

Brownfield Cleanup Program
RI/IRM Work Plan
For The
111 Hydraulic Street Project
Site No. C915235

Prepared For:
598 Main Street LLC
726 Exchange Street Suite 825
Buffalo, New York 14210

Prepared By:



AFI Environmental
PO Box 4049
Niagara Falls, New York 14304

Prepared:
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EXECUTIVE SUMMARY

598 Main Street LLC (hereafter referred to as the NYSDEC Brownfield Cleanup Program (BCP) “Applicant”) requested that AFI Environmental (AFI) prepare a Remedial Investigation/Interim Remedial Measures (RI/RM) Work Plan of seven parcels identified as Block 6, LOT(s) 2,3,7,8,9,10,11 located between Seneca Street (to the north), Carroll Street (to the south) Hydraulic Street (to the west) and Griffin Street (to the east) within the city of Buffalo, Erie County, New York (hereafter referred to as the “Site”) to address Recognized Environmental Conditions (RECs) identified during the Phase 1 Environmental Site Assessment (ESA) which was completed by AFI in July 2004 and updated by AFI in February 2010 to include all seven of the listed properties (See Figure 13 – Hydraulic Street Project Site Map). The Site is approximately 131,000 square feet (3.07⁺/. acres) in area. The Site consists of seven (7) parcels, 2 lots that are reported as vacant but utilized for parking, 2 former residential lots now vacant, 1 lot with a vacant residential structure, 1 vacant mixed use commercial/industrial lot, and 1 vacant mixed use commercial/industrial building structure known as the former “Good Door Store”. The mixed use parcels include manufacturing, auto body repair, gas tank removal and refurbishing, door and radiator sandblasting and repair, dry cleaning, linen and laundry service and commercial retail stores. The mixed use surrounding area is developed with residential houses, commercial retail stores, offices, LCO Larkin building and parking and manufacturing. 598 Main Street LLC (Applicant) is considering disposition of the Site for a two story mixed use development as retail space, professional office space, general office and multiple work stations with court yards and surface parking to be known as “**111 Hydraulic Building**”. The proposed action would replace an existing, at grade, auto body repair, storage and door and gas tank sandblasting and repair facility which is currently vacant and will employ 250 plus new employees when fully operational and at full capacity will incorporate work stations for over 600 employees.

A Series of ‘Limited’ Phase II ESIs were completed by AFI in June 2006 and April 2007 to assess Recognized Environmental Conditions (RECs) identified during the Phase1 ESA which was completed by AFI and dated July 2004 (updated February 2010). The Phase 1 ESA identified RECs pertaining to the potential presence of underground storage tanks at the site through visual observations of mounds and exposed piping and historical records, and open NYSDEC spill case and areas of concern including onsite disposal of metals and sand blasting waste, improper storage of petroleum products from gas tank removal and storage, and off site (adjacent, up-gradient, and cross- gradient) areas of concern related to dry cleaning and commercial uniform cleaning operations.

Phase II ESI field activities were performed in June 2006 and April 2007 through the advancement of soil borings, hand auger investigations and collection of soil samples for laboratory analysis. Test Pit installation was conducted in November 2009 and January 2010 to evaluate the condition of the soils to depth and to determine if USTs were buried at the site in the areas of concern.

Soil Sample analytical results indicated concentrations of metals in exceedance of both the New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) and NYSDEC Brownfields Cleanup Program (BCP) Track 1 Soil Cleanup Objectives (SCO) and/or NYSDEC

eastern background concentrations (metals only). Metals exceeding NYSDEC RSCOs, NYSDEC BCP track 1 SCOs and eastern background levels included the following compounds: Arsenic, Barium, Chromium, Lead, and Mercury.

Limited subsurface soil sampling showed volatile organic compounds (VOCs) in exceedance of both the New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) and NYSDEC Brownfields Cleanup Program (BCP) Track 1 Soil Cleanup Objectives (SCO).

The Three (3) general areas of environmental concern (AEC) identified as a result of the series of Limited Phase II ESIs were as follows:

- Metals resulting from operations and improper disposal at the former “Good Door Store” and historic disposal and storage procedures from other former occupants have impacted this parcel and adjacent properties within this block which make up the Site through wind movement and surface drainage distribution and transport of metals across the site from equipment movement and vehicle tracking. (Mounds of metals observed and recorded in 2004 were missing or reduced in size by 2010). Impacts appeared worse in the vicinity of metal dumping and were recorded to a depth of 4 to 6 ft in these areas.
- Presence of “Hot Areas” where elevated levels of VOCs and SVOCs related to poor housekeeping, improper disposal and storage of auto and truck gas tanks which were removed, replaced and stored at the site. These areas appear to be centered in a series of three “Hot Spots” within parcel #1: the drum storage area on the western section of the east court yard on parcel #1 and the north- indoor bay and the two south east bays. Petroleum release and soil impacts beneath the concrete pads on the interior of the building were confirmed with soil borings and analytical sampling in 2006 and 2007.
- Elevated metals in soil were also documented on the western residential properties during hand auger sampling to a depth of 6 to 12 inches. These impacts were probably associated with wind distribution from the neighboring “Good Door Store” or the result of flaking and deteriorated Lead based paint from the residential structures.

For future Site Development and completion of the project known as 111 Hydraulic Building, the following actions will be conducted:

- All former automotive parts and equipment (engine blocks, doors, bumpers, tires, fuel tanks, radiators, and waste storage drums) will be removed from the site and properly disposed of.
- The former ‘Good Door Store’, the single family residential structure to the east, and the garage to the west, will be surveyed for Asbestos Containing Building Materials (ACBMs) in accordance with NYS DOL Code Rule 56 and EPA Protocols.
- All Asbestos Containing Materials (ACMs) will be properly abated from the ‘Good Door Store’ remaining residential structure and garage; in accordance with NYS DOL Code Rule 56 and EPA Protocols.

- Site prep will include the demolition and disposal of all remaining buildings and structures. Demolition includes the removal of footers, foundations, and concrete pads along with utility relocation. Excavated soils will be characterized for disposal or for material reuse
- If dewatering is required for construction activities, then groundwater at the locations of dewatering will be sampled and the need for pretreatment assessed prior to discharge to the City of Buffalo Sewer System (Under BSA Permit).
- In the Three (3) VOC(s)/SVOC(s) 'Hotspot' areas (one outside in the courtyard and two indoors beneath the existing building foundation), soils will be removed below the concrete pad to a depth of 24". Upon completion of removal of all impacted soils to a depth of 24", these areas will be evaluated for their ability to achieve the Brownfield Soil Cleanup Objectives. If needed, additional excavation or an alternative analysis will be conducted.

The total cost of environmental remediation is difficult to assess given the large area covered by the Site, limits of the environmental investigation activities to date, and the lack of detailed development plans for the 111 Hydraulic Building Project. However, the Conceptual Plan presented within and using an order-of – magnitude estimates of environmental remediation costs provided herein range from 800,000 to 1.2 million dollars. This estimate is based on the assumption that the entire site will require some form of soil removal and disposal to a minimum depth of 6" to 12" and in some areas a depth of 18" to 24" will be needed and in two specific areas excavation to remove dumping material will be to a depth of 6 ft.

1.0 INTRODUCTION

AFI Environmental (AFI) has prepared this Remedial Investigation/Interim Remedial Measures (RI/IRM) Work Plan for 598 Main Street LLC (hereafter referred to the NYSDEC Brownfield Cleanup Program (BCP) “Applicant”) in support of the submittal of a Brownfield Cleanup Program (BCP) application in accordance with the provisions of the New York State Department of Environmental Conservation’s (NYSDEC) Subpart 375-3. The BCP application is requesting entry into the BCP for the properties collectively known as **111 Hydraulic Building** (See Figure# 13) and located at 797/799 - 819 Seneca Street, 105 – 111 Hydraulic Street, and 742 – 764 Carroll Street in the City of Buffalo, Erie County, New York (hereafter referred to as the “Site”). Table #1 lists the properties included in this discussion, the Block Number, Lot Number, address, and approximate area; along with the Project Parcel Number which have been used in previous reports and discussions by the Applicant, to assist all readers in following the discussion as referenced in the series of reports attached to or referenced as documents supporting this Plan. (See Table #1 and Figure #4)

TABLE #1

Parcel Address	Parcel No.	Section No.	Block No.	Lot No.	Acreage
797/799 Seneca	1	122.27	6	2	2.5±
819 Seneca	2	122.27	6	3	0.07±
111 Hydraulic	3	122.27	6	11	0.05±
105 Hydraulic	4	122.27	6	10	0.14±
742 Carroll	5	122.27	6	9	0.14±
746 Carroll	6	122.27	6	8	0.10±
764 Carroll	7	122.27	6	7	0.07±

The Applicant’s proposed project known as 111 Hydraulic Building will encompass revitalization and remediation of the Site, demolition of the existing structure and ACM and Lead abatement as part of “Site Prep” and construction of a new structure to include Retail, Commercial, Office Space, support facilities, court yards, green space with landscaping and parking and vehicle access infrastructure (See Figure 7 and Figure 3) . AFI Environmental (AFI) with offices in Niagara Falls, NY has been retained by the Applicant to prepare this RI/IRM Work Plan to address the NYSDEC BCP requirements.

1.1 Site History

The Project Site known as **111 Hydraulic Building (See Figure #13)** consists of a series of seven Property(s) within Block 6 and including Lot numbers 2,3,7,8,9,10,11 located in City of Buffalo, New York. The site is bounded by Seneca, Carroll, Hydraulic, and Griffin Streets and includes 797/799 Seneca Street (most recently known as “Good Door Store”) as the major notable structure and neighboring

adjacent properties as identified in Table #1. The former “Good Door Store” conducted car repairs by stock piling doors, radiators, and gas tanks; removed from local vehicles as well as imported southern cars and included activities such as: painting, repairing gas tanks, sandblasting tanks, bumpers, doors and incineration and improper disposal of waste materials and sand blasting sands.

Other noted activities in this area included a commercial laundry facility prior to this aforementioned use. From 1940 to 1956 the site was known as Dollar Dry Cleaning Co., from 1956 to 1976 the site was known as Famous Linen Supply Co. Inc., from 1966 to 1976 it was known as Queen City Laundry Inc. Also in 1966 it was known as Overnite Valet Inc. In 1986 the site was known as Western New York Auto Recovery Bureau Inc. The site was known as Phoenix International Recovery in 1996. In 2003 the site became the Best Southern Body Parts, Gas Tank Warehouse, Good Door Store and Ron Lear Inc.

The property history was developed through a review of: Sanborn Fire Insurance Maps; dated 1986, 1981, 1950, 1926, 1899 and 1889; along with Polk’s City Directory.

In addition, Environmental Data Resource Co, Inc’s (EDR) City Directory Abstract has a report designed to evaluate potential liability on the subject site resulting from past activities. The report includes a search and abstract of available city directory data. Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five (5) year intervals for the years spanning 1948 through 2008. A summary of the Properties follows:

Year	Uses	Source
797/799 Seneca Street, Buffalo, New York 14210		
2010	Good Door Store Permatech Spray On Bed liner	Polk’s City Directory
2004	Best Souther Body Parts Gas Tank Warehouse Good Door Store	Polk’s City Directory
1992	Phoenix International	Polk’s City Directory
1987	Bureau Inc Western New York Auto Rec	Polk’s City Directory
1982	Bureau Inc Western New York Auto Rec	Polk’s City Directory
1976	Famous Linen Supply Queen City Laundry	Polk’s City Directory
1970	Famous Linen Supply	Polk’s City Directory

	Queen City Laundry	
1964	Famous Linen Supply Overnite Valet Inc Queen City Laundry Seneca Audio Visual Corp	Polk's City Directory
1958	Famous Linen Supply Overnite Valet Inc	Polk's City Directory

Year	Uses	Source
797/799 Seneca Street, Buffalo, New York 14210		
1953	Dollar Dry Cleaning	Polk's City Directory
1948	Dollar Dry Cleaning	Polk's City Directory
1942	Dollar Dry Cleaning	Polk's City Directory
1938	Dollar Dry Cleaning	Polk's City Directory

Year	Uses	Source
742 Carroll Street, Buffalo, New York 14210		
1938 – 2004	Residential	Polk's City Directory
1998	Residential	Polk's City Directory
1992	Residential	Polk's City Directory
1987	Residential	Polk's City Directory
1982	Residential	Polk's City Directory
1976	Residential	Polk's City Directory
1970	Residential	Polk's City Directory
1964	Residential	Polk's City Directory
1958	Residential	Polk's City Directory
1953	Residential	Polk's City Directory
1948	Residential	Polk's City Directory
1942	Residential	Polk's City Directory
1938	Residential	Polk's City Directory

Year	Uses	Source
742 Carroll Street, Buffalo, New York 14210		
2004	No Current Listing	Polk's City Directory
1992	Vacant	Polk's City Directory
1987	Residential	Polk's City Directory
1982	Residential	Polk's City Directory
1976	Residential	Polk's City Directory
1970	Residential	Polk's City Directory
1964	Residential	Polk's City Directory
1958	Residential	Polk's City Directory
1953	Residential	Polk's City Directory
1948	Residential	Polk's City Directory

Year	Uses	Source
742 Carroll Street, Buffalo, New York 14210		
1942	Residential	Polk's City Directory
1938	Residential	Polk's City Directory

Year	Uses	Source
111 Hydraulic Street, Buffalo, New York 14210		
1970	Vacant	Polk's City Directory
1964	Residential	Polk's City Directory
1958	Residential	Polk's City Directory
1953	Residential	Polk's City Directory
1942	Residential	Polk's City Directory
1938	Residential	Polk's City Directory

1.2 Purpose and Scope

598 Main Street LLC has proposed to re-develop the seven parcels which make up the Site (See Figure 4) of which historic documents, site reconnaissance presented in AFI's 2004 and 2010 Phase I ESAs and a series of limited Phase 11 EIs have confirmed: are abandoned, deteriorating, and contaminated with elevated levels of metals, VOCs and SVOCs resulting from neglect, historic operations and improper storage and disposal practices. In addition Parcel #1 is the subject of an open NYS DEC Petroleum Spill Number. 598 Main Street LLC (Applicant) is considering disposition of the Site for a two story mixed use development as retail space, professional office space, general office and multiple work stations with court yards and surface parking to be known as "**111 Hydraulic Building**". The proposed action would replace an existing, at grade, auto body repair, storage and door and gas tank sandblasting and repair facility which is currently vacant (See Figure # 13) and will employ 250 plus new employees when fully operational and at full capacity will incorporate work stations for over 600 employees. The project will bring new businesses, new use, and new employees to the City of Buffalo, Erie County and will enhance the Larkin Corridor of the Fillmore District upon its completion.

The supplemental Phase 11 Environmental Investigations (EIs) were completed by AFI, at the request of the Applicant, to assist with quantifying their financial exposure or environmental risk associated with acquisition. The attached EIs, while limited in scope, were sufficient in detail and range of investigation, to confirm their concerns for potential soil contamination as reported by AFI in their Phase 1 ESAs, dated 2004 and 2010. These documents identified a series of Recognized Environmental Concern (RECs) related to sand blasting and painting activities; gas tank, radiator, and door removal and storage procedures; and housekeeping and hazardous waste storage and disposal procedures; that have caused soil contamination which requires remediation. In addition, the supplemental data presented in SECTION VII of this BCP Application summarizes the information collected during test pit activities and installation of monitoring wells in 2009 and 2010, and confirms the depth and extent of contaminate impact. Based on the information gathered to date, AFI considers the proposed Interim Remedial Measures Work Plan (**IRMWP**) as appropriate to address the needed remediation activities proposed for the Site prior to redevelopment.

The proposed IRMWP propose to scrape and properly dispose of all the exterior soils from the top horizon of soil from a depth of 6" to 18" across all seven properties. The soils on these properties have been impacted from sandblasting activities and on-site disposal of 'used sand' which has been subject to air current disbursement and stormwater distributing metal contaminates across the site;

along with likely contamination of metals such as lead flaking from neglect structural steel and residential buildings.

As part of the Site Prep Phase, the buildings will be abated of ACMs and Presumed Asbestos Containing Material (PACM), lead paint, and contaminate sources and contaminate source material (gas tanks stock piles and drums, along with the impacted soil areas identified as 'hot spot'. The hotspots are areas where soils have been noted as stained with petroleum and in areas within the building, where stacks of partially full gas tanks and drums have been suspected of slowly leaking onto the concrete and into and under the concrete slab through cracks in the concrete or from drains. In the Three (3) VOC(s)/SVOC(s) 'Hotspot' areas (one outside in the courtyard and two indoors beneath the existing building foundation), soils will be removed below the concrete pad to a depth of 24". Upon completion of removal of all impacted soils to a depth of 24", these areas will be evaluated for their ability to achieve the Brownfield Soil Cleanup Objectives. If needed, additional excavation or an alternative analysis will be conducted.

All excavated areas will be Backfilled to the required elevation for the proposed new construction or pavement with certified "Clean" compacted fill. 12" to 24" of compacted "clean" fill is anticipated to restore the site to original grade.

1.3 Summary of Previous Investigations

Two (2) Phase I Environmental Site Assessments (ESAs) have been completed for the properties in question. AFI Environmental conducted a Phase 1 ESA in 2004 which included discussion and findings related to the former Door Store (parcel #1); a second Phase 1 ESA was completed by AFI Environmental in January 2010 which included investigation and discussions of findings related to all seven of the listed properties and which also referenced the three (3) 'limited' surface and subsurface soil investigations which were conducted on the Site subsequent to the completion of AFI's 2004 ESA. Two additional reports are also presented in Section VII Property Environmental History. AFI Environmental's *February 2010 Test Pit Investigation Report* summarizes the installation of 22 test pits installed on the property in 2009 and 2010 and AFI's *2010 Summary of Monitoring Well Installation Report* presents the data from the installation of 10 monitoring wells installed on the Site

1.3.1 Phase I ESA – July 2004

A Phase I Environmental Site Assessment (ESA) was completed by AFI Environmental in July 2004 on behalf of City View Properties who had interest in Purchasing the property located at 797 Seneca

Street and presented the results of information related to the former "Good Door Store" property (Parcel #1). AFI's 2004 ESA identified a number of Recognized Environmental Conditions (RECs) found during their Investigation. A summary of the RECs are listed below:

- Based on the visual inspection of the site and the previous activities conducted at the site, there exists the potential for USTs to be present at the site. The City of Buffalo Fire Department has record of a 12,000 gallon UST being installed with no documentation of removal. There is also record of a 1000 gallon UST being installed, replaced and removed.
- There is potential (due to the age of the building) for construction materials within the building to contain asbestos (ACMs). No asbestos survey was found for the property. During a walk-thru on July 6, 2004, Several areas of possible ACMs were noted 9x9 floor tile, 12x12 tiles, ceiling tiles, adhesive ceiling pucks, grout, mastic, window caulk, construction materials, roofing, flashing construction flashing on concrete, pipe wrap, insulation, brick covering, AST insulation, etc.
- There is a potential for lead-based paint to be part of the paint used within the structure. There is a potential that materials used for construction of the Building (which occurred prior to 1940) contain Lead-based paint. There is potential for the water lines feeding the building as-well-as the water lines within the site to contain lead compounds. No lead survey was found for the property and as such, the reader of this report must be aware of the potential for building materials to contain lead and for the possibility of lead in the drinking water.
- There was mold noticed in the second floor office on the Seneca Street section.
- There are fenders, bumpers, gas tanks, and other miscellaneous car parts throughout the building. Signs on the property clearly indicate that the clients with leaking gas tanks should park in a designated area. Leaking gas tanks have historically been encountered at the site.
- Current operations at the site include sandblasting of metal and painted items. The sand is shoveled into a hopper which has a fan that blows the small particles outside of the building through a window and onto the ground in the courtyard.
- The site has a painting bay for vehicles which includes an exhaust fan that deposits the airborne paint particles outside; no filters or air permits were available for the site.
- There is potential (due to the age of building) for building components to contain PCB's. During a walk-thru on July 6, 2004, several building components containing possible PCB's were noticed: electrical fixtures, capacitors, mercury switches, and transformers.
- There is an incinerator onsite which could contain asbestos.
- Fluorescent light fixtures may contain ballast with PCB components.
- Spraying operations conducted within the rear section of the gas tank repair area and the operation of the gas tank dryer as-well-as where the tank sealing material is applied are areas that could reasonably be expected to be contaminated.

- Several 55-gallon drums (some open) containing iso-cyanite (a hazardous and regulated material) located in the court yard. Numerous 5-gallon pails containing the above material, or, waste petroleum, vehicle repair fluids, or other waste fluids, were scattered throughout the building; a concentration of containers within the compressor building area.
- Vehicle repair parts: batteries, transmissions, engines, gas tanks, etc; located throughout the facility may contain materials that could reasonably be expected to cause contamination.

1.3.2 Phase I ESA – January 2010

598 Main Street, LLC requested that a comprehensive Phase I ESA be completed for all seven parcels which will be included in their proposed redevelopment of the Site as part of their 111 Hydraulic Building project. AFI environmental completed this Phase 1 ESA in January 2010 in conjunction with preparation of the BCP Application for the Site. Potential areas of environmental concern (PAEC) identified during AFI's Site Reconnaissance and Recognized Environmental Conditions (RECs) found during their Investigation are Listed Below:

- In 2006, during a 'limited' Phase II Site Investigation conducted by AFI, petroleum contamination was found on the subject site (797 Seneca Street). A NYS DEC petroleum spill file was opened for the Site. The spill file was listed as open as of the date of the Report.
- In 1988 there was a traffic accident at the subject site (797 Seneca Street), the spilled fluids from the car were flushed into the sewer by the fire department. The spill report estimates approximately 20 gallons were flushed into the sewer.
- Past industrial uses at the property (dry cleaners) on and around the subject site could have created a potential for soil and groundwater impacts. This is a potential area of environmental concern (PAEC).
- There are bumpers, gas tanks and other miscellaneous car parts throughout the building. Signs on the property clearly indicate leaking gas tanks have historically been encountered at the site. This was listed as a REC based on other data referenced within the Report.
- Past operations at the site include sandblasting of metal and painted items. The sand is shoveled into a hopper which has a fan that blows the small particles outside of the building through a window and onto the ground in the court yard. This is a potential area of environmental concern (PAEC). The dumping of sand with high metal concentrations of lead and Arsenic are listed as RECs.
- The site has painting bays for vehicles which includes an exhaust fan that deposits the air born particles outside, no filters or air permits were available for the site. This is a potential area of environmental concern (PAEC).

- There is a potential (due to age of the building) for building components to contain PCB's. Several building components containing possible PCB's were noted: electrical fixtures, capacitors, mercury switches, and transformers. This is a potential area of environmental concern (PAEC).
- There is a potential (due to age of building) for construction materials within the building to contain asbestos containing materials (ACMs). No asbestos survey was reviewed or made available for the property. During a site walkthrough, several areas of possible ACMs were noted: 9x9 floor tile, 12x12 tile, ceiling tile, ceiling pucks, roofing, flashing, pipe wrap, etc.. The presence of damaged friable Asbestos and PACMs is a REC.
- There is a potential for lead based paint to be part of the paint used within the structure. There is a potential that material used for construction of the building(s) (which occurred prior to 1940) to contain lead-based paint. There is noticeable peeling paint throughout the building. There is a potential for water lines feeding the building as-well-as the water lines within the site to contain lead compounds. This is a potential area of environmental concern (PAEC). The observation of stained areas in the vicinity of the storage area for drums of solvents is a REC.
- Fluorescent light fixtures may contain ballast with PCB components. This is a potential area of environmental concern (PAEC).
- Based on visual inspection of the site and previous activities conducted at the site, there exists the potential for USTs to be present at the site. The City of Buffalo Fire Department has a record of a 12,000 gallon UST being installed with no documentation of removal and a record of a 1,000 gallon UST being installed, replaced and removed. This is a potential area of environmental concern (PAEC).

1.3.3 Limited Phase II ESA – June 2006

In June of 2006 AFI performed a Limited Phase II Subsurface Environmental Investigation. This investigation was also conducted under budgetary constraints to evaluate the extent of subsurface soil contamination and the potential qualification for NYSDEC Brownfield Agreement. The investigation was performed by AFI Environmental on behalf of LCO Building Development, LLC and consisted of:

- Collection of nine (9) shallow (0-6 inches bgs) soil samples from the residential properties located on parcels 5 and 6.

- Sampling in these areas was limited to between buildings and available green space analysis was completed for Heavy Metals by EPA Method 6000/7000;

The results are summarized in the following tables:

TABLE #2
HEAVY METALS ANALYTICAL RESULTS
797 SENECA STREET, BUFFALO, NEW YORK
Method 6000/7000
JUNE 23, 2006

Contaminant	Residential (ppm)	Restricted Residential (ppm)	Commercial (ppm)	AH1	AH2	AH3	AH4	AH5	AH6	AH7	AH8	AH9
				0"-6" (ppm)								
Arsenic	16 ^f	16 ^f	16 ^f	12.8	11.7	17.5	27.0	22.6	24.6	12.7	23.3	14.1
Barium	350 ^f	400	400	127	129	451	423	284	445	148	396	180
Cadmium	2.5 ^f	4.3	9.3	ND								
Chromium	22	110	400	18.3	14.2	34.8	24	27.7	34.4	18.5	32.3	19.4
Lead	400	400	1,000	373	322	1140	1250	658	3590	553	1950	521
Mercury	0.81 ^d	0.81 ^d	2.8 ^d	0.389	1.06	1.18	0.904	.965	1.71	0.487	1.57	0.656
Selenium	36	180	1,500	ND								
Silver	36	180	1,500	ND								

ND - Non-Detect

Advancement of eight (8) deeper (0-6 feet bgs) soil borings and collection of soil composite samples from each boring for analysis of Metals by Method 6000/7000, Volatiles by Method 8260 and Semi-Volatiles by Method 8270. The eight (8) soil boring locations were selected primarily to assess subsurface soil conditions for foundation design purposes and were located in areas projected for excavation for building footers.

There were some exceedances for VOCs and SVOCs of the TAGM 4046 Cleanup Criteria and the Residential (SCOs), but not of the Restricted Residential and/or Commercial SCOs. The majority of exceedances were in the Heavy Metals. The results are tabulated in the following tables:

TABLE # 3-1
HEAVY METALS ANALYTICAL RESULTS
797 SENECA STREET, BUFFALO, NEW YORK
Method 6000/7000
JUNE 14, 2006

Contaminants	Residential (ppm)	Restricted Residential (ppm)	Commercial (ppm)	SB2	SB5	SB3	SB6	SB6	SB7
				0'-4' (ppm)	0"-6" (ppm)	Mound (ppm)	0"-6" (ppm)	4'-6' (ppm)	Mound (ppm)
Arsenic	16 ^f	16 ^f	16 ^f	13.7	8.99	ND	ND	ND	13.9
Barium	350 ^f	400	400	263	229	64.0	183	21.9	816
Cadmium	2.5 ^f	4.3	9.3	ND	17.1	ND	ND	ND	ND
Chromium	22	110	400	73.9	67.9	149	327	ND	620
Lead	400	400	1,000	902	917	210	1580	64.6	1910
Mercury	0.81 ^j	0.81 ^j	2.8 ^j	0.896	0.640	0.126	0.075	1.85	2.31
Selenium	36	180	1,500	ND	ND	ND	ND	ND	ND
Silver	36	180	1,500	ND	ND	ND	ND	ND	ND

ND – Non-Detect

1.3.4 Limited Phase II ESA – April 2007

In March of 2007, AFI performed a Supplemental Interior-Subsurface Investigation. AFI's scope of work included the installation of a total of 24 soil probe holes, inside the "Former Good Door Store" using a portable Geo-probe Drill Rig, and the collection of soil samples with 4' split spoon continuous sampling. Field work included visual inspection of recovered material, soil classification, scanning with a PID, sample collection, and submittal of select samples for independent analytical testing, by NYS certified lab. The chemical analysis performed for this investigation was 'limited' to evaluating petroleum constituents specifically (VOCs, SVOCs and TPH) from a sample collected from the 'worse case' spoon run, for each probe location based on visual observations and or elevated PID readings.

The investigation was performed by AFI Environmental on behalf of City View Properties and consisted of:

- 1) Advancement of twenty four (24) probe holes with a track mounted Geoprobe within accessible areas of the interior of the building to a depth of 12'-16' or refusal.

- 2) Continuous split-spoon sampling was completed at each boring in 4' increments.
- 3) AFI Scientist used a Mini Rae 3000 PID meter to scan each 4' sample along with recording the observations of visual analysis and photo record was made.
- 4) Collection of a composite soil sample was assembled from the worst 4' sampling intervals, at each boring location and transported to the NYS Certified lab for Chemical analysis.

The following Tables (#3, #4 and #5) present the analytical results for VOCs, SVOCs and TPH respectfully; exceedances levels are noted with colored highlights :

1.3.5 Limited Phase II EI – Summary of Well installation Activities - 2009

The main purpose of this investigation was to ascertain from field observations and limited soil and groundwater inspection and sampling, if major concerns, associated with the RECs identified during AFI's Phase 1 ESA had impacted deep soils and possibly ground water beneath the Site. (Due to budgetary constraints only limited groundwater sampling was conducted to date.)

Results for the limited sampling indicated slightly elevated values for cis-1,2-Dichloroethene and Vinyl Chloride in MW11 when compared to Part 375 and TAGM 4046 guidelines. During the well installation activities some limited soil sampling was also conducted. Soil sample results showed no elevated values of Volatile or Semi-Volatile compounds (at depth), when compared to Part 375 and TAGM 4046 guidelines.

Based on the results from this 'Limited' EI Test Pit Installation Activity the upper layer of soils across the site have been impacted from historic activities and will require some level of soil remediation or engineering controls to address the risk for elevated metals and petroleum spills

("hot spots") The upper horizon appears to have been subject to the dumping or spilling of sands (containing metals) from sandblasting activities and spillage of petroleum products in the drum storage area, beneath the gas tank stock piles and leakage of fluids through cracks in the floors and/or floor drains or sewer in the work bays. Sand blasting sands were noted in "Sand Dumping Areas" (metals) located on the east side of the Site and in the Court yard. (VOCs) associated with petroleum products were also noted and along the west property line on the southern portion of the site and in the court yard located on the east side of the property (along the block wall that forms the west wall) in the area noted as the "Drum Storage Area". Sand blasting sand loaded with metal fragments and remnants of sand and ash were found in mounds and extended to a depth of 4 to 6 ft bg. This was noted along the eastern property lines and just west of the building on the north portion of the Site.

It also appears that contaminates may be moving to the west across the site from the source material which is pooled beneath the concrete slab of the existing building in Parcel #1. The source areas are consistent with the approximate area of the stock piled gas tanks and work bays of the site and visual observations show nuisance characteristics (smell and staining) in areas where drums and abandoned gas tanks were observed in 2004 and 2010. This hot spot is consistent with the area that is the subject of the Open NYSDEC Spill file for the site and was located beneath an abandoned and used gas tank storage area which was now gone.

1.3.6 Limited Phase II EI –summary of Test Pit installation Activities- 2009-10

Based on the results from this ‘Limited’ EI Test Pit Installation Activity the upper layer of soils across the site have been impacted from historic activities and will require some level of soil remediation or engineering controls to address the risk for elevated metals and petroleum spills (“hot spots”) The upper horizon appears to have been subject to the dumping or spilling of sands (containing metals) from sandblasting activities and spillage of petroleum products in the drum storage area, beneath the gas tank stock piles and leakage of fluids through cracks in the floors and/or floor drains or sewer in the work bays. Sand blasting sands were noted in “Sand Dumping Areas” (metals) located on the east side of the Site and in the Court yard. (VOCs) associated with petroleum products were also noted and along the west property line on the southern portion of the site and in the court yard located on the east side of the property (along the block wall that forms the west wall) in the area noted as the “Drum Storage Area”. Sand blasting sand loaded with metal fragments and remnants of sand and ash were found in mounds and extended to a depth of 4 to 6 ft bg. This was noted along the eastern property lines and just west of the building on the north portion of the Site.

It also appears that contaminates may be moving to the west across the site from the source material which is pooled beneath the concrete slab of the existing building in Parcel #1. The source areas are consistent with the approximate area of the stock piled gas tanks and work bays of the site and visual observations show nuisance characteristics (smell and staining) in areas where drums and abandoned gas tanks were observed in 2004 and 2010. This hot spot is consistent with the area that is the subject of the Open NYSDEC Spill file for the site and was located beneath an abandoned and used gas tank storage area which was now gone.

No USTs were found after an extensive search was conducted by installing numerous test pits in the north west portion of Parcel #1, the courtyard on the east, along suspect walls and outside garage doors and next to loading docks. The area which was the location of the former City of Buffalo School, during the 1940s, was also explored for orphan USTs. No USTs were found at any of the other suspected areas across the site and the site appears to be blessed with a very competent layer of confining and tight clays beneath 4 feet horizon which continues to the top of bedrock except for a 6” fractured layer just above bedrock. The water table was noted at the rock overburden interface; however, perched water was noted in shallower depth near the building and in the courtyard.

Table #3
VOLATILES ANALYTICAL RESULTS
797 SENECA ST, BUFFALO, NY
METHOD 8260
V1015
March 6-8, 2007

Contaminant	TAGM 4046 Rec. Soil Cleanup Objective (ppm)	SB 18 (8'- 12') SB 19 (4'- 8') SB 20 (4'-8') ppm	SB 22 (4'-8') SB 24 (4'-8') SB 25 (12'-16') ppm	SB 27 (0'- 4') SB 28 (8'-12') ppm	SB 29 (4'-8') SB 30 (4'-8') ppm	SB 31 (8'- 12-) SB 32 (0'-4') ppm
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Methyl tert-butyl ether	0.12	ND	ND	ND	ND	ND
Benzene	0.06	.01	ND	ND	ND	ND
Toluene	1.5	.02	ND	ND	ND	ND
Ethylbenzene	5.5	.01	ND	ND	ND	ND
m,p-Xylene	1.2	.03	ND	ND	ND	ND
o-Xylene	1.2	.01	ND	ND	ND	ND
Isopropylbenzene	2.3	ND	.61	2.56	2.62	.30
n-Propylbenzene	3.7	ND	.73	5.11	4.86	.53
1,3,5-Trimethylbenzene	10.0	ND	ND	.43	.38	ND
1,2,4-Trimethylbenzene	10.0	.01	1.41	33.20	5.57	.34
p-Isopropyltoluene	10.0	ND	ND	ND	.68	ND
n-Butylbenzene	10.0	ND	.60	5.00	4.28	.70
Sec-Butylbenzene	10.0	ND	.90	4.37	3.93	.71
Naphthalene	0.13	ND	ND	.63	.47	ND
Tert-butylbenzene	10.0	ND	ND	.59	.33	ND

ND—Non-Detect

Table #3 (Continued)
VOLATILES ANALYTICAL RESULTS
797 SENECA ST, BUFFALO, NY
Method 8260
V1015 - March 6-8, 2007

Contaminant	TAGM 4046 Rec. Soil Cleanup Objective (ppm)	SB 37 (4'-8') ppm	SB 39 (8'-12') SB 40 (4'-8') ppm
Methyl tert-butyl ether	0.12	ND	ND
Benzene	0.06	ND	ND
Toluene	1.5	ND	ND
Ethylbenzene	5.5	ND	ND
m,p-Xylene	1.2	ND	ND
o-Xylene	1.2	ND	ND
Isopropylbenzene	2.3	ND	ND
n-Propylbenzene	3.7	ND	ND
1,3,5-Trimethylbenzene	10.0	ND	ND
1,2,4-Trimethylbenzene	10.0	ND	ND
p-Isopropyltoluene	10.0	ND	ND
n-Butylbenzene	10.0	ND	ND
Sec-Butylbenzene	10.0		ND
Naphthalene	0.13	ND	.06
Tert-butylbenzene	10.0	ND	ND

ND—Non-Detect



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Table #4 (Continued)
SEMI-VOLATILES ANALYTICAL RESULTS
797 SENECA ST, BUFFALO, NY

Contaminant	TAGM 4046 Rec. Cleanup Objectives ppm**	SB 18 (8'-12') SB 19 (4'-8') SB 20 (4'-8') ppm	SB 22 (4'-8') SB 24 (4'-8') SB 25 (12'-16') ppm	SB 27 (0'-4') SB 28 (8'- 12')ppm	SB 29 (4'-8') SB 30 (4'-8') ppm	SB 31 (8'-12') SB 32 (0'-4') ppm
Acenaphthene	50.00	ND	.29	130.00	ND	.32
Fluorene	50.00	1.07	.33	209.00	ND	.29
Acenaphthylene	50.00	ND	ND	32.90	ND	ND
Fluoranthene	50.00	7.16	1.31	940.00	.25	2.31
Anthracene	50.00	2.23	.35	303.00	ND	.24
Phenanthrene	50.00	8.35	1.60	1150.00	.29	1.60
Benzo(a)anthracene	2.80	4.22	.61	423.00	2.25	1.13
Chrysene	0.40	2.61	.47	374.00	.10	1.04
Pyrene	50.00	5.78	1.11	688.00	.21	2.48
Benzo(b)fluoranthene	1.10	2.85	.51	404.00	.12	1.47
Benzo(k)fluoranthene	1.10	1.65	.21	212.00	ND	.71
Benzo(g,h,i)perylene	50.00	ND	.13	82.90	ND	.37
Benzo(a)pyrene	11.00	2.41	.40	324.00	.11	1.01
Naphthalene	13.00	ND	.25	190.00	.53	ND
Indeno(1,2,3-cd)pyrene	0.032	ND	.13	89.40	ND	.34
Dibenz(a,h)anthracene	16,500	ND	ND	45.90	ND	.15

Table #4 (Continued) SEMI-VOLATILES ANALYTICAL RESULTS
797 SENECA ST, BUFFALO, NY
Method 8270
V1015
March 6-8, 2001

Contaminant	TAGM 4046 Rec. Cleanup Objectives ppm**	SB 37 (4'-8') ppm	SB 39 (8'-12') SB 40 (4'-8') ppm
Acenaphthene	50.0	ND	ND
Fluorene	50.0	ND	ND
Acenaphthylene	50.0	ND	ND
Fluoranthene	50.0	ND	ND
Anthracene	50.0	ND	ND
Phenanthrene	50.0	ND	ND
Benzo(a)anthracene	2.8	ND	ND
Chrysene	0.4	ND	ND
Pyrene	50.0	ND	ND
Benzo(b)fluoranthene	1.1	ND	ND
Benzo(k)fluoranthene	1.1	ND	ND
Benzo(g,h,i)perylene	50.0	ND	ND
Benzo(a)pyrene	11.0	ND	ND
Naphthalene	13.0	ND	ND
Indeno(1,2,3-cd)pyrene	0.032	ND	ND
Dibenzo(a,h)anthracene	16,500	ND	ND

Table # 5
Total Petroleum Hydrocarbons
797 SENECA ST, BUFFALO, NY
Method 8260
V1015
March 6-7, 2007

Contaminant	SB 21 (4'-8') ppm	SB 24 (4'-8') ppm	SB 26 (8'-12') ppm	SB 28 (8'-12') ppm	SB 33 (0'-4')	SB 35 (0'-4') SB 36 (4'-8') ppm
Total Petroleum Hydrocarbons	120	412	51	189	1380	504

ND—Non-Detect

Table #5 (continued)
Total Petroleum Hydrocarbons
797 SENECA ST, BUFFALO, NY
Method 8260
V1015
March 8, 2007

Contaminant	SB 38 (4'-8') ppm					
Total Petroleum Hydrocarbons	ND					

ND—Non-Detect



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1.4 Project Organization and Responsibilities

598 Main Street, LLC has submitted this Site for entrance into the BCP as a participant per ECL§27-1405. AFI Environmental (AFI) will manage the Brownfield Cleanup Activities on behalf of 598 Main Street, LLC (the “Applicant”). Deborah Chadsey, Esq. of Kavinoky and Cook, LLP will represent The Applicant and address all legal issues and property restriction related to the issuance of the Certificate of Completion (COC) upon finalization of the BCP. Responsibilities of the key AFI staff are summarized below:

William L. Heitzenrater will be the Project Manager for the BCP program. In this capacity Mr. Heitzenrater will be responsible for overall coordination of all phases of the project from implementation of the Work Plan to completion of proposed Interim Remedial Measures and subsequent reporting and documentation of the work performed.

Geoffrey S. Heitzenrater, will be the Project Engineer/Scientist, responsible for the implementing the remedial investigation and IRM tasks. Responsibilities will include sample collection, well development and directing drilling subcontractors and oversight of IRM activities.

Elby Benton, will serve as Project Director and be responsible for the overall quality assurance and review of all project deliverables. He will interface with the Project Manager to address any technical issues and provide quality control for the entire project.

2.0 INVESTIGATION SCOPE

The scope of the proposed RI will focus on investigating the Site for the extent of contaminants in soil/fill and groundwater that have not previously been characterized or remediated by the activities included in Site Prep or other phases of the IRMWP. It is the intent of the Applicant to request that the Interim Remedial Measures Work Plan (IRMWP) (which is part of this documents included with this BCP Application) be reviewed and approved, along with the Applicant's acceptance into the BCP. This request for review and approval of the IRMWP is based on Site history, visual evidence of soil contamination, and documented storage practices that could contribute to soil contamination. These contributing factors are discussed in detail in the various Phase 1 ESAs, which include: historic maps, city directories, interviews, photographic evidence, and a plethora of varied analytical soil and groundwater data compiled from the series of 'Limited' Phase II EIs which were conducted at the Site. This supporting documentation which includes the suggested areas and levels of Cleanup are included with this application (See **Section VII Previous Environmental Studies**). The level of additional RI work anticipated after the IRMWP is complete is assumed to be minimal; all procedures utilized for RI work will be consistent with the procedures outlined in Section 2.1 below:

2.1 Soil/Fill Investigation

2.1.1 *Supplemental Surface Soil Sampling Program*

As previously noted the surficial soil sampling program performed by AFI in 2007 provided extensive characterization of Heavy Metal Contamination in the upper 6-inches to 2 feet of soil/fill in the southwest corner of the site and in areas east of the court yard and along the eastern boundary of parcel #1 . It is inferred that Metals contamination is uniform across the site due to previous operations, observations of sandblasting sands on the top layer of soil and the mounds that have eroded or been dispersed by wind since the writing of the 2004 ESA.

Samples of the soils collected via hand auger methods, (stainless steel trowel) were collected from between buildings from parcel # 5 and #6.

2.1.2 *Subsurface Investigation*

Upon completion of the excavation activities, and prior to the submittal of the Final Engineering Report, all

remaining overburden wells and the Bedrock monitoring wells will be sampled. (Note: It is anticipated that many, if not all, of the previously installed overburden monitoring wells will be lost during the excavation activities) However, the three (3) onsite Bedrock monitoring wells (BR-12, BR-15, BR-16) will be protected and preserved for sampling. It is assumed that BR-15 is up gradient and BR -12 and BR-16 are down gradient in respect to ground water flow in bedrock; this assumption will be confirmed with physical survey and recording and comparison of water level measurements during sampling.

2.1.3 Bedrock Well Installation Procedures

Well stakeout and utility clearance will precede any and all drilling activities.

Wells will be installed within 2 ft of the stake out locations.

When necessary, the bore hole will be advanced by hand dug shovel method until all sensitive or exposed utility areas are visually cleared prior to advancing the drill string.

AFI Scientist's will mobilize a Deidrich D-50 drill rig or equivalent and conduct subsurface overburden drilling using 6 1/4" hollow stem (HS) augers with continuous soil sampling using 4' split spoon during the well advancement process.

Composite soil samples will be collected in the first 2' interval of each well and then for each additional 4' interval down to a depth of 16' below grade (BG) or bedrock refusal.

Representative samples from each split spoon will be placed in sample jars and labeled with the date, time, location, sample interval, initialed and either sent for chemical analysis or archived.

Samples prepared for analysis will be recorded on the chain of custody, placed in coolers, and monitored VOCs with a Photo-ionization detection (PID) meter utilizing the head space method. The PID will be calibrated according to manufacturer specifications prior to being taken to the field and upon return from the field each effort.

Upon bedrock contact the wells will be advanced using the HS augers grinding sufficient depth into the bedrock to allow the installation of a 4" PVC casing which will be tremmie grouted in place and allowed to sit for a minimum of 24 to 48 hrs. Once the grout has had sufficient time to setup, Rock coring will be conducted through the center of the 4" PVC riser.

Rock coring will be conducted using NX size rock core equipment consistent with ASTM Standard D-2113-08.

Experienced drillers/geologist will record rock recovery, rock quality designation (RQD), lithographic characteristics and record the same in the drillers log and on the test boring logs for each location.

Wells will be cored 10' into bedrock. Rock coring will continue until a saturated or fractured zone is encountered. Visual inspection of recovered rock coring material, well logging, field screening with a PID meter and the well completion specifications will be recorded for each location. A photo record of the soil sampling tubes will be made and borings will be numbered and the boring numbers will be shown on the site map.

Core Samples will be inspected, boxed, labeled, photographed and archived for future reference.

The 3 inch open rock core hole will be utilized to sample the bedrock water chemistry and bedrock water elevations.

Drilling fluids will be clean potable water from the Municipal Water source, and re-circulated to minimize spillage on to the ground followed by a clean flush prior to well installation.

Drilling fluids will be containerized in 55 gallon drums, staged in the drum staging area, and sampled prior to disposal to determine proper handling /disposal requirements.

Splitspoon samplers will be cleaned with an alconox and soap solution and soft brush and double rinsed between each use and the drilling augers and core barrels will be cleaned with a steam cleaner and alconox and soap solution with double rinsing between each boring location. The pump system will be double rinsed with fresh water between uses. All Decon fluids will be retained, staged and sampled prior to disposal following the same procedures as with the drilling fluids.

The wells will be finished with 8" flush-mounted road boxes and the top of casing will be surveyed to 0.1 inches tolerance and recorded on a site topographic survey map to allow for future groundwater flow calculations.

Wells will be low impact developed with hand bailers until a minimum of three to five casing volumes have been evacuated and/or until the stabilization of field parameters has occurred.

Field parameters will consist of:

- pH
- Turbidity
- Conductivity
- Temperature
- And depth to water level

Wells will be finished with flush mount road boxes. Once the new well construction is completed each new well will be properly developed, purged of appropriate amounts of well water, and a groundwater sample collected at each location will be submitted under proper chain of custody to an ELAP approved, independent analytical lab for analytical testing to include VOCs, SVOCs, PCBs, Petroleum Hydrocarbons, Metals and Cyanide.

All sampling will be conducted utilizing DER-10 sampling methods and QA/QC procedures.

2.1.4 Groundwater Sampling Protocol

Groundwater samples will be collected from the onsite monitoring wells following the collection, sample handling, and Chain of Custody protocols outlined in Appendix E which are consistent with the previous procedures utilized and discussed in AFI's February 2010 report titled, *"Summary of Monitoring Well Installation Activities Installed November and December 2009"*.

It is anticipated that the NYSDEC may be splitting soil and groundwater samples during the IRM or RI activities.

2.1.5 Soil/Fill Sampling

The procedures for handling soils after retrieval which were used by AFI during the previous studies and which will be adhered to during any additional soil/fill sampling are as follows:

Upon retrieval of each soil/fill core, the soil/fill samples will be screened for total organic vapors using a photo-ionization detector (PID). The organic vapor measurements will be recorded and the soil/fill material described on boring logs by a AFI field representative. The recovered soils will be characterized/classified by visual observation in accordance with ASTM Method D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Subsurface soil samples will be collected for chemical analysis at the proposed boring locations. (See Soil boring map for the locations of Soil borings completed in 2006, 2007, 2009. The depth from which samples are collected will be determined based on screening results of visual and olfactory observations and PID measurements. Samples will be collected from the discrete depth interval that displays the greatest evidence of contamination, if present. If there is no discernable difference across the entire boring depth based on the visual, olfactory or PID screening methods, the default sample collection approach will consist of collecting a composite from the 0 to 4 feet bgs strata. Subsurface soil/fill samples will be analyzed for Target Compound List (TCL) and Target Analyte List (TAL), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Metals, PCBs, Petroleum Hydrocarbons and Cyanide. The Reports and results of Previous Environmental Studies are presented in **Section VII- Property Environmental Reports** and summarized above.

2.2 Site Mapping and Survey

A topographic base map of the Site was prepared by Larry J. Zygaj, PLS, New York State licensed in February 2010. This map is attached as Fig #3 and locates the pertinent features of the Site as well as the locations and elevations of monitoring wells. Any additional monitoring well locations and elevations will be surveyed after installation.

Larry J. Zygaj, PLS Site map established the horizontal and vertical elevations using the New York State Plane Coordinate System and most recent vertical datum. Elevations of the ground surface and top of PVC riser were measured and recorded for each monitoring well.

3.0 INTERIM REMEDIAL MEASURES SCOPE OF WORK

As described in Section 1.3, analytical results from the 2006 and 2007 soil/fill investigation identified elevated levels of metal contaminants in soil and mounds of sandblasting spoil in the southwestern portion of the Site and east courtyard and along the eastern boundary of the Site. Impacted soil/fill was found to be predominantly concentrated in the upper soil horizon (six inches to 18 inches) each of these areas the concentrations exceeded the 6NYCRR Part 375-6 SCO for restricted residential and Commercial use for Lead, Arsenic.,

The remediation of these impacted areas is to be completed as an Interim Remedial Measure (IRM).

3.1 Objectives

The objective of the IRM is to:

- Reduce the potential for occupants of the proposed 111 Hydraulic Building's occupants exposure to soil/fill impacted by Heavy Metals;
- Reduce the potential for Metals currently identified on site to impact groundwater beneath the Site or surface water leaving the Site.

The proposed approach for the implementation of the IRM includes:

- A. Removal and off-site disposal of impacted soil/fill within the designated IRM area(s)
- B. Post-excavation sampling to achieve Restricted Residential Soil Cleanup Objectives (SCOs) for the 'Full List' {VOCs, SVOCs, PCBs, Petroleum Hydrocarbons, Metals, Cyanide } across the Site.
- C. Backfill Placement and Compaction

3.1.1 *Remedy Selection for the Handling of Impacted Soils/Fill*

The impacted soil/fill will be removed using an excavator and placed either directly into trucks for off-site disposal, or stockpiled on 6-mil polyethylene sheeting adjacent to the excavation pending characterization and subsequent disposal. To eliminate exposure and to prevent potential run-off in the event of precipitation, stockpiled soil/fill will be covered at the end of each day's excavation activities with 6-mil polyethylene sheeting. In the event the stockpiled material remains on site for more than 5 days pending receipt of analytical data, erosion control silt fencing will be installed around the perimeter of the stockpile to further eliminate exposure.

3.1.2 IRMWP Procedures

The phasing of IRMWP activities at the Site include:

- All former automotive parts and equipment (engine blocks, doors, bumpers, tires, fuel tanks, radiators, and waste storage drums) will be removed from the site and properly disposed of.
- The former 'Good Door Store' and the single family residential structure to the east and garage to the west will be surveyed for Asbestos Containing Building Materials (ACBMs) in accordance with NYS DOL Code Rule 56 and EPA Protocols.
- All Asbestos Containing Materials (ACMs) will be properly abated from the 'Good Door Store' , remaining residential structure, and garage in accordance with NYS DOL Code Rule 56 and EPA Protocols.
- Site prep will include the demolition and disposal of all remaining buildings and structures including removal of footers, foundations, and concrete pads along with utility relocation.
- Excavation will be 6" to 18" across the entire site of select parcels and to a depth of 4' to 6' in two areas (see Figure # 6 – Excavation Map). Excavated soils will be characterized for disposal or for material reuse.
- If dewatering is required for construction activities, then groundwater at the locations of dewatering should be sampled and the need for pretreatment assessed prior to discharge to the City of Buffalo Sewer System (Under BSA Permit).
- To address the Three (3) VOC(s)/SVOC(s) 'Hotspot' areas (one outside in the courtyard and two indoors beneath the concrete pad); soils will be removed below the concrete pad to a depth of 24". Upon completion of removal of all impacted soils to a depth of 24", these areas will be evaluated for their ability to achieve the Brownfield Soil Cleanup Objectives. If needed, additional excavation or an alternative analysis will be conducted.

3.1.3 Post Excavation Soil Sampling

Upon completion of excavation areas, the NYSDEC will be advised that the confirmatory sampling is anticipated. Soil samples will be collected from the bottom of the excavated areas and discrete samples will be collected from the walls where allowable or as per the DEC's Direction. AFI anticipates a Minimum of four soil samples shall be tested for the following parameters on TCL and TAL: {VOCs, SVOCs, PCBs, Petroleum Hydrocarbons, Metals, Cyanide}. Sampling locations for the full list of

parameters shall be selected in concurrence with the NYSDEC representative.

Depending upon the size of excavation(s), sampling shall be every 10-15 feet or as directed by the NYSDEC representative. Samples shall be tested for: Metals, Petroleum Hydrocarbons, Chlorinated Solvents, and PAHs or as directed by the NYSDEC representative.

If a different type of waste or discoloration is encountered at the site, additional surface or subsurface soil samples may be required.

The NYSDEC may split any waste, soil or groundwater samples during IRM or Remedial Investigation.

3.1.4 Backfill Placement

The proposed 2-story building construction, parking structures, court yard and sidewalk and entranceway transition may require that the finished elevation of the sub grade be at or below the final excavation depth of the proposed IRM area, therefore the need for backfilling of these grids is unknown at this time. If Clean backfill is required, based on the final design requirements, material imported to the Site for use as backfill shall be comprised of soil or other unregulated materials as defined in NYCRR Part 375 6.7(d) which states that the soil not exceed the applicable soil cleanup objectives for the use of the Site, as set forth in Tables 375-6.8(b), the lower of the protection of groundwater or the protection of public health soil cleanup objectives, for the identified use of the Site.

The analytical data which will be required to demonstrate that the material complies with these requirements. The number of samples required to confirm compliance is as follows:

- Virgin soils (soils that are known to have not been developed upon or moved since their formation) are subject to collection of one representative composite sample per source. The DEC will be notified of the source of all backfill materials. The sample will be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide.
- Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are imported from a single off-Site, non-virgin soil source area and both samples of the first 1,000 cubic yards meet the criteria specified above, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the specified criteria.

Site specific exemptions for the analytical testing requirements described above may be possible, based upon documentation of the origin and composition of the proposed imported material.

4.0 REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT

Upon completion of the RI/IRM fieldwork, a comprehensive RI/IRM/AA Report will be completed summarizing the tasks completed as described below.

4.1 Remedial Investigation/Interim Remedial Measures Report

The RI/IRM section of the RI/IRM/AA Report will include the following information and documentation, consistent with the NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation.

The IRM Report will follow the Final Engineering Report (FER) Checklist.

- Introduction and background.
- A description of the site and the overall scope of the investigation and interim remedial activities.
- A description of the field procedures, methods and remediation performed during the RI/IRM.
- A discussion of the nature and rationale for any significant variances from the scope of work described in this Work Plan.
- The data obtained during the RI and historical data considered to be of useable quality.
- The results of an assessment of the achievement of RI acceptance/performance criteria as specified in the QAPP.
- Comparative criteria that may be used to calculate cleanup levels during the alternatives analysis report (AAR) process, such as NYSDEC Soil Cleanup Objectives and other pertinent regulatory standards or criteria.
- A discussion of contaminant fate and transport. This will provide a description of the hydrologic parameters of the Site, and an evaluation of the lateral and vertical movement of groundwater.
- Conclusions regarding the extent and character of environmental impact in the media being investigated.
- The conclusions of the qualitative exposure assessment and fish and wildlife impact analysis, if applicable.
- Conclusions regarding the effectiveness of the Interim Remedial Measures conducted with respect to the comparative criteria and remedial action objectives (RAOs) established for the Site.
- Supporting RI/IRM data. These will include boring logs, monitoring well construction diagrams, laboratory analytical reports, field inspection forms, disposal documentation, etc.

Specifically, a Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results. The DUSR will follow NYSDEC format per the NYSDEC's September 1997 DUSR guidelines and May 3, 2010 Draft DER-10 guidance. The DUSR and any necessary qualifications to the data will be appended to the RI/IRM report.

4.2 Alternative Analysis Report

If deemed Necessary, an Alternative Analysis Report (AAR) will include a remedial alternatives evaluation for on-site groundwater and soil/fill on portions of the Site if determined, based on the results of the Remedial Investigation and the Interim Remedial Measures and reasonably anticipated future Site use, to exhibit elevated concentrations of constituents of concern. The alternatives discussed within the AAR report will be compared to a baseline of Unrestricted Soil Cleanup Objectives.

The AAR will meet the requirements identified in NYSDEC Standards, Criteria, and Guidance (SCGs) (e.g., Part 375 SCO's and GA Groundwater Quality Standards).

Based on the remedial action objectives (RAOs) and cleanup goals established for the Site, volumes and areas of media potentially requiring remediation will be calculated/estimated. General Response Actions will then be delineated to address each of the Site problem areas. These response actions will form the foundation for the development and screening of applicable remedial alternatives against the following criteria as described in 6NYCRR 375-1.8(f):

- Protection of Human Health and the Environment
- Compliance with Standards, Criteria, & Guidance (SCGs)
- Short-term Effectiveness & Impacts
- Long-term Effectiveness & Permanence
- Reduction of Toxicity, Mobility, or Volume
- Implementability
- Cost
- Land Use

In addition, the criteria of Community Acceptance will be considered based on public comments on the RI/IRM/AAR Report and proposed remedial action. Following the screening of alternatives, a comparative analysis will be performed against the above criteria. The comparative analysis will allow for better understanding of the relative advantages and disadvantages of each of the alternatives, and will facilitate recommendation of further remedial action, if required.

5.0 INVESTIGATION SUPPORT DOCUMENTS

5.1 Quality Assurance Project Plan (QAPP)

A Quality Assurance Project Plan (QAPP) will be prepared as a stand-alone document (under separate cover) for the RI activities described herein. The QAPP dictates implementation of the investigation tasks delineated in this Work Plan. A Sampling and Analysis Plan (SAP) identifying methods for sample collection, decontamination, handling, and shipping, is provided as Section 4.0 of the QAPP. The RI project management methods, organizational structure, and schedule are also included in the QAPP.

The QAPP will assure the accuracy and precision of data collection during the site characterization and data interpretation periods. The QAPP identifies procedures for sample collection to mitigate the potential for cross-contamination, as well as analytical requirements necessary to assure compliance with USEPA SW-846 methodology. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations (EPA QA/R-5); the EPA Region II

CERCLA Quality Assurance Manual, and NYSDEC's December 2002 draft DER-10 Technical Guidance for Site Investigation and Remediation.

5.2 Health and Safety Plan (HASP)

A Site Health and Safety Plan (HASP) has been prepared in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120 for the proposed BCP RI and IRM activities. A copy of the HASP is included as Appendix B of this Work Plan. The HASP will be enforced by AFI and any AFI subcontractors engaged in RI/IRM field activities in accordance with the requirements of 29 CFR 1910.120. The HASP covers on-site investigation and interim remedial activities. AFI's HASP is provided for informational purposes in Appendix B. Subcontractors will be required to develop and implement a HASP as or more stringent than AFI's HASP. Health and safety activities will be monitored throughout the Remedial Investigation. A member of the field team will be designated to serve as the on-site Health and Safety Officer throughout the field program. This person will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision as necessary, based on new information that is discovered during the field investigation.

The HASP also includes a contingency plan that addresses potential site-specific emergencies, and a Community Air Monitoring Plan (CAMP) that describes required particulate and vapor monitoring to protect the neighboring community during intrusive site investigation activities. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the New York State Department of Health (NYSDOH) and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated December 2002) and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

5.3 Community Participation Plan (CPP)

In accordance with NYSDEC's Brownfield Cleanup Program guidance, a Citizen Participation Plan (CPP) is required for the Site investigative and interim remedial measures activities. The CPP, included as Appendix D, meets the requirements of Attachment 2 of the NYSDEC Technical Administrative Guidance Memorandum (TAGM) DER-97-4058 and NYSDEC's Draft DER-10 guidance. AFI will coordinate and assist 598 Main Street, LLC with community relations throughout the course of the project.

6.0 PROJECT SCHEDULE AND SEQUENCE OF THE WORK

Figure# 15 presents the tentative schedule for planned remedial investigation, interim remedial measures and assessment of remedial alternatives. As noted, the start of field activities is dependent on NYSDEC approval of the RI/IRM Work Plan.

7.0 REFERENCES

1. *Additional Investigations for Contaminated Soil, Addendum No. 1 at 797 Seneca Street, Buffalo, NY.* AFI Environmental. July 17, 2006
2. *Investigations for Contaminated Soil at 797 Seneca Street, Buffalo NY.* AFI Environmental, July 3, 2006
3. New York State Department of Environmental Conservation, *Draft DER-10; Technical Guidance for Site Investigation and Remediation*, December 2002.
4. *Supplemental, Limited Phase II Sub Surface Soil Investigation Including: Building Interior-Subsurface Soil Probing, Sample Collection and Analysis: For the Purpose of Quantifying Spatial Extent and Depth of Petroleum Contaminated Soils Beneath the Floor Slab @ The Former "Door Store" 797 Seneca Street, Buffalo NY.* AFI Environmental, April 2007
5. *Phase I Environmental Site Assessment 797/799 Seneca St, 819 Seneca St, 111 Hydraulic St, 105 Hydraulic St, 742 Carroll St, 746 Carroll St, 764 Carroll St, 768 Carroll St and 777 Seneca St, Buffalo, New York, 14210.* AFI Environmental, January 2010
6. "Environmental Investigation Report, Summary of November 2009 & January 2010 Test Pit Installation Activities," Property Comprised of the Following Addresses: 105 and 111 Hydraulic St, 777 and 797 Seneca St, 742 and 746 Carroll St, Buffalo, New York 14210, dated February 2010. Prepared by AFI Environmental, Niagara Falls, New York
7. "Environmental Investigation Report: Summary of November & December 2009 Monitoring Well Installation Activities," Property Comprised of the Following Addresses: 105 and 111 Hydraulic St, 777 and 797 Seneca St, 742 and 746 Carroll St, Buffalo, New York 14210, dated February 2010. Prepared by AFI Environmental, Niagara Falls, New York