New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau B, 12th Floor
625 Broadway, Albany, New York 12233-7016
Phone: (518) 402-9768 • **Fax:** (518) 402-9773
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Joe Martens
Commissioner

September 20, 2011

Rolling Frito-Lay Sales, LP
Keith D. Massa
S&D Capex Program Manager
Frito-Lay Inc.
7701 Legacy Drive, MD 4C-83
Plano, Texas 75024-4099

RE: Frito Lay Morgan Ave.
Site No. C224133
Brooklyn, King County
Remedial Work Plan & Decision Document

Dear Mr. Massa:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Work Plan (RWP) for the Frito-Lay Morgan Ave. site dated August 2011 and prepared by Gannett Fleming on behalf of Frito-Lay Inc.. The RWP is hereby approved. Please ensure that a copy of the approved RWP is placed in the document repository. The draft plan should be removed.

Attached is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, Kevin Sarnowicz, at (518) 402-9768 or kpsarnow@gw.dec.state.ny.us at your earliest convenience to discuss next steps. Please recall the Department requires seven days notice prior to the start of field work.

Sincerely,

For Robert Cozzy, Director
Remedial Bureau B
Division of Environmental Remediation

Enclosure

ec *w/attachments*:

Dale Desnoyers
Robert Schick
Robert Cozzy
James Quinn
Kevin Sarnowicz
Benjamin Conlon
Joseph Crua
Albert Demarco
Keith Massa (Keith.D.Massa@fritolay.com)
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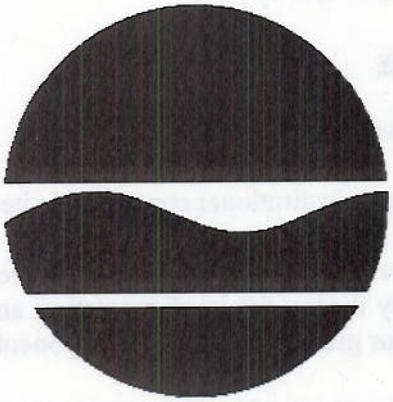
Michael Brady (mbrady@GFNET.com)

DECISION DOCUMENT

Frito Lay
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224133
September 2011



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Frito Lay
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224133
September 2011

Statement of Purpose and Basis

This document presents the remedy for the Frito Lay site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Frito Lay site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

Hot Spot Excavation, cover system, institutional control and site management.

1) Green remediation principals and techniques will be implemented to the extent feasible for all elements of the proposed remedy during the implementation and in the site management of the remedy as per DER-31. The major green remediation components are as follows;

* Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
* Reducing direct and indirect greenhouse gas and other emissions;
* Increasing energy efficiency and minimizing use of non-renewable energy;
* Conserving and efficiently managing resources and materials;
* Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2) All on-site soils located in the vadose zone (above the water table) which exceed Site Specific Cleanup levels determined for hot spots would be excavated and transported off-site for disposal. A hot spot is an area where arsenic in soil exceeds 100 ppm, lead exceeds 10,000 ppm, mercury exceeds 15 ppm and PCBs exceed 10 ppm beneath the future warehouse area and 25 ppm elsewhere. Approximately 6,200 cubic yards of soil would be removed. Clean fill would then be brought in to replace the excavated soil and establish the designed grades at the site.

2) A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover. The soil cover will be a minimum thickness of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3) Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan;

4) A Site Management Plan is required, which includes the following:

a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed above;

Engineering Controls: The sitewide cover discussed above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item 4a above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

9/20/11
Date

Robert Cozzy, Director
for Remedial Bureau B

DECISION DOCUMENT

Frito Lay
Brooklyn, Kings County
Site No. C224133
September 2011

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: SITE DESCRIPTION AND HISTORY

Location:
The site is located at 202-218 Morgan Avenue in an urban area in the north end of the Borough of Brooklyn, Kings County. To the north of the property is a warehouse, to the east and south is the English Kills, a tributary to the Newtown Creek, and to the west the site is bordered by Morgan Avenue, between Ten Eyck Street and Stagg Street.

Site Features:
The site property is approximately 2.8 acres in area and is currently undeveloped with no standing structures.

Current Zoning/Use(s):
The site is currently vacant, and is zoned for industrial use. The surrounding parcels are currently used for a combination of commercial and industrial use.

Historical Uses:
The site was previously used as a scrap metal yard. The activities related to this type of business are the apparent source of site-wide PCB contamination. Scrap activities and the presence of historic fill material are believed to be the cause of the site-wide metals contamination.

Site Geology and Hydrogeology:
The site is approximately 13 feet above mean sea level. Depth to groundwater is approximately 11 feet below ground surface. The nearest water body is the English Kills, a tributary to the Newtown Creek, which abuts the eastern and south sides of the site. Groundwater flow is to the southeast.

The site soil is primarily fill material to the water table. Below the fill material the site is underlain by sand and gravel.

A site location map is attached as Figure 1.

SECTION 3: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 4: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Volunteer(s) does/do not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment but there are no off-site impacts that require remedial activities; accordingly, enforcement actions are not necessary.

SECTION 5: SITE CONTAMINATION

5.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 5.4.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

5.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment
- soil vapor

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

polychlorinated biphenyls (pcb)
tetrachloroethylene (pce)
vinyl chloride
dichloroethylene
arsenic
mercury
lead

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

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

5.3: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

The site is fenced, which restricts public access. However, persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not coming into contact with the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site redevelopment and occupancy.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:
Based upon the RI, contaminants at the site include: chlorinated VOCs; semi-volatile organic compounds; metals and PCBs.

The predominant VOCs of concern are: cis-1,2-dichloroethene (DCE); vinyl chloride (VC) and tetrachloroethene (PCE). PCE is found in soil at concentrations as high as 140 ppm at SB-11, located at the center of the site, which exceeds the soil SCO for unrestricted use of 1.3 ppm.

SVOCs are found throughout the site and, while likely associated with the historic fill comprising this BCP site, must be considered in defining the site remedy.

PCBs and metals appear to be the primary contaminants of concern. These contaminants are found throughout the surface and sub-surface soils of the entire site.

The maximum concentration of PCB's detected in soil was 3,200 ppm which greatly exceeds the soil cleanup objective (SCO) for unrestricted use (0.1 ppm), restricted commercial use (1 ppm) and the hazardous waste level of 50 ppm.

The metals contaminants of concern that significantly exceed SCGs are: arsenic, maximum 168 ppm (unrestricted SCO 13 ppm); lead maximum 110,000 ppm (unrestricted SCO 63 ppm) and mercury maximum 15.1 ppm (unrestricted SCO 0.18 ppm). These metals were identified throughout the site from the surface to a depth of 11 feet. Greater concentrations predominately exist at the southern portion of the site.

Groundwater data identifies vinyl chloride (VC), cis-1,2-dichloroethene (DCE) and arsenic above Class GA groundwater standards. VC was found above the groundwater standard of 2 ppb in monitoring well MW-2 in the southwest corner of the site at a concentration of 42 ppb. VC and DCE are breakdown products of tetrachloroethene (PCE) and trichloroethene. Although chlorinated VOCs (primarily PCE) have been found in site soil, data suggest that DCE and VC found in on-site groundwater may be attributable to a potential off-site source.

Arsenic concentrations in groundwater are 42.9 ppb and 74.6 ppb at monitoring wells MW-3 and MW-4 respectively which exceed the groundwater standard of 25 ppb.

Significant Threat:
The site represents a significant environmental threat due to the ongoing release of arsenic contamination from source areas in the soil to groundwater as well as the high levels of PCBs and metals such as lead and mercury in soil throughout most of the site.

SECTION 6: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and evaluation of the remedial criteria are present in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

Hot Spot Excavation, cover system, institutional control and site management.

1) Green remediation principals and techniques will be implemented to the extent feasible for all elements of the proposed remedy during the implementation and in the site management of the remedy as per DER-31. The major green remediation components are as follows;

* Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
* Reducing direct and indirect greenhouse gas and other emissions;
* Increasing energy efficiency and minimizing use of non-renewable energy;
* Conserving and efficiently managing resources and materials;
* Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2) All on-site soils located in the vadose zone (above the water table) which exceed Site Specific Cleanup levels determined for hot spots would be excavated and transported off-site for disposal. A hot spot is an area where arsenic in soil exceeds 100 ppm, lead exceeds 10,000 ppm, mercury exceeds 15 ppm and PCBs exceed 10 ppm beneath the future warehouse area and 25 ppm elsewhere. Approximately 6,200 cubic yards of soil would be removed. Clean fill would then be brought in to replace the excavated soil and establish the designed grades at the site.

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3) Imposition of an institutional control in the form of an environmental easement for the controlled property that:
- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan;

4) A Site Management Plan is required, which includes the following:
a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
Institutional Controls: The Environmental Easement discussed above;
Engineering Controls: The sitewide cover discussed above.
This plan includes, but may not be limited to:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

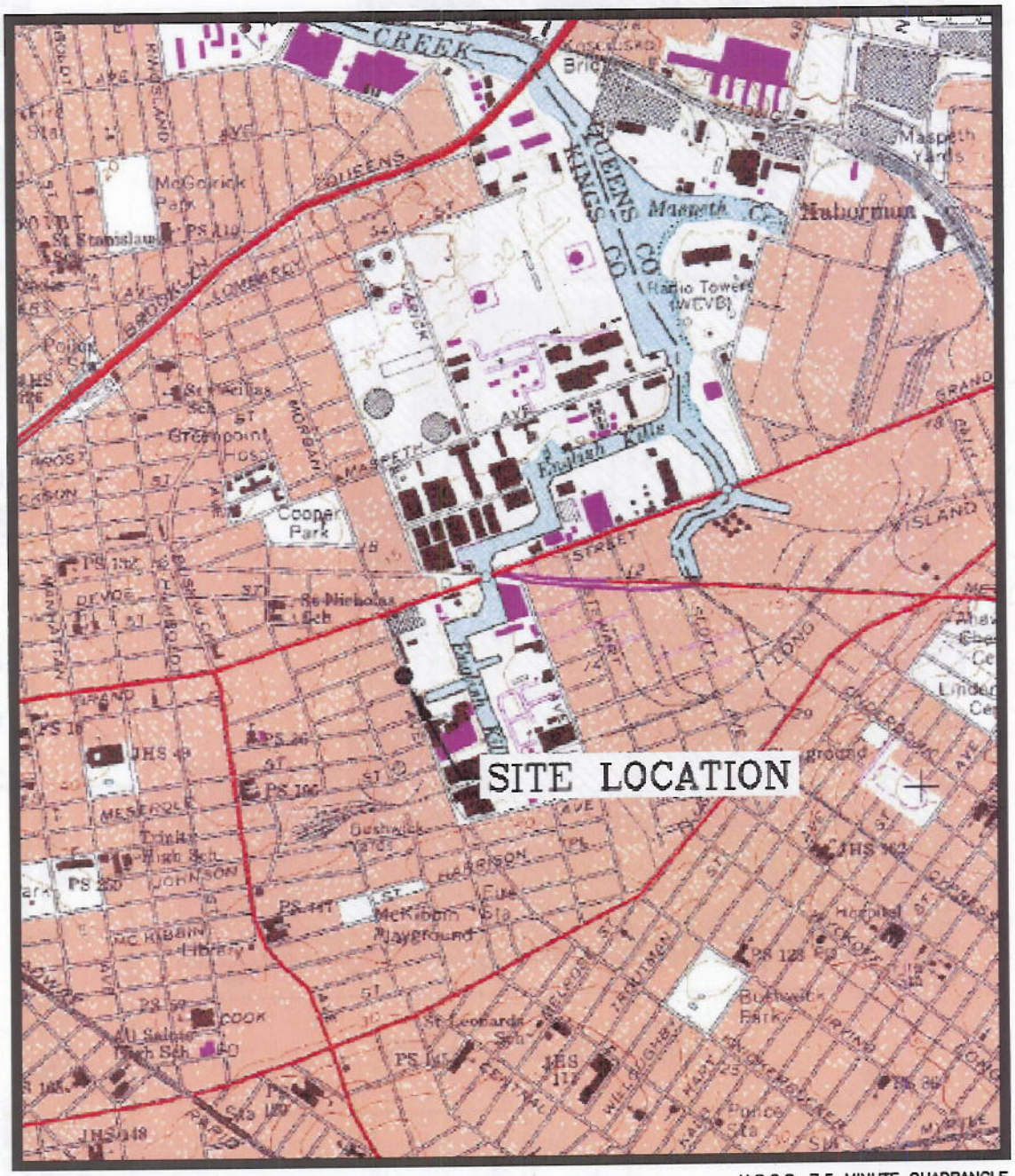
- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item 4a above.

Gannett Fleming

FIGURE 1-1

202-218 MORGAN AVENUE

BROOKLYN, NEW YORK

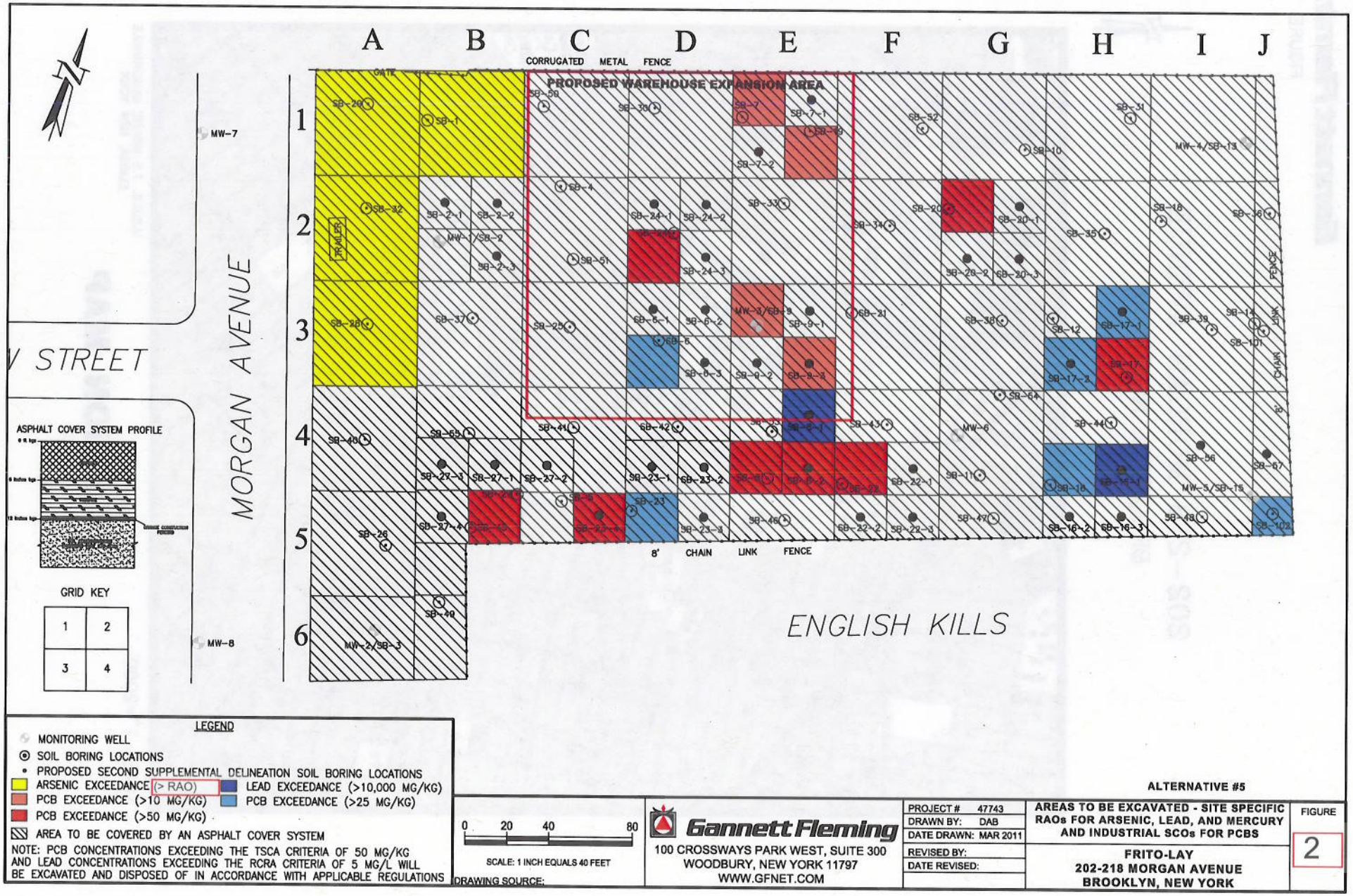


SCALE 1"=2000'

U.S.G.S. 7.5 MINUTE QUADRANGLE
ELMIRA, NEW YORK

LOCATION MAP

S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\Site Plan\FIGURE 1-1 TOPO.dwg, 4/6/2010 7:51:56 AM



ALTERNATIVE #5

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

PROJECT #	47743
DRAWN BY:	DAB
DATE DRAWN:	MAR 2011
REVISED BY:	
DATE REVISED:	

AREAS TO BE EXCAVATED - SITE SPECIFIC RAOs FOR ARSENIC, LEAD, AND MERCURY AND INDUSTRIAL SCOs FOR PCBS

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 2