

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation

STATEMENT OF BASIS

FOR

GE BUFFALO SERVICE SHOP
Tonawanda, Erie County
New York

USEPA ID No.: NYD067539940

NYS DEC Part 373 Permit No.: 9-1464-00044/00001-0

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EXECUTIVE SUMMARY

The purpose of this Statement of Basis is to let the public be informed of and to participate in the selection of a final remedy to address the remaining environmental contamination at the GE Buffalo Service Shop. The facility is located approximately fifteen miles north of downtown Buffalo and approximately two miles east of the Niagara River.

This Statement of Basis presents a summary of the following pertinent information and data associated with the Facility:

- Introduction
- Background
- RCRA Facility Investigation
- Interim Corrective Measures
- Focused Corrective Measures Study
- Corrective Measures Study

The New York State Department of Environmental Conservation (Department) has tentatively selected a final site wide remedy. The site-wide remedy selected is intended to protect human health and the environment from the PCB soil and sediment contamination. The components of the remedy include:

- Removal of surface and subsurface soils on site to meet cleanup objectives
- Removal and replacement of approximately 80 feet of sanitary sewer and storm sewer lines
- Removal of contaminated sediments in Two Mile Creek (already completed)
- Removal of contaminated soils along the banks of Two Mile Creek (to be completed Spring 2012)

More details are found in the Selection and Evaluation of Proposed Remedies sections of this Statement of Basis.

The Department encourages the public to review the documents at the repositories listed in the Public Participation section in order to gain a better understanding of the past and present extent of site contamination, measures that have already been taken to address that contamination, and proposed measures for the remaining residual contamination. The Department will finalize the remedy selected for the facility after the public comment period has ended and the comments received have been reviewed and considered.

INTRODUCTION

As a result of past operations, polychlorinated biphenyls (PCBs) used at the GE Buffalo Service Shop (Service Shop) have impacted soils and sediments at the facility. The New York State Department of Environmental Conservation (Department) is proposing the implementation of Resource Conservation and Recovery Act (RCRA) Final Corrective Measures to remediate the contaminated media. The purpose of this Statement of Basis is to provide an opportunity for the public to be informed of and to participate in the development of the remedial program for the facility. It contains a brief summary of investigations which were performed at the facility. It also describes the Final Corrective Measures which the Department proposes to implement based on the Corrective Measures Study and the focused Corrective Measures Study. After the public comment period has ended and all received comments have been reviewed and considered, the Department will choose or modify the Final Corrective Measures for the facility.

Scope of Document

This document:

- Provides a brief overview of the facility history and investigations
- Describes interim corrective measures already conducted at the facility
- Describes the remedial goals and other remedial alternatives that were considered
- Identifies the proposed final remedy and the rationale
- Solicits public review and comment on the proposed final remedy and/or other plausible remedies
- Provides information on how the public can be involved in the final remedy selection process

Public Participation

The Department seeks input from the community on the proposed final remedy for the facility. The public is also invited to provide comments on accepting the Interim Corrective Measures conducted in Two Mile Creek as part of the Final Remedy. The proposed final remedy for the facility includes Alternative 4 from the Corrective Measures Study, Alternative 2 from the focused Corrective Measures Study and the interim corrective measures conducted in Two Mile Creek. The Department is proposing these Final Corrective Measures because the Department has determined that when completed, these remedial activities will be protective of human health and the environment. The public comment period has been set for November 14, 2011 to January 6, 2011. This is an opportunity for public participation in the remedy selection process. The Department may modify the proposed remedy or select another of the alternatives presented in this Statement of Basis based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. The Department will address all comments received during the public comment period in the Response to Comments document (RTC). The preferred remedy in the Statement of Basis is a preliminary determination. Should another option be selected as the remedy based upon public comment, new information, or a re-evaluation of existing information, any significant differences from this Statement of Basis will be explained in the RTC. The Response to Comments will be sent to each person who submits written comments or who requests such notice.

Comments must be sent to: Kathleen Emery, NYSDEC Region 9 Office, 270 Michigan Avenue, Buffalo, New York 14203-2999, telephone: (716) 851-7220, email: khemery@gw.dec.state.ny.us or Jessica LaClair, NYSDEC Division of Environmental Remediation, Remedial Bureau D, 12th Floor, 625 Broadway, Albany, NY 12233-7013, telephone (518) 402-9821, email: jalaclai@gw.dec.state.ny.us. In lieu of, or in addition to the submission of written comments, any interested person may request a public hearing. Any request for a public hearing, must be in writing and must state the nature of the issues proposed to be raised in the hearing. All comments and/or requests for a public hearing must be submitted no later than January 6, 2011.

Document Availability

This document summarizes information that can be found in greater detail in the administrative record for the facility. The administrative record contains many reports, including investigations and sampling results which the Department used to select the proposed final corrective measures. A list of all reports is referenced in Appendix A of this Statement of Basis (SB) and the referenced reports are available for review. The Department encourages the public to review these documents in order to gain a more comprehensive understanding of the nature and extent of contamination at the GE Buffalo Service Shop and the corrective measures which have been proposed to address the contamination.

Copies of the Reports, Fact Sheet and Public Notice are available for inspection at the:

Department of Environmental Conservation
Region 9 Office
270 Michigan Avenue
Buffalo, NY 14203-2999
Contact Person: Kate Emery
Telephone: (716)851-7220

Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7013
Contact Person: Jessica LaClair
Telephone: (518)402-9821

Parkside Village Branch Library
169 Sheridan Parkside Drive
Tonawanda, NY 14150
Telephone: (716)873-2861

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

BACKGROUND

Site Description and History

Location: The GE Buffalo Service Shop is located in an urban area at 175 Milens Road in the Town of Tonawanda, New York (Town). The facility is fifteen miles north of downtown Buffalo and approximately two miles east of the Niagara River. The geographic location of the service shop is shown on the site location map presented as Figure 1.

Site Features: The site encompasses 5.3 acres and includes a 69,000 square foot one-story building. GE built the slab-on-grade building in 1968 and expanded the building to the south in 1978. The general layout of the service shop is presented on Figure 2.

Current Zoning/Use(s): The Buffalo Service Shop is zoned as commercial/industrial and operates as an industrial facility. The surrounding parcels are currently used for a combination of commercial and industrial businesses. The service shop is involved in the repair of industrial equipment including electric motors, transformers, turbines, pumps and compressors, etc. Currently, the Buffalo Service Shop receives industrial equipment for repair and the wastes generated during repair are stored on site for less than 90 days before being shipped for off site disposal.

Historical Use: In the past, the Buffalo Service Shop received industrial equipment containing PCBs for repair from customers and other GE owned repair facilities. Hazardous wastes were generated during the repair operations and stored for greater than 90 days prior to their shipment off site for disposal at permitted facilities. These hazardous wastes were stored in drums in designated hazardous waste storage areas until arrangements for disposal or treatment at other authorized hazardous waste management facilities were made.

Site Geology and Hydrogeology: The natural overburden at the site is a relatively homogeneous fine-grained glaciolacustrine sediment. The overburden is assumed to be 60 to 70 feet thick and consists of a matrix of brown, dense, argillaceous silt and clay. The native soils are moderately dense to very dense and have a very low permeability. The groundwater in the native soils is between 22 and 25 feet below ground surface and appears to flow in a west-northwest direction.

Regulatory Overview

In 1986, the Department received a 6NYCRR Part 373 Hazardous Waste Management Permit Application to obtain a final status permit for the storage of hazardous waste at the GE Buffalo Service Shop. On June 1, 1996, the Department issued a Part 373 Permit (NYSDEC Permit No. 9-1464-00044/00001-0) to the GE Buffalo Service Shop.

This permit allows hazardous wastes that contain volatile organic compounds (VOCs), metals and/or PCBs to be stored at the facility. There has been no treatment or disposal of hazardous or solid wastes at the facility. The Department reviewed the Closure Certification Report for the RCRA Container Storage Area (CSA) and the Closure Certification Report for the Commercial PCB Storage Area. Based on the reviews the storage areas are officially clean closed and authorization to operate the units as permitted container storage areas was terminated.

All 373 Permits include requirements for RCRA Corrective Action. This requires owners and/or operators of hazardous waste treatment, storage and disposal facilities to investigate and, when appropriate, remediate releases of hazardous wastes and/or constituents to the environment. GE has completed the investigations of releases, has performed interim corrective measures and has evaluated potential corrective measures to address the identified releases. The Department has determined that the proposed corrective measures will effectively remediate the releases and will be protective of human health and the environment.

RCRA FACILITY INVESTIGATIONS (RFI)

The RCRA Corrective Action process began with investigations to evaluate potential areas of the facility that may have been impacted by a release of hazardous wastes and/or hazardous constituents. Based on the results of the investigations, the Department has determined that hazardous wastes and/or hazardous constituents have been released at the GE Buffalo Service Shop. Pursuant to the requirements of the 373 Permit, GE characterized and evaluated the impacts of releases at Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) through the RCRA Facility Assessment (RFA) and RCRA Facility Investigations (RFI). The RFA and RFI were completed for the facility in 1988 and 1998, respectively. The results of the RFI indicated that the concentrations of selected constituents (primarily PCBs) at the Service Shop exceeded the New York State groundwater standards and the established site cleanup objective. The established site cleanup objective for PCBs in surface soil is 1ppm and subsurface soil is 10ppm. Surface soil is defined as the top one foot of soil. Based on sampling results, the Department determined that corrective measures were required.

A summary of findings from the investigations including contaminants and areas identified for corrective measures are described below:

- Overall, soils and groundwater at the site have not been significantly impacted with VOCs.
- PCBs at concentrations in surface soils that exceed 1 ppm were found in an approximately 18,000 square foot area near the rail spur in the northeast part of the site. The maximum PCB concentration found was 379.9 ppm using a field kit and 160 ppm via laboratory analysis.
- The concentrations of PCBs in subsurface soil samples that exceed 10 ppm were detected near the former rinse water tank and in soils along the sewer lines near a former tank excavation. PCB contamination above 1 ppm has not been found to extend below depths of 12 feet.
- The sub-slab soils in the area of the truck bay and depressed dock have not been significantly impacted by PCBs.
- The sediments in the truck bay trench and sump contain PCBs. The maximum PCB concentration detected in these sediments was 241 ppm.
- The only area where the shallow groundwater is impacted at the facility is in the former rinse water underground storage tank (UST) excavation and in the fill along the sewer lines on the east side of the building. Groundwater in these areas is shallow and therefore would not be expected to create a contaminant plume.
- Based on sampling results from a deep monitoring well installed near the former rinse water tank the groundwater did not contain PCBs or VOCs.
- The soils surrounding the RCRA CSA have not been significantly impacted by either PCBs or VOCs.
- The soils south and southeast of the PCB CSA and PCB Work Area have not been significantly impacted by PCBs.

INTERIM CORRECTIVE MEASURES (ICM)

If at any time it is determined by the Department that a release or threatened release of hazardous wastes and/or hazardous constituents from a SWMU, an AOC, or a combination of SWMUs or AOCs poses a threat to human health or the environment a draft interim corrective measure study must be submitted to the Department. Based on the results of investigations, GE has implemented interim corrective measures at the Buffalo Service Shop, with oversight and approval from the Department.

Off Site and On Site Storm Sewer

The Department determined based on site investigations that the potential existed for PCBs to leave the facility through the storm sewer system. The on-site storm sewer system drains through storm sewer manhole, STMH-1, near the southwest corner of the Service Shop. From there, the facility system connects to the municipal storm sewer system at Milens Road, (See Figure 3). This section of the municipal storm sewer system discharges to Two Mile Creek near Oriskany Drive. PCBs were detected in sediment samples collected from within this storm sewer system both on site and off site. The highest level of PCB concentration in sediments (41,300 ppm) was found at onsite manhole, STMH-3, which is near the southeast corner of the service shop building, followed by the first off-site manhole, MH-1 (300 ppm). The concentrations of PCBs in storm sewer sediments decreased significantly after MH-1. GE removed the sediments from the on-site manhole STMH-3 and the off-site manhole MH-1, where the concentrations were greatest as part of an interim corrective measure. This removal prevented further releases of site related contaminants from being released into the creek from this section of the site storm sewer system.

Two Mile Creek

Based on results of the site storm sewer investigations, it was determined that PCBs were released to Two Mile Creek through the storm sewer outfall at Oriskany Drive. This section of the creek runs through the Sheridan Park Golf Course and receives storm water from both surface runoff and point discharges. The Department required GE to conduct investigations of the creek between the storm sewer outfall and Route 290 to evaluate the extent of PCB contamination in the sediments and along the banks. Based on the investigations, the Department determined that removal of sediments and bank soils in select areas were necessary to minimize the impact of contamination. The detected PCB concentrations downstream of the storm sewer discharge ranged from 0.086 to 4.8 ppm in sediment samples and from 2.2 to 6.3 ppm in soil samples from the banks. The removal of the sediments and bank soils by the Permittee coincided with stream improvement work conducted by the Town in April 2008. The Town improved the flow in Two Mile Creek by dredging sections of the stream, removing trees and shoals, stabilizing stream banks and replacing bridges. Based on confirmatory sampling, the Department has determined that the PCB contaminated sediment and bank soil removal operations have met the cleanup objective of 1ppm except for one area on the western bank. This area is scheduled for removal during Spring of 2012. The Department has determined that the ICMs conducted and pending will serve as the final corrective measures for the facility in relation to Two Mile Creek.

Transportation Corridor, Depressed Dock and Truck Bay

Sampling results submitted as part of the Closure Certification Report for the Commercial PCB Storage Area indicated samples were above the established site cleanup objectives in select locations. Based on the results, the Department requested a focused corrective measures study for the transportation corridor, depressed dock and truck bay. GE performed interim corrective measures to prevent contamination from leaving the facility until a final remedy is selected for these areas. In the transportation corridor and the adjacent areas, the pavement with PCB concentrations greater than 1 ppm were removed to the extent possible. The confirmatory sampling of the

transportation corridor showed concentrations greater than the established cleanup objective of 1 ppm but less than 25ppm, the cleanup level established by TSCA for low occupancy areas such as parking lots. After the removal a 1 ½ inch layer of asphalt was placed over the removal areas. In the northeast bay and depressed dock, concrete in poor condition was removed and repaired. The entire concrete slab floor, except the two areas previously decommissioned, were double washed and double rinsed. Subsequently, the floor was coated with two contrasting color coats of epoxy and labeled with the PCB “Mark M_L”. The “Mark M_L” is a 6” x 6” square label with black striping around the border that includes the warning “Caution Contains PCBs”. This work was done with USEPA oversight in accordance with federal TSCA regulations.

FOCUSED CORRECTIVE MEASURES STUDY (CMS)

A focused CMS Report was prepared to identify and compare remedial alternatives with respect to protection of human health and the environment for PCB impacts that remained after closure of the Commercial PCB Storage Area. The two Areas of Concern (AOCs) evaluated in the focused CMS are the concrete floor slab and transportation corridor. The impacts to these areas were discovered during closure of the facility’s Commercial PCB Storage Area and were documented in the April 11, 2006 Commercial PCB Storage Area Closure Certification Report. The Department requested a focused CMS for the truck bay, depressed dock and the transportation corridor after reviewing the closure report. The truck bay and depressed dock were combined for the focused CMS into one AOC, the concrete floor slab. Impacts to groundwater are not associated with either of the AOCs. The analytical results for the concrete floor slab indicate that the PCB impacts were limited to the upper two to three inches of the concrete and that the underlying soil has not been impacted. The results from the transportation corridor indicated that there were several areas where PCBs were detected in the surface of the asphalt pavement at concentrations above 1 ppm.

Summary of Alternatives for Focused CMS

The alternatives evaluated in the Focused CMS report are as follows:

Alternative 1: No Additional Action: This alternative would not require any additional corrective measures to be implemented for the transportation corridor or the concrete floor slab. The interim corrective measures already in place would be the final corrective measures. The corrective measures implemented include: double wash and double rinse of the concrete floor; double epoxy coating of the shop floor with contrasting colors, labeling of the shop floor with the PCB (M_L) mark; removing the top inch of asphalt from accessible areas of the transportation corridor; and replacement of 1 ½ inches of asphalt in the removal areas.

Alternative 2: Remove and Replace Concrete Ramp, Complete Asphalt Overlay and Maintain Epoxy Coating and Asphalt Cover: This alternative includes the interim corrective measures already implemented for the transportation corridor at the facility. Once accessible, the asphalt pavement where equipment is being stored, along the south and east fences, would be sampled to determine if the asphalt surface has been impacted by PCBs. If appropriate, the top inch of asphalt would be removed and a 1½ inch layer of asphalt would be installed over this area. The concrete ramp that leads to the depressed dock on the south side of the building would be sampled to determine if the concrete has been impacted by PCBs. If appropriate, the concrete ramp would be removed and replaced. Annual operation and maintenance activities would ensure that the epoxy floor coating and the asphalt topcoat remain in good condition and continue to serve as effective barriers. The environmental easement to the property would note the presence of residual PCBs in the concrete floor slab below the epoxy coatings, and in the pavement south of the building. The environmental easement would prohibit disruption of the asphalt topcoat and the epoxy coating, and would require the owner of the property to inspect and maintain both cover systems.

Alternative 3: Remove and Replace Concrete Ramp, Remove and Replace Asphalt Pavement and Maintain Epoxy Coating: The concrete ramp that leads to the depressed dock on the south side of the building would be sampled to determine if the concrete has been impacted by PCBs. If appropriate, the concrete ramp would be removed and

replaced. Equipment currently stored near the fences along the south and east portions of the asphalt pavement would be temporarily re-located to the nearest GE service center in Albany, NY. All asphalt previously laid as part of the interim corrective measures for the transportation corridor and areas previously inaccessible where equipment is stored would be removed, characterized and transported off-site for disposal. Additional soil removal may be required as part of this alternative. The new asphalt pavement for the entire transportation corridor would consist of a ¾ inch stone base topped with a minimum of six inches of asphalt. Annual operation and maintenance activities would ensure that the epoxy floor coating remains in good condition and continues to serve as an effective barrier. The environmental easement to the property would note the presence of residual PCBs in the concrete floor slab below the epoxy coatings. The environmental easement would prohibit disruption of the epoxy coating and require the owner of the property to inspect and maintain the epoxy cover system.

Summary of Estimated Costs for Focused Corrective Measure Alternatives

ALTERNATIVE DESCRIPTION	COMPLETED CORRECTIVE ACTION	CAPITAL COST	ANNUAL O&M COSTS	PRESENT WORTH OF 30 YEARS OF LONG TERM O&M COSTS	TOTAL PRESENT WORTH
1. No Additional Action	\$645,000	\$0	\$0	\$0	\$645,000
2. Remove and Replace Concrete Ramp, Complete Asphalt Overlay and Maintain Epoxy Coating and Asphalt	\$645,000	\$202,000	\$49,000	\$753,000	\$955,000
3. Remove and Replace Concrete Ramp, Remove and Replace Asphalt Pavement and Maintain Epoxy Coating	\$645,000	\$933,000	\$13,000	\$200,000	\$1,130,000

Selection and Evaluation of Proposed Focused CMS Remedies

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives established for the facility. Potential remedial alternatives for the facility were identified, screened and evaluated in the focused CMS report.

In evaluating the remedial alternatives for the focused CMS, the Department has determined that Alternative 2 is the preferred remedy.

Alternative 1 was not selected. In the short term it addresses the exposure and migration pathways identified, but without continuous maintenance, residual contamination may pose a risk in the future.

Alternative 3 was not selected. It would remove all PCB-impacted asphalt and prevent contact with, off-site transport of and infiltration through the PCB-impacted concrete. It would still require an environmental easement identifying the residual contamination in the concrete shop floor and the continued inspection and maintenance in general accordance with 6 NYCRR Part 373-2.7(i)(2)(i). Alternative 3 would be significantly more challenging to implement than Alternative 2, mainly due to it being an operating facility. The challenges associated with Alternative 3 are only one entrance to the facility property, operating with multiple shifts, disruption of service center operations, increased noise and significantly increased truck traffic through the surrounding community.

Alternatives 2 and 3 both prevent contact with, off-site transport of and infiltration through PCB-impacted concrete and will have an environmental easement identifying areas of residual contamination that require continued inspection and maintenance in general accordance with 6 NYCRR Part 373-2.7(i)(2)(i). Some areas of PCB-impacted asphalt with PCB concentration levels above 1ppm but below 25ppm would remain in Alternative 2. The continuous inspection and maintenance of the asphalt cover will prevent contact with, off-site transport of and infiltration through the PCB-impacted asphalt. Alternative 3 was not selected because it would be significantly more challenging to implement due to only one entrance to the facility property, multiple site work shifts, disruption to the service center operations, additional noise, and significant increase in truck traffic through the surrounding community compared to Alternative 2.

CORRECTIVE MEASURES STUDY (CMS)

Using the data obtained from the RFI, a CMS Report was prepared to evaluate the risk and pathways of contamination found at the service shop and to identify and compare remedial alternatives with respect to protection of human health and the environment. Surface soils in the rail spur area contain PCBs at elevated concentrations. The impacted soils in the rail spur area extend beyond the property line and include an on-site soil mound. The fill surrounding the former rinse water UST, sewer lines and the old oil/water separator (active) have been impacted by PCB contamination. There is the potential for shallow water in the fill material to infiltrate the section of storm and sanitary sewer lines on the east side of the building. PCB contaminated sediments were found in the on-site and off-site storm sewers. The established site soil cleanup objective for PCBs in surface soil is 1ppm and subsurface soil is 10ppm. Surface soil is defined as the top foot of soil.

Summary of Risks Posed By the Facility

Corrective actions for the service shop should address potential routes of exposure to humans and/or biota which are identified as follows:

- Humans and biota: Direct contact on-site to sediments, surface soils, and shallow groundwater that contains PCBs and VOCs;
- Humans and biota: Direct contact off-site to Two Mile Creek PCB contaminated sediments and flood plain soils resulting from off-site transport of PCB-contaminated sediments and soils via direct discharges from storm sewer outfall;
- Biota: Consumption of contaminated biota via the food chain.

Remedial Goals

With the risks identified and the nature and extent of site contamination characterized, a set of remedial goals were established. The goals are to prevent, to the extent possible, release or exposure to contaminants which will have an impact on human health or the environment. The goals are outlined below:

- Prevent contact with sediments that exceed 1 ppm PCB on and off-site;
- Prevent off-site transport of sediments that contain PCBs at concentrations greater than 1 ppm;

- Prevent direct contact with soils that contain PCBs or VOCs at concentrations greater than the established site cleanup objectives;
- Prevent or control the migration of shallow groundwater which contains PCBs and/or VOCs at concentrations that exceed applicable New York State standards.

Summary of Alternatives

The alternatives evaluated in the CMS report are as follows:

Alternative 1: No Further Action with Access Controls: This alternative involves new fences to limit access to the area containing PCB and VOC impacted soil and shallow groundwater. Signs would be posted along the fence line, at building exits leading to the fenced-off area, and near the truck bay trench and sump. The deed for the property would be amended to restrict future use of the land to reduce the risk of human contact with contaminants.

Alternative 2: Surface Soil Excavation and Off-site Disposal: This alternative involves excavation of soils to one foot with PCB concentrations greater than the RSCO of 1 ppm in the areas surrounding the rail spur, old oil/water separator and former rinse water tank for proper off-site disposal (approximately 1030 cubic yards of soil). The excavated areas would be backfilled with off-site soils in accordance with 375-6.7(d)(1)(ii)(c), graded and restored by seeding or paving. An environmental easement would be placed on the property to restrict the future use of an area of approximately 2,300 square feet east of the building where subsurface soil and shallow groundwater containing elevated concentrations of PCBs and VOCs would remain. The on-site storm sewers would be cleaned to remove residual contamination. Approximately 100 feet of sanitary and storm sewer lines would be lined to prevent the infiltration of shallow groundwater. In addition, the off-site sewers along Milens Road would be cleaned from the Service Shop up to manhole MH-5. The facility would be required to develop a Site Management Plan to be implemented for a minimum of 30 years.

Alternative 3: Asphalt Caps: This alternative involves excavating to a depth of one foot in isolated off-site areas near the rail spur, the soil pile near the rail spur and small areas between the building and the east fence where soils exceed 10 ppm (approximately 250 cubic yards). An asphalt cap (a minimum of 6" asphalt underlain by at least 3" of stone) would be constructed over a 24,000 square foot area near the rail spur and a 3,100 square foot area near the former rinse water tank excavation. Some contaminated soils would be left in place under the asphalt cap. An environmental easement would be placed on the property to prohibit the disruption of the asphalt caps and require the owner of the property to maintain the caps. As in Alternative 2, the on-site and off-site storm sewers would be cleaned and 100 feet of storm and sanitary sewer lines would be lined to prevent infiltration of shallow groundwater. The facility would be required to develop a Site Management Plan to be implemented for a minimum of 30 years.

Alternative 3A: Asphalt Cap Over Subsurface Soil and Fence Enclosure of Surface Soil: This alternative involves excavating to a depth of one foot in areas near the rail spur with PCB concentrations greater than 25 ppm for proper off-site disposal and backfilling in accordance with 375-6.7(d)(1)(ii)(c) (approximately 242 cubic yards). Near the former rinse water tank excavation and sewer lines east of the building, contaminated soil greater than 50 ppm would be excavated (approximately 86 tons), backfilled and an asphalt cap (3" stone, 6" asphalt) would be constructed over the areas where impacted soil remain. New fencing would be installed in the northeast section of the rail spur to include the area where the soil mound was located, from the northeast corner of the building to the facility fence and on the east side of the building near the former rinse water tank excavation to the facility fence. An environmental easement would be placed on the property to prohibit the disruption of the asphalt cap and require the owner of the property to maintain the cap. As in Alternatives 2 and 3, the on-site and off-site storm sewers would be cleaned and 100 feet of storm and sanitary sewer lines would be lined to prevent infiltration of shallow groundwater. The facility would be required to develop a Site Management Plan to be implemented for a minimum of 30 years.

Alternative 4: Surface and Subsurface Soil Excavation and Off-site Disposal: This alternative involves excavation of contaminated surface soils that exceed 1ppm PCB and excavation of contaminated subsurface soils that exceed 10 ppm to a maximum depth of six feet in the areas surrounding the rail spur, old oil/water separator, sewer lines and former rinse water tank excavation (approximately 1,570 cubic yards of soil). The maximum depth of six feet will allow for removal of all impacted soils above the established cleanup objectives. Excavated soils would be transported off-site for disposal at a permitted facility. These areas would be backfilled in accordance with 375-6.7(d)(1)(ii)(c) and restored by seeding or paving. An 80 foot section of the storm sewer and sanitary sewer in the excavated area east of the building would be removed and replaced. The remainder of the on-site storm sewers and the off-site sewers along Milens Road would be cleaned to remove residual contamination. The facility would be required to develop a Site Management Plan to be implemented for five years.

Alternative 5: On-site Thermal Desorption: This alternative would include all the elements of Alternative 4 except that rather than removing and disposing of the contaminated soil off-site, the excavated soil and sediment would be treated on-site using high-temperature thermal desorption (HTTD). The off-gas and vapors from the HTTD system would be treated with granular activated carbon (GAC) to remove VOCs and PCBs and would be exhausted under the terms of an appropriate permit. The GAC would then be disposed of at a properly licensed off-site facility. The clean soil would then be used to backfill the excavated areas. The facility would be required to develop a Site Management Plan which would be implemented for five years.

Summary of Estimated Costs for Corrective Measure Alternatives

ALTERNATIVE DESCRIPTION	CAPITAL COST	ANNUAL O&M COSTS	PRESENT WORTH OF 5 YEARS OF SHORT TERM O&M COSTS	PRESENT WORTH OF 30 YEARS OF LONG TERM O&M COSTS	TOTAL PRESENT WORTH
1. No Action with Access Controls	\$48,900	\$8,550		\$131,600	\$180,550
2. Surface Soil Excavation and Off Site Disposal	\$372,000	\$6,100		\$94,000	\$466,000
3. Asphalt Caps	\$243,000	\$20,800		\$320,000	\$563,000
3A. Asphalt Cap over Subsurface Soil	\$203,000	\$11,000		\$169,000	\$372,000
4. Surface and Subsurface Soil Excavation and Off Site Disposal	\$459,000	\$6,000	\$26,500		\$485,000
5. On Site Thermal Desorption	\$1,758,000	\$6,000	\$26,500		\$1,784,000

Costs are based on the Revised CMS dated 2001 and were adjusted for inflation.

Cost information is presented in the form of present worth, which 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.

Selection and Evaluation of Proposed Remedies

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives established for the site. Potential remedial alternatives for the Site were identified, screened and evaluated in the CMS report.

In evaluating all remedial alternatives, the Department has determined that Alternative 4 is the preferred remedy.

Alternative 1 was not selected because it does not comply with state and federal standards, criteria and guidelines for the concentrations of PCBs and VOCs in soil, sediment and water. It also does not address the identified exposure and migration pathways.

Alternative 2 was discounted because, although it eliminates the risk of direct contact with contaminants and reduces the risk of off-site migration, it would leave the impacted subsurface soils in place and not prevent potential infiltration into the sewers.

Alternative 5 was not selected because it has significantly greater short-term operation and maintenance requirements than Alternatives 3, 3A and 4. Alternative 5 achieves the same long term effectiveness as Alternative 4, but is less cost effective at more than triple the cost of off-site disposal. Mobilizing, operating and demobilizing an HTTD system would extend the duration of the remedial process. The HTTD system would generate unpleasant odors and would significantly disrupt operations at the Service Shop. The volume of contaminated soils at the facility is not sufficient to justify the cost and complexity of operating an on-site HTTD system.

The three remaining alternatives, 3, 3A and 4, all involve cleaning the on-site storm sewer and the associated catch basins and manholes to prevent the off-site transport of PCB contaminated sediments. The Department has selected Alternative 4 as the final remedy over Alternatives 3 and 3A. Alternative 4 has greater long term effectiveness since all contaminated soils above the established cleanup objectives would be removed and disposed off-site. As a result, Alternative 4 would not require long term monitoring and maintenance of caps compared to Alternatives 3 and 3A. In addition, groundwater monitoring would be expected to be significantly reduced by choosing Alternative 4 relative to Alternatives 3 and 3A since all known potential source areas will be removed. Alternative 3A would allow precipitation to infiltrate through the impacted surface soils in the rail spur area and the fence will not mitigate possible wind dispersal or erosion of surface soils, some greater than 1 ppm, from migrating off-site.

Regardless of which alternative is chosen, the final remedy will include imposition of an institutional control in the form of an environmental easement for the property that:

- (a) requires the facility owner to demolish the building and conduct sub-slab soil sampling if the building is no longer used as an industrial/commercial building;
- (b) requires compliance with the Department approved Site Management Plan.

The Site Management Plan must include a Groundwater Monitoring Plan to assess the effectiveness of the remedy and a Soil Management Plan for any future construction activity to address procedures for handling, characterizing and disposing of potentially-contaminated soils.

APPENDIX A

References:

URS, July 2011, "Focused Corrective Measure Study."

AECOM Environment, October 2010, "Two Mile Creek – 2010 Bank Soil Sampling Report."

Brown and Caldwell, May 2007, "Sediment and Soil Investigation Work Plan."

URS, April 2006, "Closure Certification Report Commercial PCB Storage Area."

URS, March 2003, "Two Mile Creek Limited Sediment Investigation Sampling Report."

URS, September 2002, "RCRA Closure Certification Report."

URS, July 2001, "Off-site Storm Sewer Investigation Report."

URS, July 2001, "Revised Corrective Measure Study Final Report."

Dames & Moore, April 1999, "RCRA Facility Investigation Report."

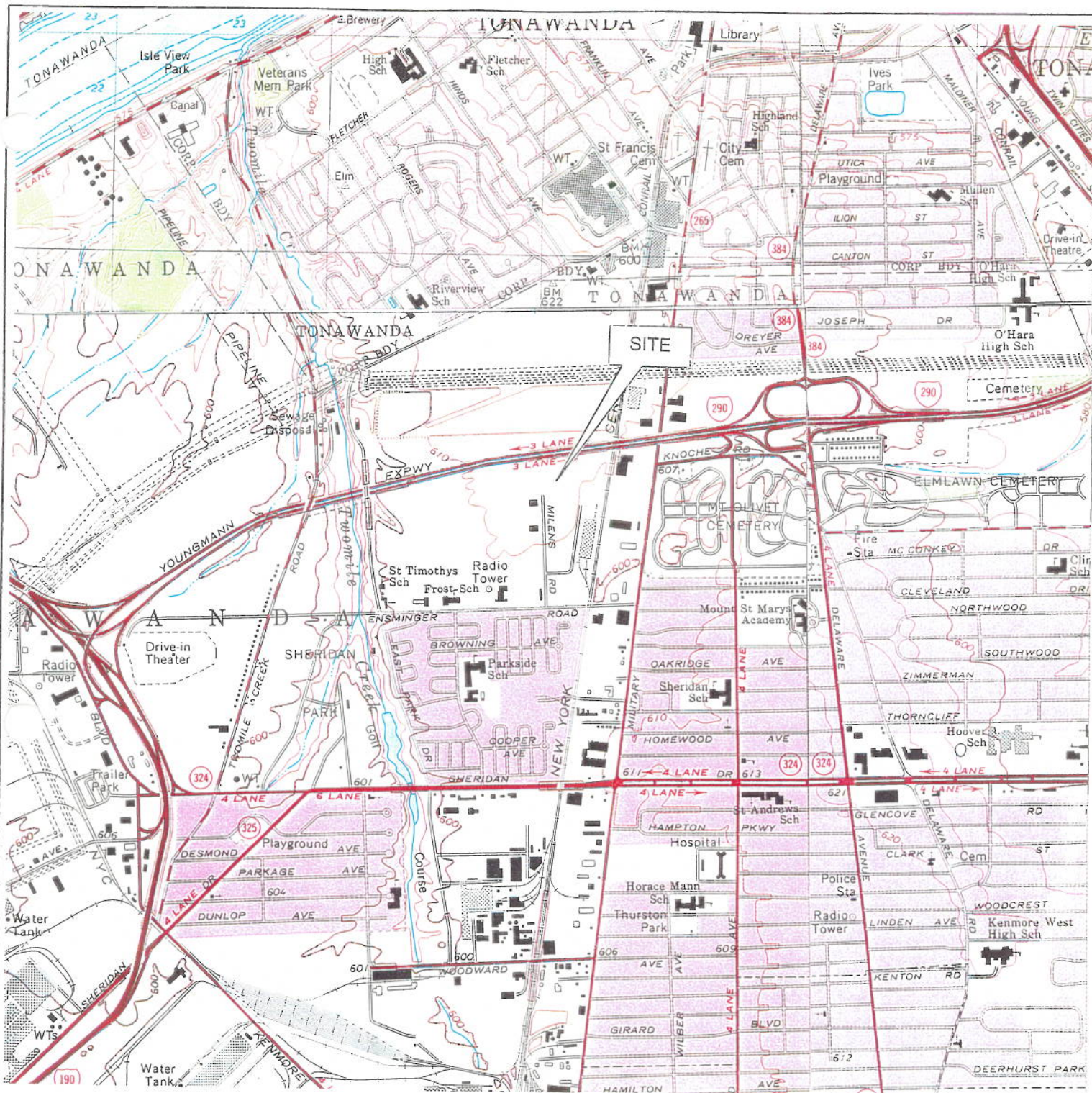


FIGURE
1

SITE LOCATION



175 MILENS ROAD
TONAWANDA, NEW YORK

URS

646 PLANK ROAD, SUITE 202
CLIFTON PARK, NEW YORK 12065

85030-44 03/29/00

CONTOUR INTERVAL = 10 FEET

REFERENCE

USGS 7.5 MINUTE TOPOGRAPHIC MAPS:
BUFFALO NORTHWEST QUADRANGLE 1965
BUFFALO NORTHEAST QUADRANGLE 1965
TONAWANDA WEST QUADRANGLE 1980
TONAWANDA EAST QUADRANGLE 1980



QUADRANGLE LOCATION



SCALE: 1" = 2000'

SOURCE: "MAP OF GENERAL ELECTRIC SERVICE CENTER PROPERTY, PART OF LOT 45, TOWNSHIP 12, RANGE 8, TOWN OF TONAWANDA, ERIE COUNTY, NEW YORK" KRIEBEL ASSOCIATES, JULY 29, 1998.

- EXPLANATION
- STORM MANHOLE
 - SANITARY MANHOLE
 - CATCH BASIN
 - STORM SEWER
 - SANITARY SEWER
 - SWMU/AOC
 - FLOOR DRAIN
 - TRENCH WITH FLOOR DRAIN
 - DEPRESSED DOCK SEWER

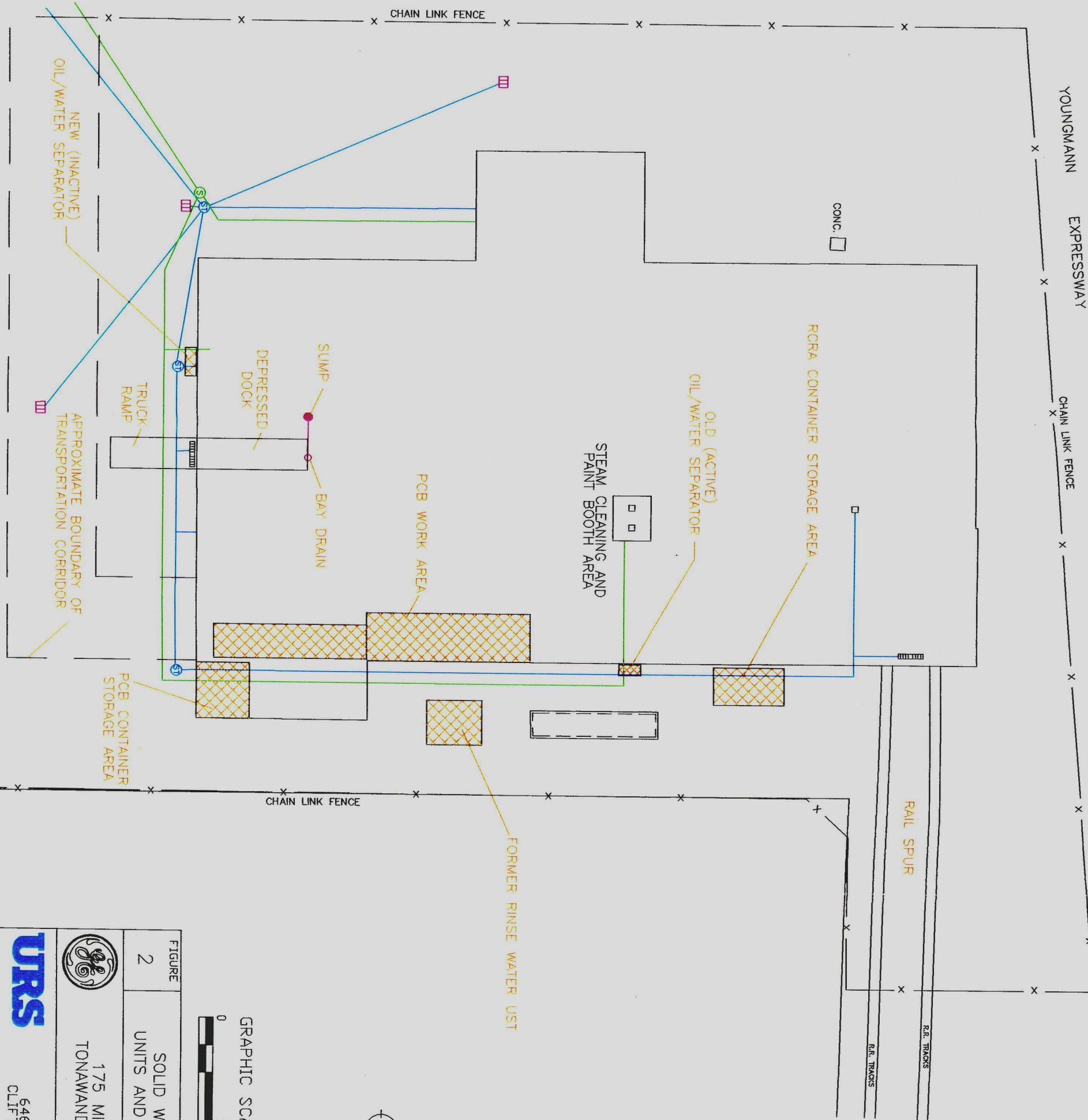
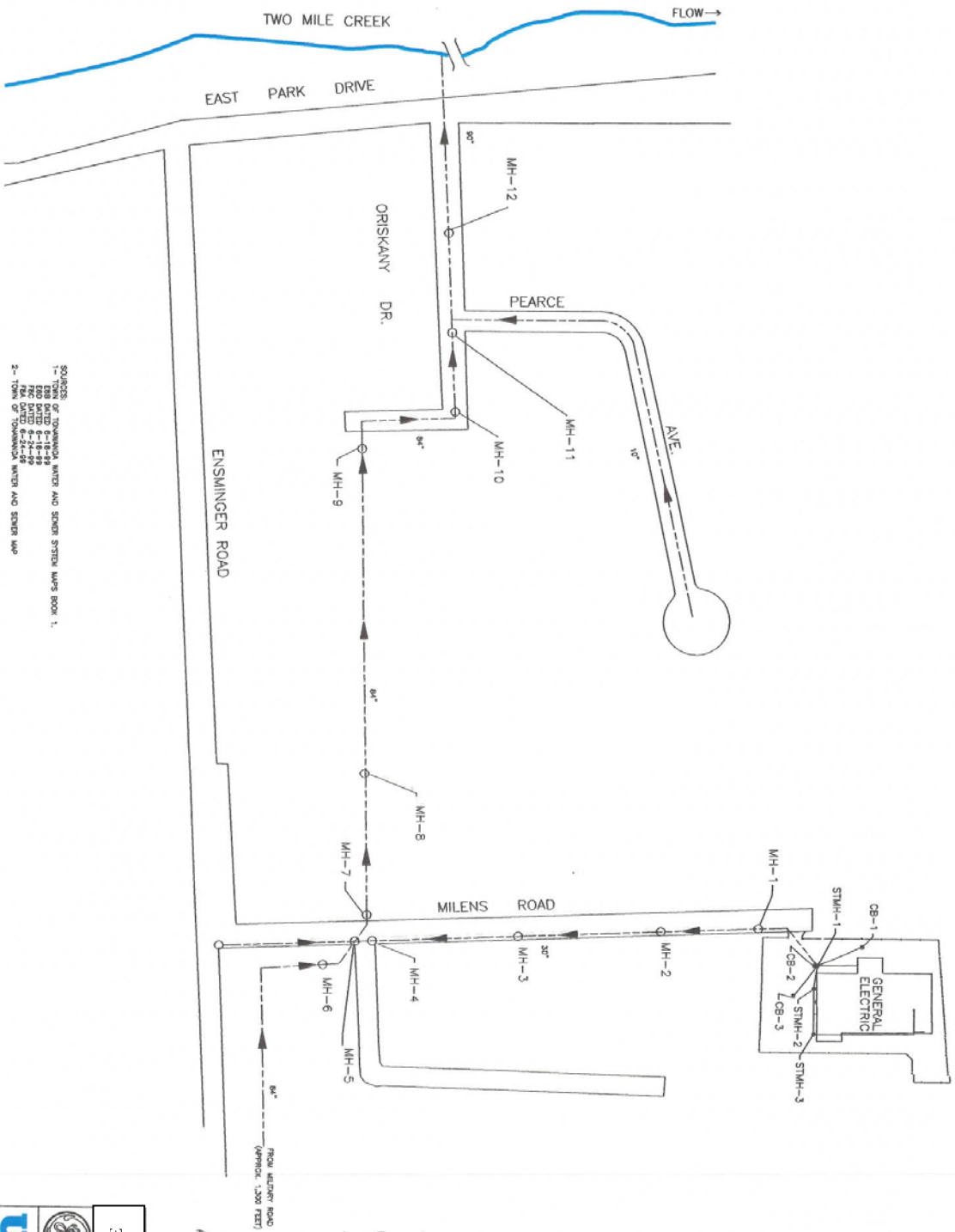


FIGURE 2
SOLID WASTE MANAGEMENT
UNITS AND AREAS OF CONCERN

175 MILENS ROAD
TONAWANDA



SOURCES OF TOWNWANDA WATER AND SEWER SYSTEM MAPS BOOK 1:
 1- TOWNWANDA WATER AND SEWER SYSTEM MAPS BOOK 1
 2- TOWNWANDA WATER AND SEWER MAP

- LEGEND
- 8" — SEWER PIPE DIAMETER
 - 30" — APPROX. PIPE LOCATION
 - FLOW DIRECTION
 - MH-3 — STORM MANHOLE
 - CB-1 — STORM SEWER
 - CATCH BASIN

APPROXIMATE GRAPHIC SCALE (IN FEET)



3 STORM SEWER SAMPLING LOCATIONS