project site. This alternative would require that the existing park be temporarily dismantled and then reconstructed following this remedial alternative.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of environmental restoration projects in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the SI/RA 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. 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.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance, which the NYSDEC has determined to be applicable on a case-specific basis.

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.

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 engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

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

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

7. Cost-Effectiveness. Capital costs and operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

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/RA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised. In general the comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected Alternative C - Limited Excavation and Cover Augmentation as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the SI and the evaluation of alternatives presented in the RAR.

Alternative C - Limited Excavation and Cover Augmentation. Alternative C is being proposed because it satisfies both the short- and long-term goals for the protection of human health and the environment, as well as providing the best balance of the primary balancing criteria described in Section 7.2. It would achieve the remediation goals for the site by removing the most severely contaminated material (ie: hazardous waste), preventing exposure of human and environmental receptors to contaminants in the surface and subsurface soil/fill, and preventing the off-site migration of impacted groundwater.

Alternatives A and B do not address either of the threshold criteria. In addition, hazardous waste is left on site under these alternatives. Therefore, these alternatives are not included in the following discussion. Because Alternatives C (Limited Excavation and Augmentation) and D (Complete Excavation) satisfy the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the site.

Alternatives C and D both have short-term impacts which can easily be controlled. The time needed to achieve the remediation goals would be slightly longer for Alternative D when compared to Alternative C, but the construction component of both could be completed within one year. Alternative C has a long-term monitoring component while Alternative D does not.

Alternative C would address exposure to contaminated soil/fill in the long-term, as long as the cover system is maintained. Alternative D would effectively address exposure to contaminated soil/fill in the long-term through removal of all contaminated soil/fill from the project site with disposal at an appropriate off-site landfill. Because all contaminated soil/fill is removed from the site, Alternative D is favorable for addressing long-term effectiveness.

Alternative C would effectively reduce the mobility of the contaminants through control and isolation of the soil/fill material. The non-hazardous soil/fill would be covered with a minimum of two feet of clean material, thereby limiting the potential for erosion via wind or water to affect the subsurface soil/fill. In addition, the hazardous soil/fill would be excavated and properly disposed off-site, and, therefore, the toxicity and volume of the contaminants would be reduced. This action would also remove soil/fill containing leachable levels of lead and arsenic, thereby eliminating the threat to groundwater resources. The mobility of the contaminants in the groundwater would also be reduced through the installation of an additional groundwater interceptor trench and conveyance to the Buffalo Sewer Authority (BSA). Furthermore, the treatment of this groundwater at the BSA would reduce the toxicity and volume of contaminants in the groundwater.

Alternative D would effectively reduce the toxicity, mobility, and volume of the contaminants through excavation and proper off-site disposal of all soil/fill. In addition, this alternative would eliminate any impacts to groundwater posed by the soil/fill, thereby reducing the volume of contaminants in the groundwater. Because all contaminated soil/fill is removed from the site, Alternative D is favorable for reducing the toxicity, mobility, and volume of the contaminants at the site.

Alternatives C and D are appropriate for current and future site conditions and uses and are implementable. For Alternative C and D, the materials and equipment for site clearing; grading; placing and maintaining the cover system, excavating and disposing hazardous soil/fill; and installing the interceptor trench are readily available. The cover system augmentation would be easily implementable since the site is generally free of structures, debris, and woody vegetation; the site is graded to a regular topographic surface; and access to the site is good. In addition, this alternative could be effectively implemented within a reasonable time frame.

The very high costs of Alternative D are prohibitive, making this alternative infeasible. The costs associated with Alternative C are reasonable and make this a cost-effective remedial alternative.

Both Alternatives C and D would fully satisfy the RAOs developed for the site, would have a high degree of long-term effectiveness and would render the site suitable for use as a public park. All contaminated soil/fill would be removed under Alternative D, while the non-hazardous contaminated fill would remain on-site but contained under Alternative C. However, Alternative C has a significantly lower cost than Alternative D. Based upon the equally protectiveness to human health and the environment, afforded by this alternative, Alternative C is recommended for implementation.

The estimated present worth cost to implement the remedy is $2,709,049. The cost to construct the remedy is estimated to be $2,516,893 and the estimated average annual operation, maintenance, and monitoring costs for is $12,500.

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, maintenance, and monitoring of the remedial program, including the delineation of the areal extent of the two areas that contain contaminants at hazardous concentrations;

2. Excavation and off-site disposal of soil/fill determined to be hazardous within the two hazardous waste areas (Figure 8);

3. Augmentation of existing cover through the placement of at least 18 inches of clean fill in all areas;

4. In addition to the 18 inches of clean fill, placement of at least six inches of topsoil and establishment of a vegetative cover in all greenspace areas. Clean soil will constitute soil with no analytes in exceedance of NYSDEC TAGM 4046 soil cleanup objectives or local site background. Non-vegetated areas (buildings, roadways, parking lots, etc) will be covered by a paving system or concrete at least 6 inches in thickness;

5. Installation of geotextile and placement of at least six inches (in addition to the 18 inches of clean fill) of pea gravel or other suitable material in playground areas;

6. Installation of a groundwater interceptor trench along Fleming Street that connects the two existing trenches with discharge to the sanitary sewer system (Figure 8). Material excavated during trench installation activities will be properly disposed of off-site;

7. Demolition and replacement of all athletic facilities and playground to facilitate the installation of the cover system;

8. Imposition of an institutional control in form of an environmental easement that will: (a) require compliance with the approved site management plan (SMP), (b) limit the use and development of the property to its intended use as a public park; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Erie County Department of Health; and, (d) require the property owner to complete and submit to the NYSDEC I C/ EC certification;

9. Since the remedy results in contamination above unrestricted levels remaining at the site, a site management plan (SMP) will be developed and implemented. The SMP will include the institutional controls and engineering controls to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) provide for the operation and maintenance of the components of the remedy; (c) and identify any use restrictions on site development or groundwater use; and

10. The SMP will require the property owner to provide an Institutional Control/ Engineering Control (IC/EC) certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department annually or for a period to be approved by the NYSDEC, which will certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that will impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation an maintenance or soil management plan.

SECTION 9: <u>HIGHLIGHTS OF COMMUNITY PARTICIPATION</u>

As part of the Franczyk Park Site environmental restoration process, a number of Citizen Participation activities were undertaken 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:

- Repositories for documents pertaining to the site were established.
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- Fact Sheet and meeting notice issued October 10, 2003.
- Public meeting held on October 23, 2003 to discuss proposed investigation activities.
- Fact Sheet issued November 2003 to respond to public meeting comments.
- A public meeting was held on March 1, 2005 to present and receive comment on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected	SCG [a,b]	Frequency of Exceeding SCG
Metals	Aluminum	4,730 – 12,200	SB (9,126)	1/10
	Antimony	0.46 – 9.6	SB (2.5)	2/10
	Arsenic	4 – 68.2	SB (18)	2/14
	Barium	23.2 – 111	300	0/10
	Beryllium	0.2 – 0.53	SB (0.64)	0/3
	Cadmium	ND – 0.55	1	0/3
	Calcium	11,600 – 54,800	SB (18,840)	9/10
	Chromium	5.1 – 21.2	SB (25)	0/10
	Cobalt	3.7 – 9.1	30	0/10
	Copper	15.8 – 259	SB (86)	2/10
	Cyanide	ND – 1.2	NS	0/10
	Iron	11,100 – 72,100	SB (22,140)	2/10
	Lead	6.6 – 883	SB (644)	1/14
	Magnesium	4,900 – 24,300	SB (7,094)	5/10
	Manganese	320 – 1,290	SB (424)	4/10
	Mercury	ND – 0.547	0.1	3/10
	Nickel	9.7 – 20.8	SB (31)	0/10
	Potassium	567 – 1,270	SB (1,174)	1/10
	Selenium	0.84 – 4.7	SB (2.7)	2/10
	Silver	ND – 0.97	SB (0.45)	1/10
	Sodium	26 – 243	SB (132)	1/10
	Thallium	0.76 – 4.6	SB (1.3)	2/10
	Vanadium	8.4 – 21.4	150	0/10
	Zinc	64.1 - 422	SB (556)	0/10

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

SUBSURFACE SOIL	CONTAMINANTS OF CONCERN	CONCENTRATION RANGE DETECTED [A]	SCG [A, B]	FREQUENCY OF EXCEEDING SCG
Volatile Organic Compounds	2-Butanone	ND – 13	300	0/10
	Acetone	ND – 54	200	0/10
	Methylene chloride	ND – 16	100	0/10
	Tetrachloroethene	ND – 4	1,400	0/10
Semivolatile Organic Compounds	2,4-Dichlorophenol	ND – 25	400	0/47
	2,4-Dimethylphenol	ND – 24	-	0/47
	2-Methylnaphthalene	ND – 20,000	36,400	0/47
	4-Methylphenol	ND – 310	900	0/47
	Acenaphthene	ND – 60,000	50,000	1/47
	Acenaphthylene	ND – 13,000	41,000	0/47
	Anthracene	ND – 110,000	50,000	1/47
	Benzo(a)anthracene	ND – 140,000	224	27/47
	Benzo(a)pyrene	ND – 93,000	61	33/47
	Benzo(b)fluoranthene	ND – 140,000	1,100	19/47
	Benzo(ghi)perylene	ND – 6,300	50,000	0/47
	Benzo(k)fluoranthene	ND – 170,000	1,100	17/47
	Bis(2-ethylhexyl) phthalate	ND – 510	50,000	0/47
	Butyl benzyl phthalate	ND – 2,600	50,000	0/47
	Carbazole	ND – 37,000	-	0/47
	Chrysene	ND – 110,000	400	25/47
	Di-n-butyl phthalate	ND – 300	8,100	0/47
	Di-n-octyl phthalate	ND – 44	50,000	0/47
	Dibenzo(a,h)anthracene	ND – 12,000	14	29/47
	Dibenzofuran	ND – 55,000	6,200	2/47
	Fluoranthene	ND – 300,000	50,000	4/47
	Fluorene	ND – 79,000	50,000	1/47

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

SUBSURFACE SOIL	CONTAMINANTS OF CONCERN	CONCENTRATION RANGE DETECTED [A]	SCG [A, B]	FREQUENCY OF EXCEEDING SCG
	Indeno(1,2,3-cd)pyrene	ND – 22,000	3,200	7/47
	Naphthalene	ND – 26,000	13,000	0/47
	Phenanthrene	ND – 380,000	50,000	3/47
	Phenol	ND –15	30	0/47
	Pyrene	ND – 260,000	50,000	2/47
Pesticides	4,4'-DDT	ND – 26	2,100	0/10
	Aldrin	ND – 33	41	0/10
	delta-BHC	ND – 3.6	300	0/10
	Dieldrin	ND – 54	44	2/10
	Endosulfan II	ND – 8	900	0/10
	Endrin	ND – 8.1	100	0/10
	Endrin aldehyde	ND – 10	-	0/10
	Endrin ketone	ND – 41	-	0/10
	gamma-Chlordane	ND – 9.3	540	0/10
	Heptachlor epoxide	ND – 9.9	20	0/10
	Methoxychlor	ND – 31	-	0/10
Metals	Aluminum	2,070 – 16,500	SB (9,126)	8/10
	Antimony	1.1 – 22.1	SB (2.5)	5/10
	Arsenic	1.2 - 928	SB (18)	25/47
	Arsenic (TCLP)	ND – 5.13	5	1/8
	Barium	71.1 – 202	300	0/10
	Beryllium	0.48 – 1.5	SB (0.64)	6/10
	Cadmium	ND – 2.7	1	2/10
	Calcium	15,500 – 127,000	SB (18,840)	8/10
	Chromium	7.9 – 49.5	SB (25)	2/10

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

SUBSURFACE SOIL	CONTAMINANTS OF CONCERN	CONCENTRATION RANGE DETECTED [A]	SCG [A, B]	FREQUENCY OF EXCEEDING SCG
	Cobalt	2 – 36.8	30	1/10
	Copper	11.3 – 417	SB (86)	5/10
	Iron	2,080 – 38,300	SB (22,140)	4/10
	Lead	5 – 6,350	SB (644)	15/47
	Lead (TCLP)	ND – 39.4	5	1/9
	Magnesium	882 – 23,800	SB (7,094)	6/10
	Manganese	32.4 – 1,250	SB (424)	6/10
	Mercury	0.014 – 12.9	0.1	10/17
	Nickel	2 – 36.5	SB (31)	2/10
	Potassium	1,050 – 5,650	SB (1,174)	9/10
	Selenium	ND – 8.1	SB (2.7)	2/10
	Silver	ND – 2.4	SB (0.45)	3/10
	Sodium	135 – 1,530	SB (132)	10/10
	Thallium	ND – 2.9	SB (1.3)	3/10
	Vanadium	15.5 – 42.8	150	0/10
	Zinc	66.9 – 3,020	SB (556)	3/10

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

GROUNDWATER	Contaminants of Concern	Concentration Range Detected [a]	SCG [a, b]	Frequency of Exceeding SCG
Volatile Organic Compounds	4-Methyl-2-pentanone	ND – 88	NS	0/6
	Acetone	ND – 73	50	1/6
	Benzene	ND – 68	1	1/6
	Toluene	ND – 37	5	1/6
	Trichloroethene	ND – 35	5	1/6
Semivolatile Organic Compounds	2,4-Dimethylphenol	ND – 280	50	1/6
	2-Methylnaphthalene	ND – 14	-	0/6
	2-Methylphenol	ND – 170	-	0/6
	4-Methylphenol	ND – 74	-	0/6
	Acenaphthene	ND – 8	20	0/6
	Acetophenone	ND – 5	-	0/6
	Benzaldehyde	ND – 4	-	0/6
	Biphenyl	ND – 3	-	0/6
	Bis(2-ethylhexyl) phthalate	ND – 10	5	1/6
	Butyl benzyl phthalate	ND – 0.5	50	0/6
	Caprolactam	ND – 6	-	0/6
	Carbazole	ND – 22	-	0/6
	Di-n-butyl phthalate	ND – 2	50	0/6
	Dibenzofuran	ND – 7	-	0/6
	Diethyl phthalate	ND – 1	50	0/6
	Fluorene	ND – 8	50	0/6
	Naphthalene	ND – 130	10	1/6
	Pentachlorophenol	ND – 2	1	1/6
	Phenanthrene	ND – 7	50	0/6
Pesticides	4,4'-DDT	ND – 0.092	0.2	0/6
	Dieldrin	ND – 0.05	0.004	2/6

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

GROUNDWATER	Contaminants of Concern	Concentration Range Detected [a]	SCG [a, b]	Frequency of Exceeding SCG
	Endrin	ND – 0.044	ND	1/6
	Methoxychlor	ND – 0.031	35	0/6
	gamma-Chlordane	ND – 0.022	0.05	0/6
Metals	Aluminum	ND – 306,000	-	0/6
	Antimony	ND – 20.1	3	10/13
	Arsenic	ND – 340	25	7/13
	Barium	2.8 – 34.4	1,000	0/6
	Beryllium	0.32 – 10.4	3	2/13
	Cadmium	ND – 1.2	5	0/6
	Calcium	314,000 – 712,000	-	0/6
	Chromium	ND – 31.9	50	0/6
	Cobalt	5.2 – 189	-	0/6
	Copper	ND – 21.3	200	0/6
	Cyanide	ND – 53	200	0/6
	Iron	1,100 – 1,160,000	300	6/6
	Lead	ND – 194	25	2/13
	Magnesium	105,000 – 816,000	35,000	6/6
	Manganese	1,330 – 48,500	300	6/6
	Nickel	4.2 – 261	100	2/13
	Potassium	39,100 – 1,600,000	-	0/6
	Selenium	3.2 – 31	10	3/13
	Silver	ND – 1.8	50	0/6
	Sodium	36,300 – 392,000	20,000	6/6
	Vanadium	ND – 88.7	-	0/6
	Zinc	12.5 - 314	2,000	0/6

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

BACKGROUND	Contaminants of Concern	Concentration Range Detected [a]	SCG [a, b]	Frequency of Exceeding SCG
Semivolatile Organic Compounds	2-Methylnaphthalene	ND – 120	36,400	0/5
	Acenaphthene	22 – 180	50,000	0/5
	Acenaphthylene	24 – 280	41,000	0/5
	Anthracene	70 – 690	50,000	0/5
	Benzo(a)anthracene	520 – 2,700	224	5/5
	Benzo(a)pyrene	600 – 2,400	61	5/5
	Benzo(b)fluoranthene	690 – 2,100	1,100	4/5
	Benzo(ghi)perylene	370 – 1,200	50,000	0/5
	Benzo(k)fluoranthene	490 – 2,500	1,100	4/5
	Carbazole	96 – 420	-	0/5
	Chrysene	660 – 2,600	400	5/5
	Dibenzo(a,h)anthracene	150 – 570	14	5/5
	Dibenzofuran	ND – 150	6,200	0/5
	Fluoranthene	1,300 – 6,500	50,000	0/5
	Fluorene	24 – 250	50,000	0/5
	Indeno(1,2,3-cd)pyrene	370 – 1,300	3,200	0/5
	Phenanthrene	650 – 3,600	50,000	0/5
	Phenol	ND – 20	30	0/5
	Pyrene	1,000 – 4,500	50,000	0/5
Metals	Aluminum	8,370 – 10,300	SB (9,126)	2/5
	Antimony	1.4 – 3.7	SB (2.5)	2/5
	Arsenic	5.6 – 25.3	SB (18)	3/5
	Barium	67.3 – 582	300	1/5
	Beryllium	0.47 – 0.75	SB (0.64)	2/5
	Cadmium	ND – 2.4	1	2/5
	Calcium	11,100 – 40,200	SB (18,840)	2/5

TABLE 1
Nature and Extent of Contamination
(November 2003 - March 2004)

BACKGROUND	Contaminants of Concern	Concentration Range Detected [a]	SCG [a, b]	Frequency of Exceeding SCG
	Chromium	13.6 – 34.7	SB (25)	2/5
	Cobalt	5.2 – 8.8	30	0/5
	Copper	25.1 – 157	SB (86)	2/5
	Iron	13,600 – 34,700	SB (22,140)	2/5
	Lead	96.7 – 1,640	SB (644)	2/5
	Magnesium	2,960 – 15,400	SB (424)	1/5
	Manganese	334 – 520	SB (424)	2/5
	Mercury	0.131 – 2.1	0.1	5/5
	Nickel	13.3 – 73	SB (31)	1/5
	Potassium	1,150 – 1,280	SB (1,174)	1/5
	Selenium	0.94 – 5.2	SB (2.7)	2/5
	Silver	0.12 – 0.79	SB (0.45)	2/5
	Sodium	52.8 – 237	SB (132)	3/5
	Thallium	0.88 – 1.7	SB (1.3)	3/5
	Vanadium	20.7 – 30.2	150	0/5
	Zinc	132 – 1,140	SB (556)	2/5

ND - designation on analytical results signifies that result was not detected at a level above sample detection limit.
SB - Site Background
(1) - Site Background value used as basis for guidance value

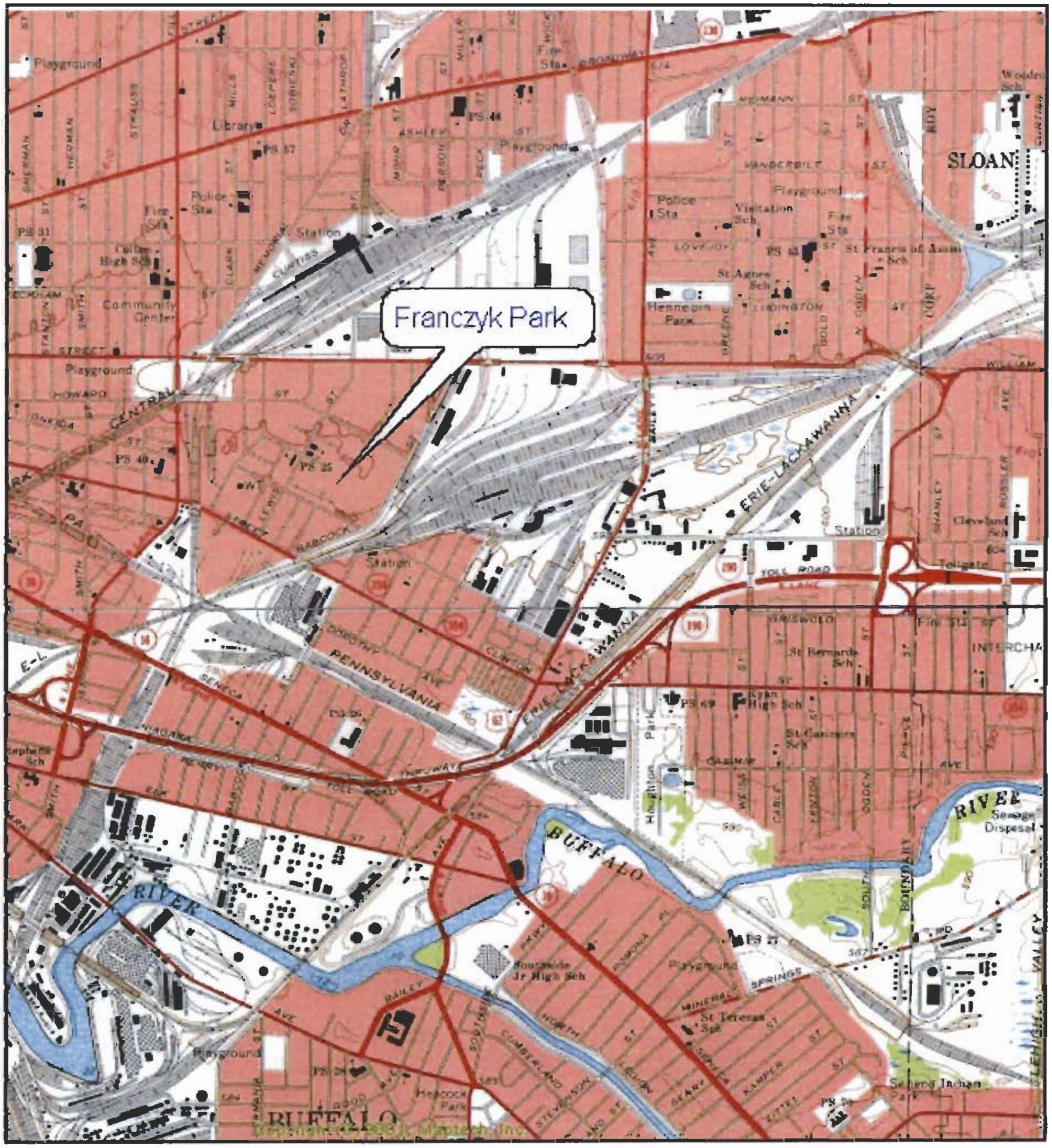
[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values;
Sediments: NYSDEC Div. Fish & Wildlife, Technical Guidance for Screening Contaminated Sediments dated Jan. 1999.
Soil: NYSDEC - Div. Env. Remediation TAGM 4046 based on Site Background values
Water: NYSDEC - Div. Of Water TOGS 1.1.1

[c] LEL = Lowest Effects Level and SEL = Severe Effects Level. A sediment is considered to be contaminated if either of these criteria is exceeded. If both criteria are exceeded, the sediment is severely impacted. If only the LEL is exceeded, the impact is considered to be moderate.

Table 2
Summary of Remedial Alternatives

Remedial Alternative	Capital Cost	Annual Operational Cost	Present Worth Cost
Alt. A - No Action	$0	$0	$0
Alt. B - Cover System Construction	$1,624,978	$13,100	$1,826,357
Alt. C - Limited Excavation and Cover	$2,516,893	$12,500	$2,709,049
Alt.D - Complete Excavation	$22,160,966	$0	$22,160,966

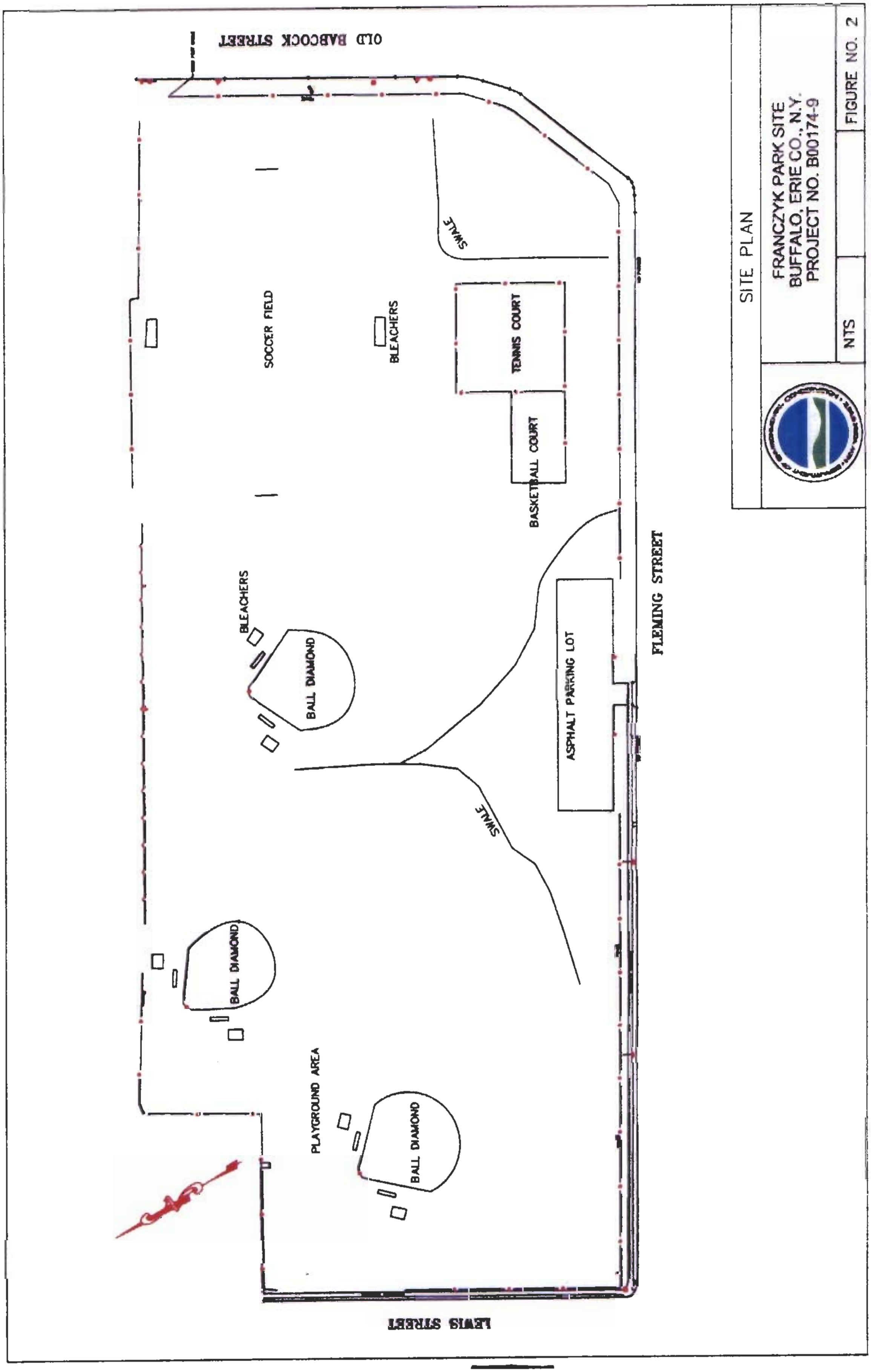


Source: Buffalo SE
1982 Geologic Survey 7.5 x15 Minute Topographic Quadrangle

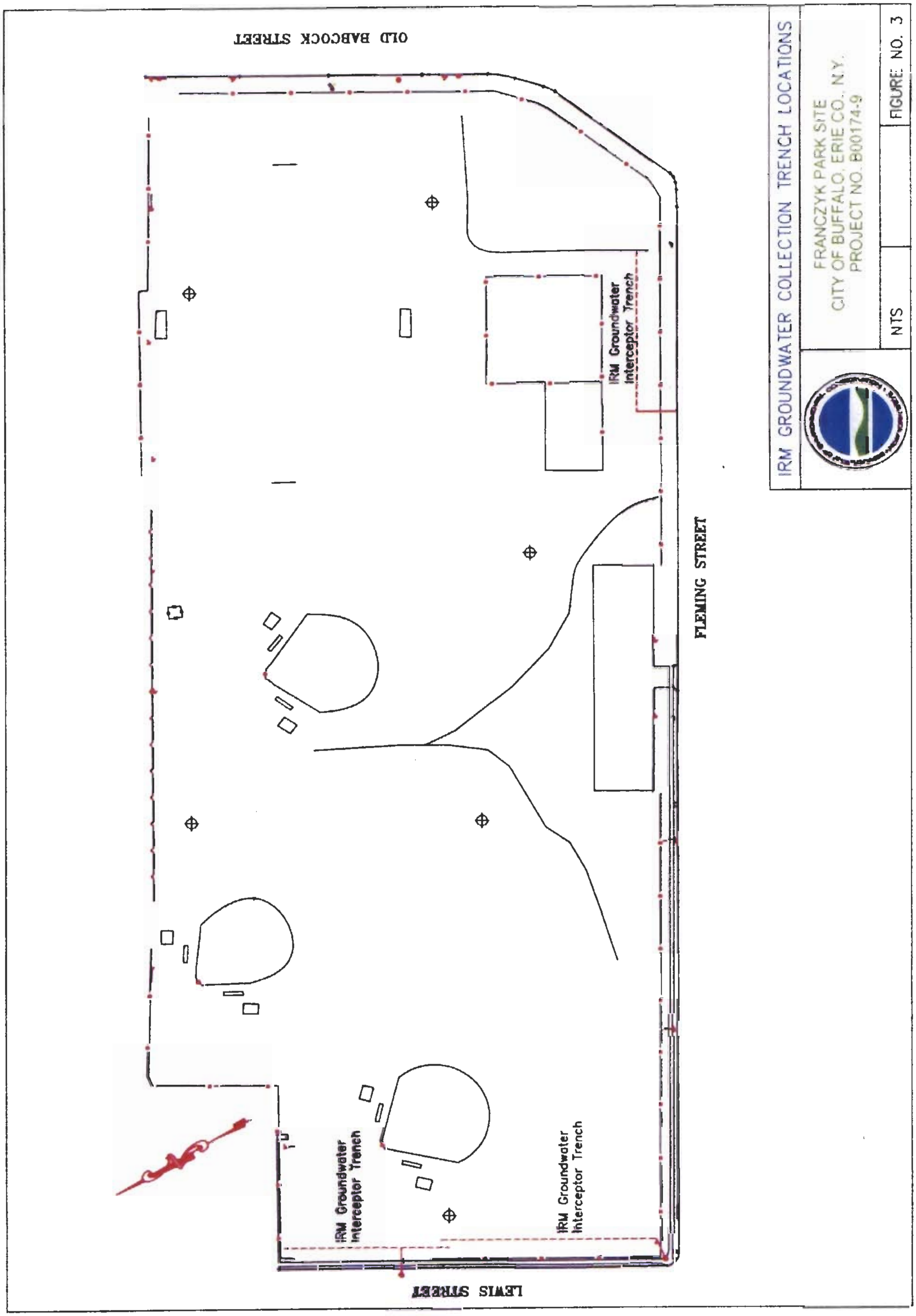
SITE LOCATION MAP

Franczyk Park Site
City of Buffalo, Erie County
Project No. B00174-9

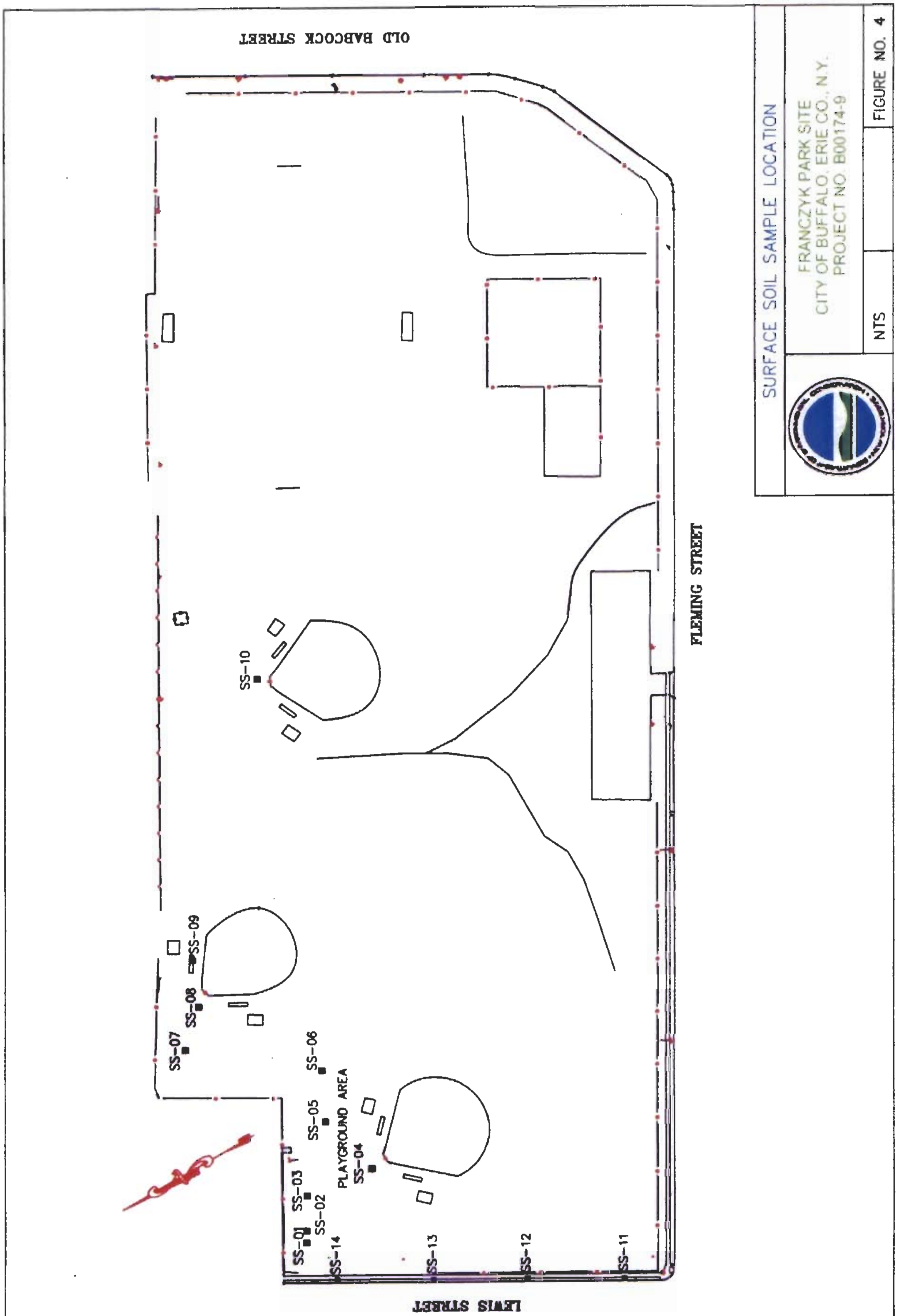
Region 9-Buffalo

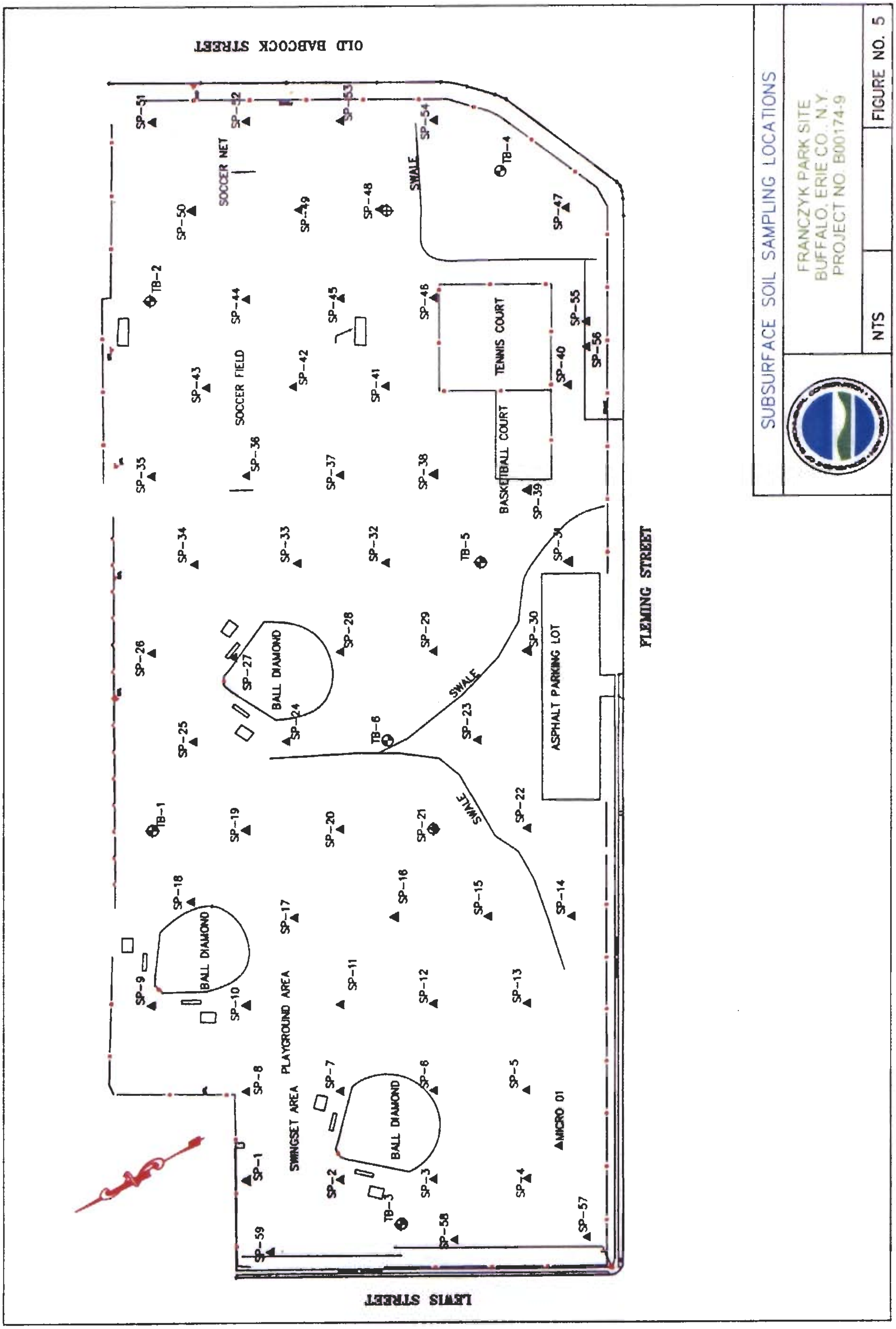


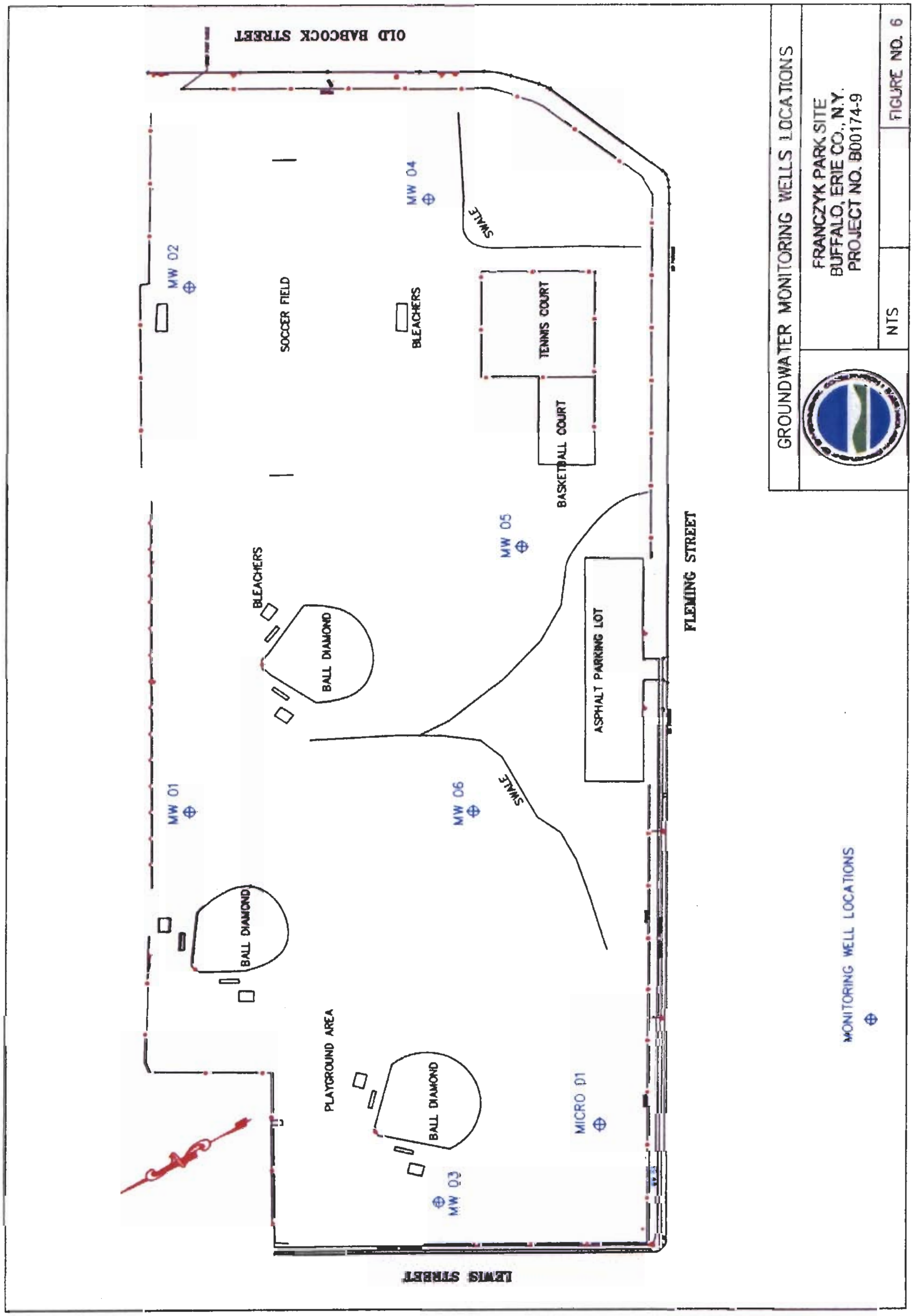
SITE PLAN
FRANCZYK PARK SITE
BUFFALO, ERIE CO., N.Y.
PROJECT NO. B00174-9
NTS
FIGURE NO. 2
OLD BABCOCK STREET
FLEMING STREET
LEWIS STREET
SOCCER FIELD
BLEACHERS
TENNIS COURT
BASKETBALL COURT
SWALE
ASPHALT PARKING LOT
BLEACHERS
BALL DIAMOND
SWALE
BALL DIAMOND
PLAYGROUND AREA
BALL DIAMOND



IRM GROUNDWATER COLLECTION TRENCH LOCATIONS
FRANCZYK PARK SITE
CITY OF BUFFALO, ERIE CO., N.Y.
PROJECT NO. B00174-9
NTS
FIGURE NO. 3
OLD BABCOCK STREET
FLEMING STREET
LEWIS STREET
IRM Groundwater Interceptor Trench
IRM Groundwater Interceptor Trench
IRM Groundwater Interceptor Trench


SURFACE SOIL SAMPLE LOCATION
FRANCZYK PARK SITE
CITY OF BUFFALO, ERIE CO., N.Y.
PROJECT NO. B00174-9
NTS
FIGURE NO. 4
OLD BABCOCK STREET
FLEMING STREET
LEWIS STREET
PLAYGROUND AREA
SS-01
SS-02
SS-03
SS-04
SS-05
SS-06
SS-07
SS-08
SS-09
SS-10
SS-11
SS-12
SS-13
SS-14


SUBSURFACE SOIL SAMPLING LOCATIONS
FRANCZYK PARK SITE
BUFFALO, ERIE CO., N.Y.
PROJECT NO. B00174-9
FIGURE NO. 5
NTS
OLD BABCOCK STREET
FLEMING STREET
LEWIS STREET
SOCCER FIELD
SOCCER NET
TENNIS COURT
BASKETBALL COURT
BALL DIAMOND
ASPHALT PARKING LOT
SWALE
PLAYGROUND AREA
SWINGSET AREA
MICRO 01


GROUNDWATER MONITORING WELLS LOCATIONS
FRANCZYK PARK SITE
BUFFALO, ERIE CO., N.Y.
PROJECT NO. B00174-9
NTS
FIGURE NO. 6
OLD BABCOCK STREET
FLEMING STREET
LEWIS STREET
MW 01
MW 02
MW 03
MW 04
MW 05
MW 06
MICRO 01
SOCCER FIELD
BLEACHERS
BLEACHERS
SWALE
SWALE
TENNIS COURT
BASKETBALL COURT
ASPHALT PARKING LOT
BALL DIAMOND
BALL DIAMOND
BALL DIAMOND
PLAYGROUND AREA
MONITORING WELL LOCATIONS

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Franczyk Park Environmental Restoration Site
City of Buffalo, Erie County, New York
Site No. B-00174

The Proposed Remedial Action Plan (PRAP) for the Franczyk Park site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 8, 2005. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Franczyk Park site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 1, 2005, which included a presentation of the Site Investigation (SI) and the Remedial Alternatives Report (RAR) as well as 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 for the PRAP ended on March 24, 2005.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the NYSDEC's responses:

COMMENT 1: Will the community be notified when the long term monitoring occurs and be apprised of the results?

RESPONSE 1: The community is not routinely notified of sampling conducted during long term monitoring; however, a schedule for routine sampling will be developed during the remedial design. This schedule, and any data collected at the site by the City of Buffalo, will be available for public review by the City as part of the site record.

COMMENT 2: Wouldn't plan "D" (Complete Excavation) be a better result for the community? The community center will someday be gone, things change. Wouldn't "D" better provide for a changing community?

RESPONSE 2: Both remedial Alternatives C and D are protective of human health and the environment by eliminating exposure to subsurface soils that contain low to moderate levels of contaminants. An Environmental Easement will be filed at the completion of the remedial work that identifies the conditions of the property, insures proper maintenance of the cover system, and restricts future use of the site to a public park. Should the use of the park ever change, future redevelopment would have to comply with the site management plan.

COMMENT 3: How high will you build this hill?

RESPONSE 3: Specific details of the remedial design are not available at this time. It is anticipated that the final grade will be similar to the current grading plan of the park today. Future public meetings will be conducted as the design proceeds to discuss this issue with the community.

COMMENT 4: Why not leave it as it is? No one plays here anyway.

RESPONSE 4: Alternative A presents the No Action Alternative which leaves the site as is. This alternative does not meet the remedial action objectives for the site, specifically long term protection of public health and environment.

COMMENT 5: As you remove contaminated soil, what will be done to control possible airborne contamination?

RESPONSE 5: Release of contaminants during remedial activities is always a concern. Air monitoring will be continuously performed during all intrusive site work to insure that a release of contaminants does not occur. Monitoring will be performed in accordance with procedures and limits provided by the NYSDOH and corrective actions will be implemented if guidelines are exceeded. Future public meetings will be conducted as the design proceeds to discuss this issue with the community.

COMMENT 6: What will be done to control erosion along Fleming and Lewis Streets?

RESPONSE 6: To prevent erosion a healthy vegetative cover will be installed and the grades (steepness) will be minimized to prevent excessive surface water flows. A street curb could also be provided by the City to improve drainage and reduce ponding that occurs in that area.

COMMENT 7: Would it be correct to think that because of the type of contamination (low levels of metals and SVOCs) and the fact that is doesn't migrate easily, it will be O.K. to leave it there?

RESPONSE 7: Yes, this is the basis of Alternative C. In addition, the installation of the 24 inches of soil cover combined with an extension of the groundwater collection (french drain) system along Fleming Street, will provide the level of protection necessary to continue to use the property long term as a park.

COMMENT 8: Does the NYSDEC know of anyone becoming sick due to contamination from this site?

RESPONSE 8: Neither the NYSDEC nor the NYSDOH is aware of any illness specifically associated with the contamination at the Park. In addition, because the park is currently covered with clean soil, no route of exposure currently exists that would expose users of the park to subsurface contamination.

COMMENT 9: How are you going to justify the cost of this work when there is so much more contamination in other places e.g. junk yards, around the neighborhood?

RESPONSE 9: Industrial properties located in the neighborhood are not used as a City Park and as such do not present the opportunity for routine access and use, like the park property does.

COMMENT 10: It is believed that the french drains (groundwater collection system) cause the basements across the Fleming Street to flood. Could this be the case?

RESPONSE 10: It would not be expected that the french drains would cause basement flooding because they would intercept groundwater from the site and divert it to the City Sewer system. In fact, ponding and soggy areas of the park have been dried up due to the installation of the system. However, because of reports of previous flow problems encountered with the sewer system in this area of the city, City representatives will request that the Buffalo Sewer Authority inspect and clean the sewers as necessary to alleviate possible sewer flooding problems.

COMMENT 11: Do we have a time frame for the project?

RESPONSE 11: While the current project schedule is preliminary, it can be expected that the remedial design will be completed by the fall of 2005 with remedial construction to commence in early 2006. Future public meetings will be conducted as the design proceeds to discuss this issue with the community.

COMMENT 12: Can the community have input on the park's design?

RESPONSE 12: A representative of the City replied that input from the local community on the final restoration of the park facilities is welcome. Future public meetings will be conducted as the design proceeds to discuss this issue with the community.

APPENDIX B

Administrative Record

Administrative Record

Franczyk Park Site
Site No. B-00174

1. Proposed Remedial Action Plan for the Franczyk Park site, dated February 2005, prepared by the NYSDEC.

2. "Final Site Investigation / Remedial Alternatives Report", dated November 2004, prepared by TVGA Consultants.

3. "Franczyk Park Drainage Improvement Project, Lead Surface Soils", prepared by Acres International, dated April 2001.

4. "Franczyk Park Drainage Improvement Project Section 02923 - Topsoil Analytical Testing", prepared by Acres International, dated April 2001.

5. "Franczyk Park Drainage Improvement Project Report on Groundwater Trench Samples in Support of Buffalo Sewer Authority Discharge Permit", prepared by Acres International, dated March 2000.

6. "Franczyk Park Drainage Improvement Project Near Surface Soil Investigation within Fenced Seep Areas – TCLP Lead and Full TCLP and RCRA Characteristics", prepared by Acres International, dated December 2000.

7. "Summary of Franczyk Park Geoprobe and Surface Soil Sample Investigation and Laboratory Analysis", prepared by Acres International, dated October 2000.

8. "Remedial Design Report for Drainage Improvement Project", prepared by Acres International, dated October 1999.

9. "Project Number FP-001 Franczyk Park", prepared by Upstate Laboratories Inc., dated December, 1998.

10. "Phase II ESA Report Franczyk Park Site, Buffalo, NY", prepared by Benchmark Environmental Engineering & Science, PLLC, dated December 1998. (Two Reports)

11. "Franczyk Park Site Sampling and Analysis Report", prepared by Acres International, dated July 1998.

12. "Gus Franczyk Park Babcock & Fleming Streets", prepared by ECCO, dated August 1990.

13. "Gus Franczyk Park Leachate Sampling, Babcock and Fleming Streets", prepared by ECCO, dated July 1990.

14. “Environmental Groundwater Testing Results Gus Franczyk Park Babcock & Fleming Streets Buffalo”, NY, prepared by ECCO, dated April 1990.

15. “Report on the Investigation of the Babcock Street Site”, prepared by Ecology & Environment Inc., dated July 1985.