Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Youngstown Cold Storage Site

Village of Youngstown, Niagara County
New York
Site Number E932122

February 2007

New York State Department of Environmental Conservation

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Youngstown Cold Storage Environmental Restoration Site
Village of Youngstown, Niagara County New York
Site No. E932122

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for Youngstown Cold Storage 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 (the Department) for the Youngstown Cold Storage environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the Department. 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 and/or petroleum products 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. The presence of the environmental contamination at the Youngstown Cold Storage site prevents redevelopment of the site consistent with local zoning and planning requirements.

Description of Selected Remedy

Based on the results of the Remedial Investigation/Alternatives Analysis Report (RI/AA) for the Youngstown Cold Storage site and the criteria identified for evaluation of alternatives, the Department has selected contamination removal with off site disposal and partial building demolition to facilitate remedial action. The components of the remedy are as follows:

1. A remedial design program would be implemented to provide the details necessary for the implementation of the remedial program. The remedial goal is to obtain use of the site for residential re-development. As such institutional controls, development of a site management plan, and periodic certifications will be required, as needed;

2. Excavation and off-site disposal of petroleum contaminated surface and subsurface soil/fill in the former underground storage tank area, PAH contaminated surface soil near the dock area and subsurface soil contamination in the area of TP-09. Demolition of the spray wash structure and partial demolition of warehouse building to facilitate remediation;

3. Removal and off-site disposal of sediments in the valve pit;

4. Removal and off-site disposal of compressors and other PCB-contaminated equipment/concrete;

5. Removal and off-site disposal of contaminated sub-slab material from under the compressor room;

6. Removal and off-site disposal of the aboveground storage tank (AST) and any contents, any impacted soil under the AST within the onsite structures; and

7. Backfilling of excavations and valve pit with clean material.

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.

FEB - 9 2007

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

Youngstown Cold Storage Site
Village of Youngstown, Niagara County, New York
Site No. E932122
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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 for the Youngstown Cold Storage site. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this proposed 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 contamination of surface and subsurface soil/fill and building components. The contaminants of concern consist of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and metals. Additionally, the structures at the site contain both friable and non-friable asbestos containing building materials (ACMs). These hazardous substances/ACMs at the site have resulted in:

- A threat to human health associated with potential exposure to contaminated surface and subsurface soil/fill and building components.

- 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/fill.

To eliminate or mitigate these threats, the Department has selected Alternative B1- Removal with Partial Warehouse demolition to allow for the residential re-development of the site.

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

The Youngstown Cold Storage site consists of approximately 2.4 acres located within the Village of Youngstown limits. The location of the project site is shown on Figure 1, the layout of the project site is shown on Figure 2, and site map and vicinity is shown on Figure 3. The project site is occupied by three structures that include: a deteriorating three-story stone building (warehouse) occupying approximately 23,000 square-feet; a single-story brick building (ice house) approximately 4,500 square-feet in size; and a residence that is approximately 875 square feet. The largest building contains a compressor room from which anhydrous ammonia was pumped through a pipe network throughout the cold storage portions of the facility. In addition, a spray wash area was present in the southeast corner of the project site where apples were reportedly washed prior to storage within facility buildings.

Immediately beyond Nancy Price Drive, Veteran's Park is located to the east of the project site. Elliot Street and 2nd Street bound the site to the north and west, respectively. Residential properties are located beyond these two streets. A National Grid substation, undeveloped land, and a residential property lie to the south of the project site.

The topography of the project site is generally flat with an approximate elevation of 300 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 either conveyed by overland flow off the project site or infiltrates into the subsurface of the project site.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The project site was first developed as early as 1910 and was operated until 1996. The project site was used during this time period primarily for the storage, washing and packing of locally grown apples. The facility utilized a network of piping to chill the stored apples via anhydrous ammonia. Two large compressors located in the southeastern portion of the main building were used to pump the ammonia throughout the facility. The site has been vacant following cessation of activities at the project site in 1996. Potential sources of contaminants detected in surface and subsurface soil/fill and building components include:

- Poor housekeeping practices resulting in past releases of petroleum products and/or wastes used in connection with heating and operating equipment including:
  - The fuel oil tank located in the northeast corner of the basement crawl space of the warehouse building; and
  - The underground fuel tank identified on the 1927 Sanborn Map to the east of the compressor room.

- The contamination present is potentially related to:
  - The former storage and processing of apples at the project site;
  - The washing of apples in the outdoor wash located in the southeast portion of the site; and
  - The possible on-site disposal of processing waste.

- Polychlorinated biphenyls (PCBs) stemming from the probable historic operation and maintenance of electrical equipment with PCB-containing dielectric fluid within the compressor room; and

- The presence of asbestos-containing building materials due to the age of the project site structures.

3.2: Remedial History

The Village notified the United States Environmental Protection Agency (USEPA) of an anhydrous ammonia leak at the project site on September 5, 2003. After conducting a removal assessment, the USEPA determined that a removal action would be required. The removal action was initiated on September 9, 2003 and completed on December 19, 2003. The removal action included the identification, removal, and disposal of hazardous substances from the project site. Materials removed from the site consisted of:

138 containers of miscellaneous chemicals that included, but may not have been limited to:
- Ammonium hydroxide;
- Potassium hydroxide;
- Hydrochloric acid;
- Phosphoric acid;
- Lead acid batteries;
- 500 pounds of anhydrous ammonia;
- Eight drums of ammoniated refrigeration oil collected from the ammonia system; and
- 250 gallons of No. 2 fuel oil from a heating tank.
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Following the removal activities, the USEPA collected four soil samples and one sump sediment sample from around the spray wash area. Based on the results of these samples, the USEPA determined that additional removal activities were not warranted. It should be noted that the Administrative Record indicated that an asbestos survey was not performed in the buildings.

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

SECTION 5: SITE CONTAMINATION

The Village of Youngstown has recently completed a site investigation/alternatives analysis report (RI/AA) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Remedial Investigation

The purpose of the Remedial Investigation (RI) was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between February and March 2006. An August 2006 report entitled "Final Remedial Investigation/ Alternatives Analysis (RI/AA) Report for Youngstown Cold Storage Site" was prepared to describe the field activities and findings of the RI in detail.

The following activities were conducted during the RI:

- Research of historical information;
- Site survey to develop a base map and to locate the horizontal and vertical positions (where appropriate) of sample locations and relevant site features;
- Excavation of thirteen test pits to characterize the near-surface geology across the project site; investigate the potential presence of an underground fuel oil storage tank; and identify and delineate areas of subsurface contamination via the field screening and chemical analysis of soil/fill samples;
- Advancement of 16 soil probes to more broadly characterize near-surface geology across the site and define the extent of subsurface contamination encountered during the test pit activities;
- Collection of surface soil samples from areas of concern (e.g., the spray wash area, loading docks, adjacent transformer substation and underneath the fill port to the fuel oil tank located in basement of the warehouse building as well as from locations along western along the western property line;
- 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;
- The completion of three soil probes as micro-wells to facilitate the determination of the gradient and flow direction of the groundwater in the upper-most water-bearing zone, as well as the collection of groundwater samples for chemical analysis;
- The performance of a sampling and analysis program to characterize areas of potential concern identified within the warehouse building as well as exterior drainage features associated with the warehouse building. This program included the collection of: soil/fill samples from below the concrete floor slabs; PCB wipe samples from stained surfaces within the compressor room; standing water samples within elevator shafts; wood flooring samples from storage areas; and
- The performance of a pre-demolition survey for asbestos-containing material (ACM) to evaluate the potential presence of ACMs on and within the three structures located on the project site.

5.1.1: Standards, Criteria, and Guidance (SCGs)

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

- Soil/fill, sediment and wood flooring: NYSDEC's January 1994 Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels (TAGM HWR-94-4046).

- 6 NYCRR Part 375 - Environmental Remediation Program, Subpart 375-6: Soil Clean-up Objectives, the PCB in soil criteria will be 1.0 ppm regardless of depth due to the future residential use of the site;

- Groundwater and standing water: NYSDEC's June 1998 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations in the Technical and Operational Guidance Series (TOGS) 1.1.1;

- New York State Department of Health PCB wipe sample cleanup guidance;
    - Kim, NK and J Hawley. 1985. PCB Re-entry Guidelines - Binghamton State Office Building. Albany, NY: NYS Department of Health, Bureau of Toxic Substance Assessment;
    - Axelrod, DA 1985. Letter of John C. Egan, Commissioner, Office of General Services, September 9. Albany, NY: NYS Department of Health, Commissioner of Health

- Background soil samples were taken from five off-site locations determined to likely be unaffected by historic site operations. These locations included two from Veterans Park, two from Falkner Park and one from Lions Park. The samples were collected from zero to two inches below the vegetative layer. The background samples were analyzed for SVOCs, pesticides, herbicides and PCBs appearing on the Target Compound List (TCL) and the metals appearing on Target Analyte List (TAL). The results of the background sample analysis were compared to relevant RI data to determine appropriate site remediation goals.

Based on the RI 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 in Section 5.1.2. More complete information can be found in the RI report.

5.1.2: Nature and Extent of Contamination

As described in the RI report, many soil, groundwater, sediment and building component samples were collected to characterize the nature and extent of contamination. As depicted in Figures 4 and 5, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and inorganics (metals).

Chemical concentrations are reported in parts per billion (ppb) for all water samples and for the analysis of organics in soil and sediment. The inorganic results for soil and sediment are reported in parts per million (ppm).

Figures 4 and 5 summarize the degree of contamination for the contaminants of concern (COCs) in surface and subsurface soil/fill and building components and identify COCs exceeding the applicable SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

A total of eight surface soil samples were collected from depths of zero to two inches below the vegetative layer to evaluate the degree of contamination in the surface materials, if any. All samples were analyzed for semi-volatile organic compounds (SVOCs), pesticides, herbicides, PCBs and inorganic compounds (metals). The analytical results indicate that the contaminants of concern in the surface soil consist of SVOCs, primarily polycyclic aromatic hydrocarbons (PAHs). Specifically, the highest concentrations of SVOCs were detected in SS04 and were generally an order of magnitude higher than in the other samples. As this sample was collected adjacent to a former loading dock, the elevated SVOC concentrations are potentially related to leaks and/or spills from trucks on/off-loaded in this area. The locations of the surface soil/fill samples and the estimated areal extent of contaminated surface soil/fill are indicated in Table 2 and included on Figure 4.
Surface soil contamination identified during the RI/AA will be addressed in the remedy selection process.

Subsurface Soil

Eight subsurface soil/fill samples were collected from 13 test pits and 16 soil probes from across the project site to characterize the subsurface soil/fill material. With a few exceptions, all samples were analyzed for volatile organic compounds (VOCs), SVOCs, pesticides, herbicides, PCBs and metals. Samples were only collected from soil in test pits and soil probes that indicated the possible presence of contamination either from visual observation or from screening using a photo-ionization detector (PID). The samples collected at TP09 and SP04 were not analyzed for VOCs based on the absence of PID detections at these locations. In addition, if suspected contaminated soils were similar in appearance to other locations only one representative sample was collected. The locations of the subsurface soil/fill samples and the estimated areal extent of contaminated subsurface soil/fill are indicated in Table 3 and included on Figure 5. Contaminants detected in the subsurface soil/fill at concentrations that exceed applicable regulatory guidance values consist of arsenic and VOCs, primarily petroleum hydrocarbons. VOCs were detected in one or more of the five subsurface soil/fill samples submitted for VOC analysis. None of the samples contained individual VOC parameters at concentrations exceeding the applicable SCG; however, the concentration of total VOCs in the sample collected from TP02 eight feet below the existing ground surface (BEGS) exceeded the SCG value. The elevated VOCs detected in this sample are likely related to the historical operation of an underground fuel oil tank in this portion of the project site. Additionally, the soil/fill from TP04 was found to contain noticeable petroleum odor and staining.

The concentration of arsenic in TP09 at 41.3 ppm was above the SCG (16 ppm). This sample was collected from approximately three feet below grade from a layer of black, cinder-like material that was approximately three inches thick. A sample of similar material collected from the southeastern portion of the site did not contain elevated concentrations of arsenic.

Subsurface soil contamination identified during the RI/AA will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from the three newly installed micro-wells, which are shown on Figure 5. All samples were analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs and metals. No contaminants of concern were identified in the groundwater. No site-related groundwater contamination of concern was identified during the RI/AA. Therefore, no remedial alternatives need to be evaluated for groundwater.

Building Materials and Associated Components

Contaminants were identified in the sub-slab soil/fill samples and stained surfaces of the compressor room within the warehouse building, as well as in the sediments collected from the on-site sump and adjacent storm sewers. Additionally, friable and non-friable ACMs were identified in all three on-site structures.

Three soil/fill samples were collected from below the concrete floor of the warehouse building, including two from below the basement floor and one from below the compressor room floor. All samples were analyzed for SVOCs, pesticides, herbicides, PCBs and metals. The samples collected at the sub-slab locations were not analyzed for VOCs based on the absence of PID detections at these locations. Contaminants of concern detected in these samples are limited to lead, which was detected in the sample collected below the floor of the compressor room (Subslab01) at a concentration of 1,830 ppm. This concentration is more than ten times the average site background value, and is almost four times the lead concentration in any of the other soil/fill and sediment samples collected at the site. The elevated lead concentration appears to be confined to the subbase material underlying the compressor room.

Sediment samples were collected from two storm sewers connected to the project site and one valve pit located adjacent to the northeast corner of the warehouse building. All samples were analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs and metals. Contaminants of concern detected in these samples were limited to PAHs. With the exception of an opening at the top of the structure, the on-site valve pit appears to be an isolated and enclosed structure. Therefore, the PAHs within it are not anticipated to migrate off-site. Because the source of contaminants in the off-site storm sewer sediments is urban runoff from the roads rather than an on-site source, these storm water sediments will not be addressed during the remediation of the project site.

Four wipe samples were collected within the compressor room including three from oil-stained floor surfaces and one from an oil-stained compressor. PCBs were detected in all four wipe samples above SCGs. PCB-containing oil was often used in compressors, and the presence of elevated PCBs on the equipment and floor surfaces in the compressor room is likely related to spills and/or leaks from the compressors.

Two samples from the wood flooring were collected from the warehouse building to determine if the storage of pesticide treated apples impacted the flooring. These samples were analyzed for pesticides and arsenic. While pesticides and arsenic were detected in both samples, the concentrations were below the applicable SCGs.

As described in the Pre-Demolition Survey of Asbestos Containing Materials report, included in Appendix B of the RI/AA report, substantial quantities of non-friable (approximately 15,875 square feet) and limited quantities of friable (approximately 575 square feet and 160 linear feet) asbestos containing materials (ACMs) were identified throughout the on-site structures. The majority of the friable ACM that was identified in the warehouse building consisted of gray cement on the copper flashing associated with the roof of the warehouse building. The remainder of the friable ACM within the warehouse consisted of cloth wrap surrounding the cork pipe and tank insulation. Limited quantities of friable ACM consisting of a paper wrap were identified on ductwork within the basement of the house. The majority of the non-friable ACMs consisted of roofing materials on the warehouse and icehouse buildings. The remainder of non-friable ACMs consisted of window glaze in the warehouse and floor tiles in the house.

With the exception of the ACMs, the suspected areal extent of the contaminated media identified in the building materials and associated components are included in Figures 4 and 5. Further detail on the ACMs is provided in Appendix B of the RI/AA report. The contaminated media identified in the building materials and associated components that was identified during the RI/AA will be addressed in the remedy selection process.

Background Samples

Five background soil samples were collected and analyzed for Target Compound List (TCL) SVOCs, pesticides, herbicides and PCBs and Target Analyte List (TAL) 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 4 summarizes the background soil sampling analytical results. Numerous SVOCs, primarily 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 common in soils.

5.2: Interim Remedial Measures

There were no IRMs performed at this site during the RI/AA.

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 RI 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 use scenario, persons trespassing on the site could be exposed to SVOCs in the surface soil/fill and valve pit sediments via incidental ingestion of, or dermal contact with the contaminated media. In addition to SVOCs, these individuals have the potential to be exposed to asbestos via the inhalation of fibers released from damaged, friable ACMs. Also, site workers and/or persons trespassing in the warehouse could be exposed to PCBs present on stained equipment and floor surfaces within the compressor room via incidental ingestion of, or dermal contact with the contaminated media.

The presence of elevated concentrations of VOCs and arsenic in subsurface soil/fill and the presence of elevated lead concentrations in the soil/fill material below the concrete floor of the compressor room do not represent a human or environmental exposure risk because no complete exposure pathways were identified under the current use scenario for the project site. This is a function of the subsurface disposition of the contamination and limited areal extent of contaminated subsurface soil/fill, which effectively minimize the potential for the incidental ingestion of, or dermal contact with the contaminated media. These factors also reduce the potential for the emission of vapors and particulates that could pose an exposure risk via inhalation. This applies to persons visiting, working or trespassing on the project site.

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 RI 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.

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 the Youngstown Cold Storage site is for residential re-development of the property.

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 in surface soil/fill and the valve pit sediments; VOCs and metals in the subsurface and sub-slab soil/fill; PCB-stained surfaces in the compressor room; and asbestos within the on-site structures;
- Environmental exposures of flora or fauna to SVOCs in surface soil/fill and the valve pit sediments and the VOCs and metals in the subsurface soil/fill;
- 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.

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 Youngstown Cold Storage site were identified, screened and evaluated in the RI/AA 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 costa 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 building components and materials at the site.

Alternative A: No Action

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.

Present Worth: *$0*
Capital Cost: *$0*
Annual OM&M (years 1-30) $0

Alternative B: Removal with Building Demolition

Alternative B would include excavation and off-site disposal of contaminated surface and subsurface soil/fill; demolition of the spray wash structure and all on-site buildings; removal and off-site disposal of sediments in the valve pit, compressors and other PCB-contaminated equipment/concrete, contaminated sub-slab material from under the compressor room, the AST and any contents and any associated impacted soil, and ACMs within the onsite structures. Additionally, remedial activities will include the backfilling of excavations and valve pit with clean material.
This alternative would achieve the SCGs for all contaminated media through proper removal and off-site disposal.
Present Worth: *$859,800*
Capital Cost: *$859,800*
Annual OM&M (years 1-30) $0

Alternative B1: Removal with Partial Building Demolition

Alternative B1 would include excavation and off-site disposal of contaminated surface and subsurface soil/fill; demolition of the spray wash structure and partial demolition (Compressor room and Block addition) of on-site buildings to facilitate remediation; removal and off-site disposal of sediments in the valve pit, compressors and other PCB-contaminated equipment/concrete, contaminated subslab material from under the compressor room, the AST and any contents and any associated impacted soil, and ACMs within the structures to be demolished. Additionally, remedial activities will include the backfilling of excavations and valve pit with clean material.
This alternative would achieve the SCGs for all contaminated media through proper removal and off-site disposal.
Present Worth: *$348,250*
Capital Cost: *$348,250*
Annual OM&M (years 1-30) $0

Alternative C: Removal and Treatment

Alternative C combines the removal of some of the contaminated materials from the project site with the in situ treatment of the subsurface soil/fill. This alternative would include excavation and off-site disposal of contaminated surface soil/fill and the arsenic contaminated subsurface soil/fill; in-situ treatment of VOC-contaminated subsurface soil/fill using a chemical oxidant; demolition of the spray wash structure and on-site buildings to facilitate remediation; removal and off-site disposal of sediments in valve pit, compressors and other PCB-contaminated equipment/concrete, contaminated subslab material from under the compressor room, the AST and any contents and any associated impacted soil, and ACMs within the onsite structures. Additionally, remedial activities will include the backfilling of excavations and valve pit with clean material.

This alternative would achieve the SCGs for all contaminated media through a combination of in-situ treatment, proper removal and off-site disposal.

Present Worth: *$875,200*
Capital Cost: *$875,200*
Annual OM&M (years 1-30) $0

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 Section 7.1 and are provided in greater detail in Tables 15 and 16 of the RI/AA report.

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. A public meeting was held on Thursday September 7, 2006 at the Village of Youngstown Village Hall. The meeting was well attended with more than 50 area residents participating in the meeting and several comments were received. In general, the public comments were supportive of the selected remedy. There was a portion of the residents present that consider the warehouse building an historical structure and want to preserve the building. The selected remedy allows the Village of Youngstown to have flexibility in re-developing the site.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the Department has selected Alternative **B1 - Removal with Partial Building Demolition** 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 RI and the evaluation of alternatives presented in the AA report.

Alternative B1 has been selected 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 will achieve the remediation goals for the site through proper removal and off-site disposal of all contaminated media on the project site. Alternative B1 is proposed over Alternative B because the RI did not identify contamination in the on-site buildings that would require complete building demolition.

Alternative A does not address either of the threshold criteria. Therefore, this alternative is not included in the following discussion. Because Alternatives B (Removal & Demolition), Alternative B1 (Removal and Partial Demolition) and C (Removal and Treatment) satisfy the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the site.

Alternatives B, B1 and C both have short-term impacts which can easily be controlled. The time needed to achieve the remediation goals would be slightly longer for Alternative C when compared to Alternative B and B1, but the construction component of both could be completed within one year. Alternative B and B1 are more favorable than Alternative C for Short-Term Effectiveness because all contaminated media would be removed under Alternative B and B1, while some material would be treated in situ under Alternative C. Alternative C would require additional time and post-treatment sampling to ensure that the contaminants have been properly remediated, and potentially additional treatment event if some of the concentrations remain high. All three alternatives would address exposure to site contaminants in the long-term, as the contaminated material will be removed from the project site. Long-term operation, maintenance, and monitoring (OM&M) of the remediation would not be necessary.

Alternative B and B1 will effectively reduce the toxicity, mobility and volume of the contaminants through removal and proper off-site disposal, while Alternative C will meet these criteria through in situ treatment or removal and proper off-site disposal.

Alternatives B, B1 and C are implementable with current construction techniques.

Alternatives B, B1 and C are appropriate for current and future site conditions and uses. Materials and equipment for completing remediation as described are readily available and both could be implemented within one year or less.

Alternatives B, B1 and C will fully satisfy the SCGs developed for the site, will have a high degree of long-term effectiveness and will render the site suitable for use as a residential property. However, based upon the relatively higher degree of cost effectiveness as well as the high degree of protection to human health and the environment afforded by this alternative, Alternative B1 has been selected for implementation.

The cost to construct the remedy is estimated to be $348,250.

The elements of the selected remedy are as follows:

1. A remedial design program would be implemented to provide the details necessary for the implementation of the remedial program. The remedial goal is to obtain use of the site for residential re-development. As such institutional controls, development of a site management plan, and periodic certifications will be required, as needed;

2. Excavation and off-site disposal of petroleum contaminated surface and subsurface soil/fill in the former underground storage tank area, PAH contaminated surface soil near the dock area and subsurface soil contamination in the area of TP-09. Demolition of the

spray wash structure and partial demolition of warehouse building to facilitate remediation;

3. Demolition of the spray wash structure and partial demolition of warehouse building to facilitate remediation;

4. Removal and off-site disposal of sediments in the valve pit;

5. Removal and off-site disposal of compressors and other PCB-contaminated equipment/concrete;

6. Removal and off-site disposal of contaminated sub-slab material from under the compressor room;

7. Removal and off-site disposal of the aboveground storage tank (AST) and any contents, any impacted soil under the AST within the onsite structures; and

8. Backfilling of excavations and valve pit with clean material.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the 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.

- A public meeting was held on September 7, 2006 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
Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Alternative A No Action	$0	$0	$0
Alternative B	$859,800	$0	$859,800
Alternative B1	$348,250	$0	$348,250
Alternative C	$875,200	$0	$875,200

Table 2
Summary of Analytical Results
Surface Soil/Fill Samples

	TAGM Rec Soil Cleanup Objective	Part 375 Residential Values	Part 375 Unrestricted Use Value	YCS-SS01-S-O	YCS-SS02-S-0	YCS-SS03-S-O	YCS-SS04-S-O	YCS-SS05-S-O	YCS-SS06-S-O	YCS-SS07-S-O	YCS-SS08-S-O
Date Collected				2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06
Semi-Volatile Organic Compounds (ug/Kg)											
1,1-Biphenyl	-	-	-				150				
2,4-Dimethylphenol	-	-	-				64 J				
2-Methylnaphthalene	36,400	-	36,400				650				
4-Methylphenol	900	-	900				73				
Acenaphthene	50,000	100,000	20,000				1,100				
Acenaphthylene	41,000	100,000	100,000				140	68 J			
Acetophenone	-	-	-							56	
Anthracene	50,000	100,000	100,000				2,100	130 J			92
Benzo(a)anthracene	224	1,000	1,000	60		42	4,700 D	300 J		180	310
Benzo(a)pyrene	61	1,000	1,000	77		41	4,000 JD	300 J		180	250
Benzo(b)flouranthene	1,100	1,000	1,000	130		64	5,600 JD	580 J		300	370
Benzo(g,h,i)perylene	50,000	100,000	100,000				1,100 J	150 J		140	150
Benzo(k)flouranthene	1,100	1,000	800	59			2,600 J	200 J		79	120
Butylbenzylphthalate	50,000	-	50,000					530 J			
Carbazole	-	-	-				1,800	71 J			60
Chrysene	400	1000	1,000	92		45 J	5,100 D	450 J		200 J	280 J
Dibenzo(a,h)anthracene	14	330	330				450 J	52 J			49
Dibenzofuran	6,200	-	6,200				990				
Di-n-butylphthalate	8,100	-	8,100							58	
Fluoranthene	50,000	100,000	100,000	130		94	11,000 D	590 J	48	350	640
Fluorene	50,000	100,000	30,000				1,200				
Hexachlorobutadiene	-	300	-					89 J			
Indeno(1,2,3-cd)pyrene	3,200	-	500				1,300 J	130		130	150
Napththalene	13,000	100,000	12,000				1,400				
N-Nitrosodiphenylamine	-	-	-						63	1,200	
Phenanthrene	50,000	100,000	100,000				9,800 D	320 J		130	380
Pyrene	50,000	100,000	100,000	110		74	9,600 D	740 J		300	480
Pesticides (ug /Kg)											
4,4-DDD	2,900	2,600	3.3				3 JP	13 JP			
4,4-DDE	2,100	1,800	3.3	5.4			47 J	74 D		4.3 JP	3.2 NJP
4,4-DDT	2,100	1,700	3.3	9			44 J	300 D		5 JP	15
beta-BHC	200	72	36		2.3	1 NJP					
delta-BHC	300	-	40				1.1 NJP				
Endosulfan sulfate	1,000	4,800	2,400					3 JP			
Endrin	100	2,200	14					11			
Endrin ketone	-	-	-				4.5 JP				
gamma-Chlordane	540	-	-					6.1			
PCBs (ug/Kg)											
Arochlor-1248	1,000	-	-					93 JP			
Arochlor-1260	1,000	-	-				110				
Total PCBs	1,000	1000	100				110	93			

Table 2
Summary of Analytical Results
Surface Soil/Fill Samples

	TAGM Rec Soil Cleanup Objective	Part 375 Residential Values	Part 375 Unrestricted Use Value	YCS-SS01-S-O	YCS-SS02-S-0	YCS-SS03-S-O	YCS-SS04-S-O	YCS-SS05-S-O	YCS-SS06-S-O	YCS-SS07-S-O	YCS-SS08-S-O
Date Collected				2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06	2/21/06
Herbicides (ug/Kg)											
Dalapon	-	-	-		~~23 R~~	~~21 R~~					
TAL - Metals (mg/Kg)											
Aluminum	SB	-	-	9,690	12,700	12,000	9,580	5,990	8,240	1,680	11,600
Antimony	SB	-	-		0.5 N			0.38 N		1.6 N	
Arsenic	7.5 or SB	16	13	6.1 J	5.3 J	4.3 J	7.4 J	16.6 J	5.9 J	3.6 J	5.5
Barium	300 of SB	350	350	83.8	102	104	285	208	68.5	33.4	73
Berylium	0.16 or SB	14	7.2	0.47	0.57	0.51	0.96	1	0.34	0.094	0.57
Cadmium	1 or SB	2.5	2.5				0.26 JN	1.1 JN		0.93 JN	
Calcium	SB	-	-	3,680	57,200	73,700	41,300	17,000	49,200	60,500	18,600
Chromium (Trivalent)	10 or SB	36	30	16.2	21.2	23.8	11.7	12.9	15	9.6	17
Cobalt	30 or SB	-	-	8.5	9.9	9.3	6.5	3.9	7.7	1.7	11.9
Copper	25 or SB	270	50	32.3	29.4	25.5	28.2	36.1	28.3	22.4	25.3
Iron	2,000 or SB	-	-	19,700 J*	22,500 J*	21,000 J*	16,500 J*	17,100 J*	16,600 J*	7,530 J*	21,300 J*
Lead	SB	400	63	57.8 J*	19.6 J*	19.1 J*	216	154	28.8 J*	81.6 J*	38.5 J*
Magnesium	SB	-	-	3,630	11,600	12,200	12,500	2,490	13,800	30,300	5,920
Manganese	SB	2,000	1,600	821	607	529	697	207	628	394	694
Mercury	0.1	0.81	0.18	0.074		0.13	0.082	0.25		0.24	
Nickel	13 or SB	140	30	20.5	26.5	24.4	27.6	12	20	6.1	20.1
Potassium	SB	-	-	1,160 JE	2,000 JE	2,000 JE	1,110 JE	598 JE	1,580 JE	439 JE	1,450 JE
Silver	SB	36	2	0.17	0.93	0.7	0.7	1.2	0.8	0.85	0.38
Sodium	SB	-	-	78 J	141	150	165	178	133	92.8	2,020
Thallium	SB	-	-	1.3	1.3	1.5	1.3	0.88	1.2	0.76	1.4
Vanadium	150 or SB	-	-	21.7	25.3	23.4	15.1	20.5	17.3	4.7	24.1
Zinc	20 or SB	2,200	109	100 JE	72.9 JE	63.4 JE	167 JE	256 JE	97.1 JE	295 JE	77.8 JE

Notes:

1. TAGM recommended Soil Cleanup Objectives source is NYSDEC Technical and Administrative Guidance Memorandum (TAGM) Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-92-4046) revised January 24, 1994
2. Part 375 Residential and Unrestricted Soil Cleanup Objectives source is 6NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives effective December 2006
3. SB stands for "Site background"
4. Shaded Boxes represent exceedences of Part 375 values
5. (-) = No regulatory value is associated with this analyte
6. mg/Kg = milligrams per Kilogram or parts per million (ppm)
7. Ug/Kg = microgram per Kilogram of parts per billion (ppb)
8. Only compounds with one or more detections are shown
9. Blank spaces indicate that the analyte was not detected

J Indicates an estimated value
D Indicates compounds in an analysis at a secondary dilution factor
E For inorganic data indicates a value estimated due to the presence of interferences
For organic data indicates compounds whose concentration exceed the calibration range of the instrument
N For inorganic data indicates spike sample recovery is not within the quality control limits
for organic data Indicates tentatively identified compounds
P For pesticide/arochlor target analysis, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P"
R Rejected
* Indicates analysis is not within the quality control limits

Table 3
Summary of Analytical Results
Subsurface Soil/Fill Samples

	TAGM Rec Soil Cleanup	Part 375 Residential Values	Part 375 Unrestricted Use Value	YCS-TP02 D8-S-O	YCS-TP04 D23.5-S-O	YCS-TP04 D6-S-O	YCS-TP09 D3-S-O	YCS-TP09 D3.2-S-O	YCS-TP13 D3-S-O	YCS-TP15 D4-S-O	YCS-SP04 D11.2-S-O
Interval Sampled (feet bgs)				8	2 - 3.5	6	3	3.2	3	4	1 -1.2
Date Collected				2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006
Volatile Organic Compounds (ug/Kg)											
Acetone	200	100,000	50	32 J		28	NA	NA	9	15	NA
Carbon Disulfide	2,700	-	-	4 J	3		NA	NA		2	NA
Methylcyclohexane	-	-	-	140 D			NA	NA			NA
Total TICs	-	-	-	12,360		1,939				1,173	
Total VOCs	10,000	-	-	12,536	3	1,967			9	1,190	
Semi-Volatile Organic Compounds (ug/Kg)											
1,1-Biphenyl	-	-	-				63			75	
2-Methylnaphthalene	36,400	-	-		93		440	130		190	330
Acenaphthene	50,000	100,000	20,000							150	
Acetophenone	-	-	-				63				
Anthracene	50,000	100,000	100,000		44					280	
Benzo(a)anthracene	224	1,000	1,000		140				43		
Benzo(a)pyrene	61	1,000	1,000		110					360 J	130 J
Benzo(b)flouranthene	1,100	1,000	1,000		200				52		
Benzo(g,h,i)perylene	50,000	100,000	100,000								57 J
Benzo(k)flouranthene	1,100	1,000	800		64						
Caprolactum	-	-	-								71
Carbozole	-	-	-							290	
Chrysene	400	1000	1,000		180		94		47		
Dibenzofuran	6,200	-	-				100			200	110
Fluoranthene	50,000	100,000	100,000		260		50		74	990	100
Fluorene	50,000	100,000	30,000							240	
Indeno(1,2,3-cd)pyrene	3,200	500	500							160 J	53 J
Napththalene	13,000	100,000	12,000		69		230	64		260	220
N-Nitrosodiphenylamine	-	-	-		700	210					
Phenanthrene	50,000	100,000	100,000		240		250	83		1,300	270
Pyrene	50,000	100,000	100,000		250		57		58	3,700 J	390 J
Pesticides (ug /Kg)											
4,4-DDD	2,900	2,600	3.3								2.5 NJP
4,4-DDE	2,100	1,800	3.3					2.9			2.3 NJP
4,4-DDT	2,100	1,700	3.3					4.1			3.3 NJP
Herbicides (ug/Kg)											
Dalapon	-	-	-		12 NJ			~~19 R~~			

Table 3
Summary of Analytical Results
Subsurface Soil/Fill Samples

	TAGM Rec Soil Cleanup	Part 375 Residential Values	Part 375 Unrestricted Use Value	YCS-TP02 D8-S-O	YCS-TP04 D23.5-S-O	YCS-TP04 D6-S-O	YCS-TP09 D3-S-O	YCS-TP09 D3.2-S-O	YCS-TP13 D3-S-O	YCS-TP15 D4-S-O	YCS-SP04 D11.2-S-O
Interval Sampled (feet bgs)				8	2 - 3.5	6	3	3.2	3	4	1 -1.2
Date Collected				2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006	2/15/2006
TAL - Metals (mg/Kg)											
Aluminum	SB	-	-	10,800	7,680	8,230	5,100	2,790	12,500	4,940	14,600
Antimony	SB	-	-		0.42 N					1.4 N	
Arsenic	7.5 or SB	16	13	4.5 J	17.1 J	2.6 J	41.3 J	8.7 J	8.9 J	12.5 J	7.8 J
Barium	300 of SB	350	350	75.1	96.7	50.6	80.3	36.1	106	46.2	69.9
Berylium	0.16 or	14	7.2	0.47	0.71	0.34	1.4	0.36	0.56	0.44	1.2
Cadmium	1 or SB	2.5	2.5		0.33 JN			0.12 JN		0.098 JN	0.16 JN
Calcium	SB	-	-	3,860	8,600	50,300	7,780	3,930	25,000	6,590	1,790
Chromium (Trivalent)	10 or SB	36	30	16.6	22.4	12.5	10.7	10.3	19.1	15.4	11.2
Cobalt	30 or SB	-	-	9.4	7.3	8.8	5.8	3.8	8.1	5.6	28.3
Copper	25 or SB	270	50	32.7	50	20.7	29.4	25.5	41.6	67.8	79.6
Iron	2,000 or	-	-	19,100 J*	34,700 J*	15,600 J*	12,800 J*	6,240 J*	20,800 J*	38,700 J*	16,900 J*
Lead	SB	400	63	7.7 J*	99.6 J*	7 J*	12 J*	22.6 J*	44.8 J*	65.8 J*	86.7 J*
Magnesium	SB	-	-	4,230	2,850	10,200	1,370	1,570	8,410	4,210	2,560
Manganese	SB	2,000	1,600	628	370	871	118	92.5	688	113	1,080
Mercury	0.1	0.81	0.18		0.09				0.056	0.081	
Nickel	13 or SB	140	30	22	23.1	18.7	14.3	12.3	20.8	22.4	47.7
Potassium	SB	-	-	1,050 JE	738 JE	945 JE	661 JE	398 JE	1,180 JE	487 JE	666 JE
Silver	SB	36	2	0.22	0.38	0.44	0.21	0.17	0.21	0.72	
Sodium	SB	-	-	150	151	157	157	114	108	202	276
Thallium	SB	-	-	1.9	1.4	1.7	0.96		1.4	0.81	2
Vanadium	150 or SB	-	-	21.8	25.4	16.9	26.7	15.9	24.7	10.3	14
Zinc	20 or SB	2,200	109	55.8 JE	246 JE	42.7 JE	44 JE	79.3 JE	85.1 JE	126 JE	559 JE

Notes:

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4. Shaded Boxes represent exceedences of Part 375 values
5. (-) = No regulatory value is associated with this analyte
6. mg/Kg = milligrams per Kilogram or parts per million (ppm)
7. Ug/Kg = microgram per Kilogram of parts per billion (ppb)
8. Only compounds with one or more detections are shown
9. Blank spaces indicate that the analyte was not detected

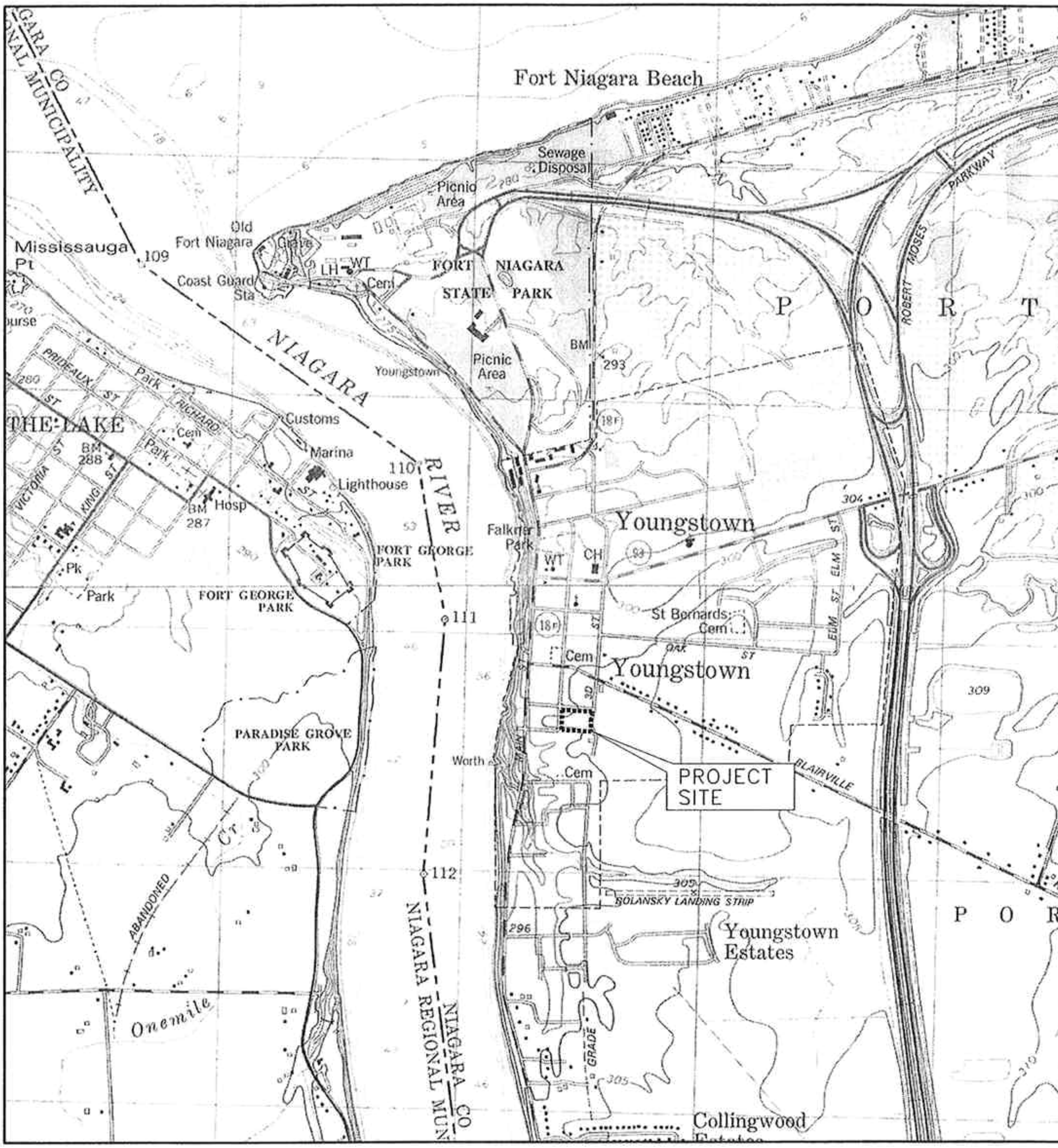
J Indicates an estimated value
D Indicates compounds in an analysis at a secondary dilution factor
E For inorganic data indicates a value estimated due to the presence of interferences
For organic data indicates compounds whose concentration exceed the calibration range of the instrument
N For inorganic data indicates spike sample recovery is not within the quality control limits
for organic data Indicates tentatively identified compounds
P For pesticide/arochlor target analysis, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P"
R Rejected
* Indicates analysis is not within the quality control limits

Table 4
Summary of Analytical Results
Background Samples

	TAGM Rec Soil Cleanup Objective	Part 375 Residentia l Values	Part 375 Unrestricted Use Value	YCS-BG01-S-O	YCS-BG02-S-O	YCS-BG03-S-O	YCS-BG04-S-O	YCS-BG05-S-O		Average Site Background Value
Date Collected				2/21/2006	2/21/2006	3/2/2006	3/2/2006	3/2/2006		
Semi-Volatile Organic Compounds (ug/Kg)										
Benzaldehyde	-	-	-				68 J	57 J		
Benzo(a)anthracene	224	1,000	1,000		130			49		
Benzo(a)pyrene	61	1,000	1,000		130					
Benzo(b)flouranthene	1,100	1,000	1,000		180			77		
Benzo(g,h,i)perylene	50,000	100,000	100,000		87					
Benzo(k)flouranthene	1,100	1,000	800		73					
Chrysene	400	1000	330		150 J			54		
Fluoranthene	50,000	100,000	100,000		370	57		89		
Indeno(1,2,3-cd)pyrene	3,200	500	500		84					
Phenanthrene	50,000	100,000	100,000		180					
Pyrene	50,000	100,000	100,000		300	45		74		
Pesticides (ug /Kg)										
4,4-DDD	2,900	2,600	3.3			23				
4,4-DDE	2,100	1,800	3.3	6.4		1,200	24	68		
4,4-DDT	2,100	1,700	3.3	2.1		550	11	11		
Herbicides (ug/Kg)										
Dalapon	-	-	-	~~25 R~~	~~26 R~~					
TAL - Metals (mg/Kg)										
Aluminum	SB	-	-	8,290	7,730	10,100	10,800	7,290		8,842
Arsenic	7.5 or SB	16	13	3.6 J	3.1 J	19	6.8	4.3		7.4
Barium	300 of SB	350	350	54.1	52.8	85.7	113	74.2		76
Berylium	0.16 or SB	14	7.2	0.32	0.34	0.43	0.49	0.33		0.32
Calcium	SB	-	-	1,730	2,540	20,100 *	25,500 *	5,390 *		11,052
Chromium (Trivalent)	10 or SB	36	30	10.8	11.3	14.8	17.2	12.1		13.2
Cobalt	30 or SB	-	-	3.8	4.4	7.7 JE	8.2 JE	6.1 JE		6
Copper	25 or SB	270	50	17.1	16.6	29.6	25.6	22		22.2
Iron	2,000 or SB	-	-	11,900 J*	12,400 J*	17,800	21,500	13,200		15,360
Lead	SB	400	63	14.1 J*	16.8 J*	323	40.2	41.3		87
Magnesium	SB	-	-	2,150	2,470	5,580	6,410	3,090		3,940
Manganese	SB	2,000	1,600	204	248	700 J*	758 J*	508 J*		484
Mercury	0.1	0.81	0.18	0.062			0.064	0.18		0.08
Nickel	13 or SB	140	30	12.2	11.4	19.2	19.1	16.5		16
Potassium	SB	-	-	827 JE	803 JE	885	1,370	1,440		1,.065
Silver	SB	36	2	0.17	0.18 E					0.18
Sodium	SB	-	-	98.2	104 E	88.6	107	80		95.6
Thallium	SB	-	-	0.95	0.71 E	1.8	2	1.1		1.31
Vanadium	150 or SB	-	-	16.7	16.3	20.3	25.1	15.4		18.8
Zinc	20 or SB	2,200	109	44.8 JE	45.7 JE	56.6 JE	62.5 JE	60.8 JE		54.4

Notes:

1.	TAGM recommended Soil Cleanup Objectives source is NYSDEC Technical and Administrative Guidance Memorandum (TAGM) Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-92-4046) revised January 24, 1994
2.	Part 375 Residential and Unrestricted Soil Cleanup Objectives source is 6NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives effective December 14, 2006
3	SB stands for "Site background"
4.	(-) = No regulatory value is associated with this analyte
5.	mg/Kg = milligrams per Kilogram or parts per million (ppm)
6.	ug/Kg = microgram per Kilogram of parts per billion (ppb)
7.	Only compounds with one or more detections are shown
8.	Blank spaces indicate that the analyte was not detected
J	Indicates an estimated value
D	Indicates compounds in an analysis at a secondary dilution factor
E	For inorganic data indicates a value estimated due to the presence of interferences For organic data indicates compounds whose concentration exceed the calibration range of the instrument
N	For inorganic data indicates spike sample recovery is not within the quality control limits for organic data Indicates tentatively identified compounds
P	For pesticide/arochlor target analysis, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P"
R	Rejected
*	Indicates analysis is not within the quality control limits



U.S.G.S LEWISTON QUADRANGLE

PROJECT SITE LOCATION MAP

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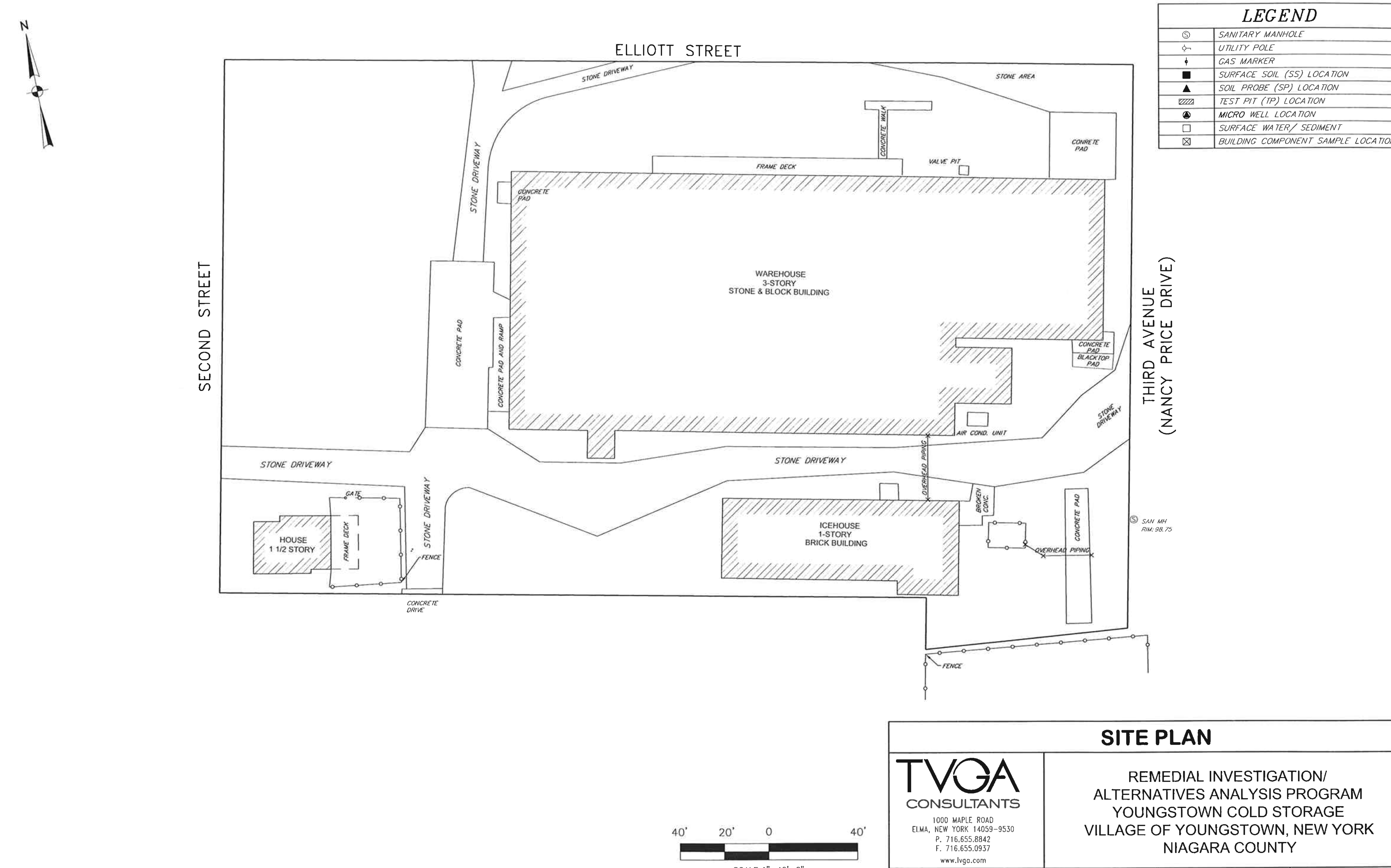
REMEDIAL INVESTIGATION/
ALTERNATIVES ANALYSIS PROGRAM
YOUNGSTOWN COLD STORAGE
VILLAGE OF YOUNGSTOWN, NEW YORK
NIAGARA COUNTY

PROJECT NO. 2004.0279.03	SCALE: 1" = 2000'	DATE: APRIL 2006	FIGURE NO. 1

N:\2004.0279.03-Youngstown Cold Storage\CAD\100.dwg 10/12/2005 3:16:13 PM EDT



SITE PLAN

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PROJECT NO. 2004.0279.03	SCALE: 1" = 40'	DATE: JUNE 2006	**FIGURE NO. 2**

N:\2004.0279.03-Youngstown Cold Storage\CAD\FIGURE 2.dwg 8/8/2006 9:32:34 AM EDT

S.B.L. 59.06-3-6

TAX MAP

REMEDIAL INVESTIGATION/ ALTERNATIVES ANALYSIS PROGRAM
YOUNGSTOWN COLD STORAGE
VILLAGE OF YOUNGSTOWN, NEW YORK
NIAGARA COUNTY

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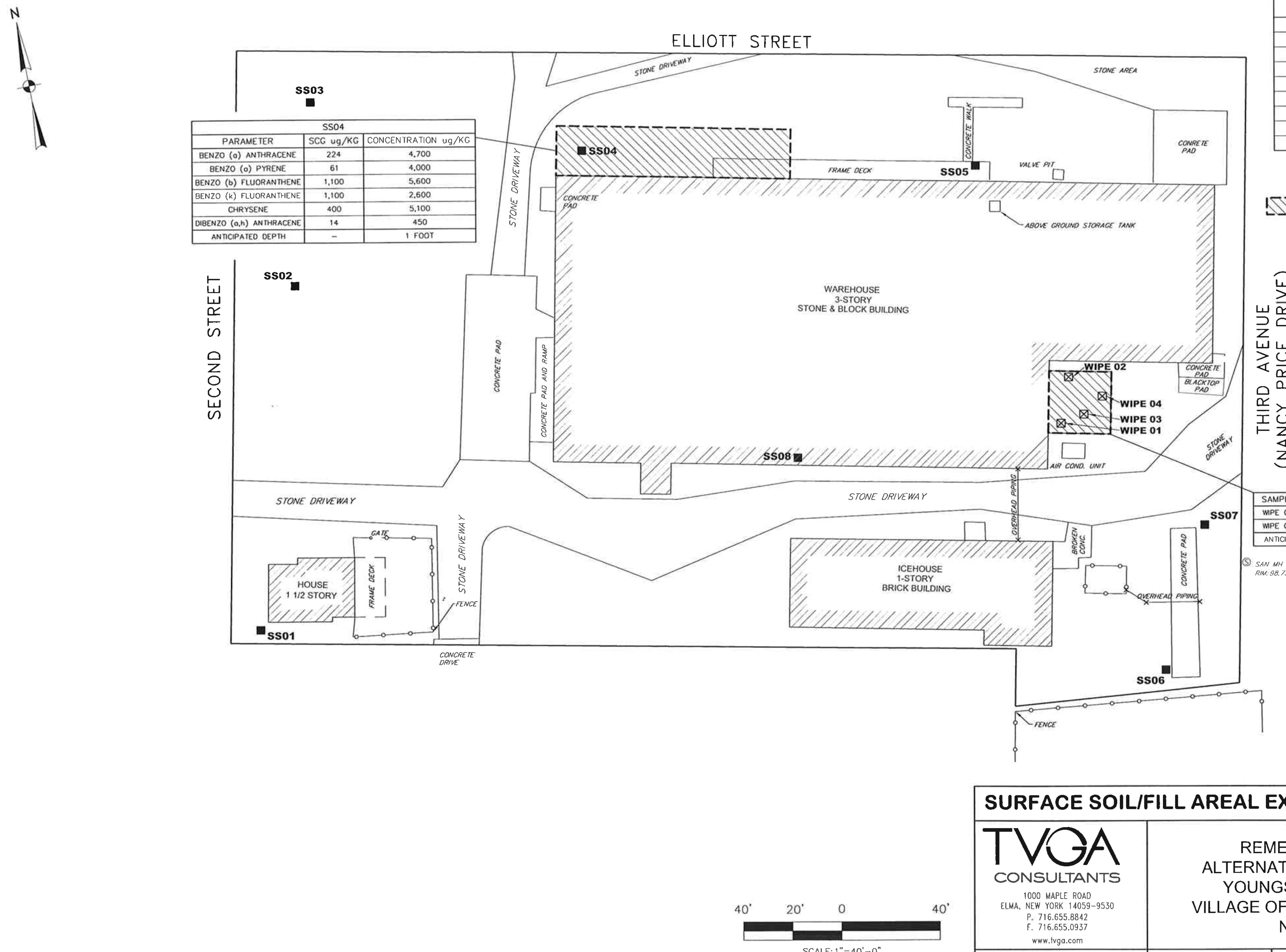
PROJECT NO. 2004.0279.03	SCALE: 1" = 200'	DATE: APRIL 2006	FIGURE NO. 3



SS04		
PARAMETER	SCG ug/KG	CONCENTRATION ug/KG
BENZO (a) ANTHRACENE	224	4,700
BENZO (a) PYRENE	61	4,000
BENZO (b) FLUORANTHENE	1,100	5,600
BENZO (k) FLUORANTHENE	1,100	2,600
CHRYSENE	400	5,100
DIBENZO (a,h) ANTHRACENE	14	450
ANTICIPATED DEPTH	–	1 FOOT

SAMPLE	PARAMETER	SCG $mg/100cm^2$	CONCENTRATION $mg/100cm^2$
WIPE 03	TOTAL PCBs	10	15.0
WIPE 04	TOTAL PCBs	10	14.4
ANTICIPATED THICKNESS		–	4 INCHES

LEGEND

Ⓢ	SANITARY MANHOLE
	UTILITY POLE
	GAS MARKER
■	SURFACE SOIL (SS) LOCATION
▲	SOIL PROBE (SP) LOCATION
	TEST PIT (TP) LOCATION
	MICRO WELL LOCATION
□	SURFACE WATER/ SEDIMENT
⊠	BUILDING COMPONENT SAMPLE LOCATION

NOTES:
SS05 AND SS08 WERE COLLECTED FROM THE SURFACE SOIL DIRECTLY UNDERNEATH RAISED LOADING DOCKS.

FULL HATCHED AREAS REPRESENT AREAL EXTENT OF SUSPECTED CONTAMINATION

SURFACE SOIL/FILL AREAL EXTENT OF CONTAMINATION

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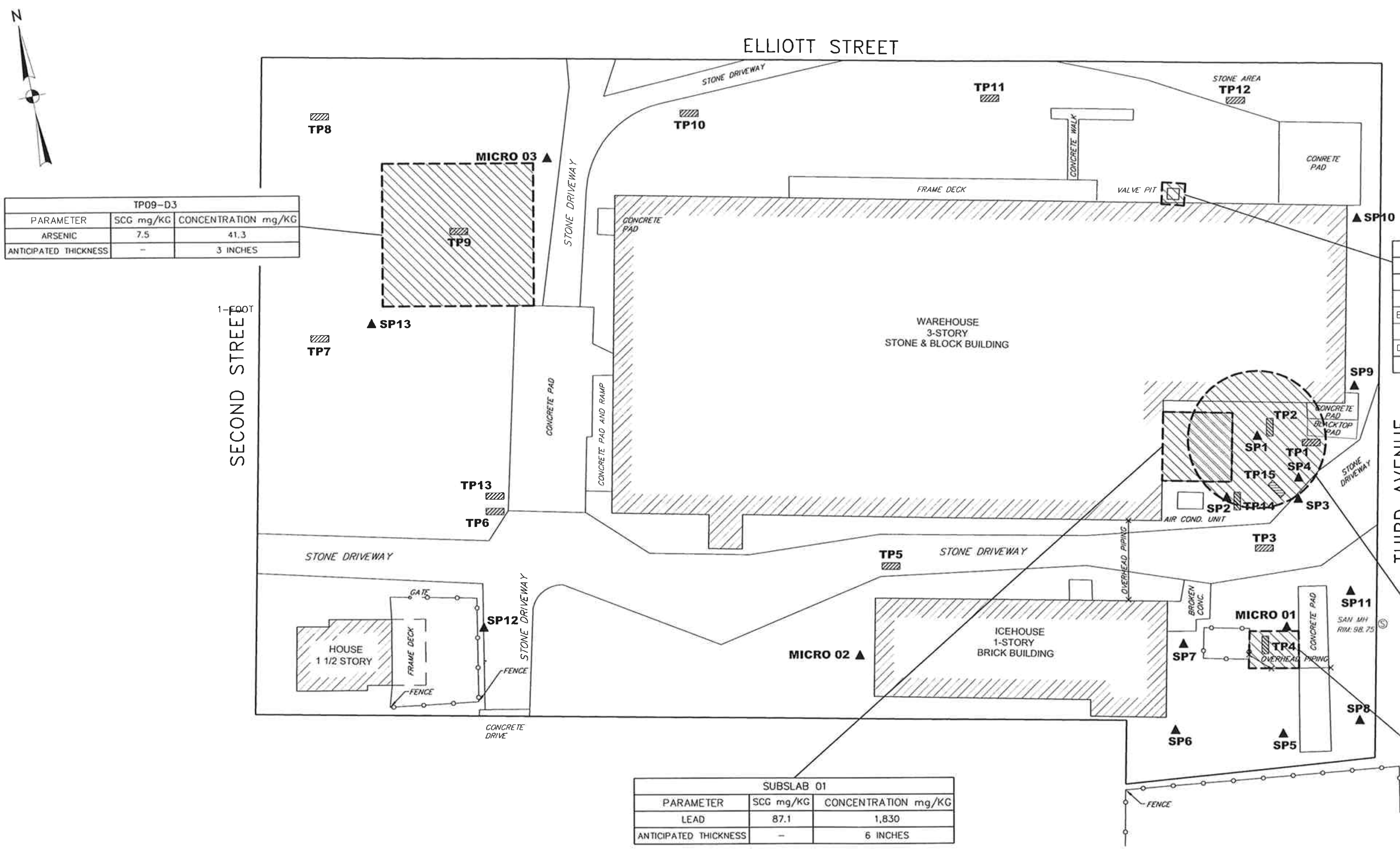
PROJECT NO. 2004.0279.03 | SCALE: 1" = 40' | DATE: JUNE 2006 | **FIGURE NO. 4**

N:\2004.0279.03-Youngstown Cold Storage\CAD\FIGURE 4-PRAP.dwg 8/8/2006 9:38:26 AM EDT



TP09-D3		
PARAMETER	SCG mg/KG	CONCENTRATION mg/KG
ARSENIC	7.5	41.3
ANTICIPATED THICKNESS	–	3 INCHES

SUBSLAB 01		
PARAMETER	SCG mg/KG	CONCENTRATION mg/KG
LEAD	87.1	1,830
ANTICIPATED THICKNESS	–	6 INCHES

LEGEND

- SANITARY MANHOLE
- UTILITY POLE
- GAS MARKER
- SURFACE SOIL (SS) LOCATION
- SOIL PROBE (SP) LOCATION
- TEST PIT (TP) LOCATION
- MICRO WELL LOCATION
- SURFACE WATER/ SEDIMENT
- BUILDING COMPONENT SAMPLE LOCATION

NOTES:
SCG - STANDARDS, CRITERIA, AND GUIDANCE
FULL HATCHED AREAS REPRESENT AREAL EXTENT OF SUSPECTED CONTAMINATION

SUMP01-SED		
PARAMETER	SCG ug/KG	CONCENTRATION ug/KG
BENZO (a) ANTHRACENE	224	1,200
BENZO (a) PYRENE	61	1,200
BENZO (b) FLUORANTHENE	1,100	2,200
CHRYSENE	400	1,400
DIBENZO (a,h) ANTHRACENE	14	140
ESTIMATED VOLUME	–	2/3 CUBIC YARD

TP02-D8		
PARAMETER	SCG ug/KG	CONCENTRATION ug/KG
TOTAL VOCS	10,000	12,536
MAX. PID	–	1,875 ppm @ 8' bgs
VISUAL	NO STAINING	STAINING
OLFACTORY	NO ODOR	PETROLEUM ODOR
ANTICIPATED DEPTH	–	10 FEET

TP04-D235 AND TP04-D6		
PARAMETER	SCG ug/KG	CONCENTRATION ug/KG
MAX. PID	–	45 ppm @ 6' bgs
VISUAL	NO STAINING	SLIGHT STAINING
OLFACTORY	NO ODOR	PETROLEUM ODOR
ANTICIPATED DEPTH	–	9 FEET

SUB-SURFACE SOIL/FILL AREAL EXTENT OF CONTAMINATION

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PROJECT NO. 2004.0279.03 | SCALE: 1" = 40' | DATE: JUNE 2006 | **FIGURE NO. 5**

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Youngstown Cold Storage Environmental Restoration Site
Village of Youngstown, Niagara County, New York
Site No. E932122

The Proposed Remedial Action Plan (PRAP) for the Youngstown Cold Storage site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on August 11, 2006. The PRAP outlined the remedial measure proposed for the contaminated soil and building components at the Youngstown Cold Storage 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 September 7, 2006, which included a presentation of the Site Investigation (SI) and the Alternatives Analysis Report (AA) 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 September 26, 2006.

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

COMMENT 1: The areas in red on the maps in your presentation, are those the areas where demolition will occur?

RESPONSE 1: No, the red indicates the areas of contamination that will be cleaned up as part of the remedial plan. Demolition of the compressor room and steel/block additions are the only parts of the building where demolition is likely to occur.

COMMENT 2: The little red house that is located on the site, you said that contamination is not there. Could some one buy that as is and move in there now? Are contaminant levels currently safe there?

RESPONSE 2: One surface soil sample was collected near the abandoned house in the south west corner of the site. An exceedance of one parameter, benzo(a)pyrene, slightly above the soil guidance criteria was detected. This is not considered a concern and no remedial action is planned for this area of the site. The investigation conducted at the site did not assess whether the abandoned home is habitable as it stands at the present time.

COMMENT 3: What about after cleanup? Will contaminant levels be safe enough for the site to be used for residential use?

RESPONSE 3: The goal of the remedial plan is to achieve residential use status for the site.

COMMENT 4: Do you anticipate discovering any other contaminants or things that need to be cleaned up at the site during the remediation process?

RESPONSE 4: We are confident that the investigation conducted identified the areas that need to be remediated to achieve the remedial goals. However, it is not uncommon that other issues will arise during the remedial phase. If this occurs than those issues will be handled as necessary to achieve the remedial goals for the site.

COMMENT 5: If someone was interested in developing the property, pre-remediaton, would the state still be involved financially?

RESPONSE 5: Environmental Restoration Program funds will only be available if the Village of Youngstown proceeds with the remedial activity. If a private developer acquires the property, they may be eligible for state tax credits under the Brownfield Cleanup Program.

COMMENT 6: Is the $140,000 number the cost for the demolition work? What portion of that is the Village responsible for?

RESPONSE 6: The estimate to cleanup the site for residential use is $348, 250. The estimated site demolition cost is $140,000. If the Village proceeds with the remedial activity under the ERP, the Village would be responsible for approximately $34,825. The state through the ERP will reimburse the Village up to 90% of remedial costs including 50% of demolition costs required to achieve the remedial goal.

COMMENT 7: You mentioned that PCBs were found on the site. Where will they be taken when removed from the site during cleanup?

RESPONSE 7: The PCBs detected on site were from wipe samples from stained areas in the compressor room. The disposal site for the PCB contaminated equipment and concrete will be determined during the remedial construction phase.

COMMENT 8: How could an apple storage site get contaminated with PCBs? Didn't it just store apples?

RESPONSE 8: PCBs were a common coolant used in industrial machinery. It is likely that the PCBs were from the oil used in the compressors used to run the refrigeration equipment in the building.

COMMENT 9: Could you comment on the structural integrity of the buildings on site?

RESPONSE 9: No, the purpose of the investigation was to assess the environmental contamination present on site.

COMMENT 10: Have the contaminants migrated off-site or to other areas of the site? Could contaminants have spread into the groundwater?

RESPONSE 10: There is no indication that contamination migrated off-site. Samples were collected from drainage pathways off site and no site related contamination was identified. Groundwater on site was sampled and found to not have any site related contamination present.

COMMENT 11: Who owns the site?

RESPONSE 11: As indicated by the Village of Youngstown Attorney, the site is privately owned by Youngstown Cold Storage Inc.

COMMENT 12: Does Niagara County get a copy of the PRAP and these project documents?

RESPONSE 12: No, the county gets notification of the existence of the site related documents and where they can find these documents

COMMENT 13: Where were the samples taken at the site analyzed? Were they analyzed by the DEC?

RESPONSE 13: The samples were analyzed by the Mitkem Corporation which is accredited under the New York State Environmental Laboratory Approval Program (ELAP) Contract Laboratory Program (CLP).

COMMENT 14: Was the lab chosen used frequently by the DEC?

RESPONSE 14: The lab is a private corporation that is certified by the New York State Department of Health through their ELAP certification program.

COMMENT 15: Were the samples taken analyzed both qualitatively and quantitatively? Did you identify parts per million?

RESPONSE 15: All samples collected for this investigation were analyzed quantitatively and analyte concentrations were determined in the parts per billion.

COMMENT 16: Do you know the exact area and location of the contamination at the site? How exact is your estimate?

RESPONSE 16: The remedial investigation only identified the approximate area of contamination. The remedial design, which is required as part of this selected alternative will determine the boundaries of the contaminated areas. How exact the estimate is will not be known until the remedial process is complete.

COMMENT 17: When will demolition and cleanup of the site start? How long will it take?

RESPONSE 17: It is unknown at this time when site cleanup will begin. A number of factors need to be resolved before cleanup can begin, among these are property ownership. The actual cleanup work shall take only a few months to complete.

COMMENT 18: If there are legal ramifications from cleanup (say, if residents became sick as a result of cleanup at the site) who would be liable?

RESPONSE 18: Whoever owns the property and is performing the remedial work will be responsible for any problems associated with the cleanup process. As part of the cleanup process the NYSDEC and the NYS DOH require the owner to prevent any impact on the local community through dust and odor control measures and the implementation of a Community Air Monitoring Plan.

COMMENT 19: Who decided that B1was the best cleanup alternative? Can you explain why it was the best alternative?

RESPONSE 19: The NYSDEC in consultation with the NYS DOH selected the B1 alternative. Alternative B1 was selected because it met the remedial goals and it allows the Village the greatest flexibility for future development. See Section 8 of the ROD for a discussion of the basis for this selection.

COMMENT 20: What exactly will be demolished at the site?

RESPONSE 20: Alternative B1 calls for the demolition of the spray wash structure, the compressor room addition and the block/steel addition to facilitate the removal of the contaminated building components and soil. The main warehouse building will not be demolished as part of the environmental clean up.

COMMENT 21: Why wouldn't the county auction off the property since the current owner is in default of tax payments?

RESPONSE 21: That is beyond the scope of the site investigation and remedy selection process.

COMMENT 22: Will the site be auctioned off after cleanup?

RESPONSE 22: No, as indicated by the Village of Youngstown Attorney, the auction will occur prior to any cleanup. The person or company acquiring the property will be required to implement the selected remedy under supervision by the NYSDEC.

COMMENT 23: What if someone wants to buy the site after cleanup, with a clean environmental slate?

RESPONSE 23: After the site is cleaned up, the property will be available with no restrictions on future residential development other than the local zoning requirements.

COMMENT 24: What can citizens do to have influence in determining the future of the stone structure?

RESPONSE 24: After the site is cleaned up, the development future of the site rests with the Village zoning and planning boards. The community can participate in the planning process when any future development is proposed for the site.

COMMENT 25: How does the Village of Youngstown get into the ERP program?

RESPONSE 25: The Village of Youngstown is already in the ERP program. The current State Assistance Contract (SAC) is for the remedial investigation of the site only. If the Village decides to continue with the cleanup, a SAC amendment will be required to cover the additional work. However, the Village would need to acquire title to the property prior to being eligible for a remedial SAC.

COMMENT 26: Do you have any information available about the cleanup that EPA did at the site in the past? If they already did a $100,000 cleanup at the site, why do we need to do this additional cleanup? Did they not do a thorough job?

RESPONSE 26: The USEPA prepared a report on the emergency removal action that they performed in 2003. The report is available in the Village Library. The USEPA responded to an emergency spill report about leaking anhydrous ammonia. The USEPA removed the ammonia from the refrigeration equipment and other hazardous chemicals from the site. The purpose of the USEPA action was to perform the emergency removal and not to perform a site investigation.

COMMENT 27: Does the EPA put liens on buildings?

RESPONSE 27: This question is best addressed to USEPA.

COMMENT 29: At this point what is the dollar amount that the village has invested in this project?

RESPONSE 28: This is outside the scope of the investigation or remedy selection and is best addressed to the Village.

COMMENT 29: I heard that DEC cleanup levels are being changed/revised to lower numbers? Are guidance values changing? Is this bad?

RESPONSE 29: The NYSDEC recently developed a revision to the regulations that will set soil cleanup standards for the Brownfield Cleanup Program (BCP). The application of these cleanup numbers to the ERP is discussed at 375-

No written comments were received by the close of the comment period on September 25, 2006.

APPENDIX B

Administrative Record

Administrative Record

Youngstown Cold Storage
Site No. E932122

1. Proposed Remedial Action Plan for the Youngstown Cold Storage site, dated August 2006, prepared by the Department.

2. Temporary Incidence of Ownership (TIO), Order Index No. 123603, State of New York Supreme Court: County of Niagara, filed in the Niagara County Clerks office on September 29, 2005 granting the Village of Youngstown access to the Youngstown Cold Storage site for the purpose of performing the environmental investigation

3. State Assistance Contract, Contract Number C302807 between the NYSDEC and the Village of Youngstown dated December 15, 2005.

4. Remedial Investigation/Alternative Analysis (RI/AA) Work Plan, January 2006, prepared by TVGA Consultants for the Village of Youngstown. Including Appendix A - Field Sampling Plan, Appendix B - Quality Assurance/Quality Control Plan, Appendix - C Health and Safety Plan and Appendix D Citizen Participation Plan.

5. Final remedial Investigation/Alternative Analysis (RI/AA) Report, August 2006, prepared by TVGA Consultants for the Village of Youngstown.

6. Fact Sheet, dated February 2006sent to contact list announcing the start of the environmental investigation of the Youngstown Cold Storage site.

7. Fact Sheet, dated August 2006,sent to contact list announcing the completion of the environmental investigation and the issuance of the Proposed Remedial Action Plan, comment period and public meeting scheduled for September 7, 2006 at the Village Hall.

8. Notice, dated August 31, 2006 sent to contact list reminding the public of the public meeting scheduled for September 7, 2006.

9. {Correspondence related to remedy selection. List written comments in chronological order as follows:} Letter dated {date of letter} from {Name and sender's organization.}