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New York State Department of Environmental Conservation

FACT SHEET

Brownfield Cleanup Program

*Receive site fact sheets by *email*. See **For More Information** to learn how.

Site Name: 432 Pearl Street
DEC Site #: C915237
Site Address: 432 Pearl Street; Buffalo, NY 14202

July 2013

Have questions? See **Who to Contact** below

432 Pearl St Update: Remedy Proposed for Brownfield Site Contamination; Public Comment Period Announced

The public is invited to comment on a proposed remedy being reviewed by New York State Department of Environmental Conservation (DEC) to address contamination related to the 432 Pearl Street site ("site") located at 432 Pearl Street, Buffalo, Erie County. Please see the map for the **Site Location**. Documents related to the cleanup of this site can be found at the location identified below under **Where to Find Information**.

Based on the findings of the investigation, DEC in consultation with New York State Department of Health (DOH) has determined that the site's significant threat status is unknown.

How to Comment

DEC is accepting written comments about the proposed plan for 45 days, from **July 29, 2013** through **September 12, 2013**. The proposed plan is available for public review at the location(s) identified below under **Where to Find Information**. Please submit comments to DEC project manager listed under Project Related Questions in the **Who to Contact** area below.

Draft Remedial Work Plan and Proposed Decision Document

The cleanup plan is described in DEC's Proposed Decision Document, which is based on a more detailed "Remedial Work Plan". The proposed remedy consists of:

Site Cover

A site cover currently exists (asphalt) on the 432 Pearl Street parcel and will be maintained as part of the remedy. There are no current plans to remove SVOC soils marginally above commercial SCOs at the 432 Pearl Street parcel. The 267 Franklin Street parcel contains a tenement style apartment building and asphalt paved parking area. These improvements will be maintained to allow for continued restricted residential and commercial use of the site until future redevelopment plans are implemented. Because the multi-use zoning district allows residential use, any site redevelopment will maintain a site cover, which may consist of either structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required, it will be a minimum of two foot, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential 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.

Plume Reduction

Plume reduction will be accomplished by treating the groundwater via in-situ treatment methods such that the groundwater leaving the site has been effectively treated to water quality criteria.

A shallow chlorinated VOC contaminant plume has migrated from the adjoining BCP site C915208 onto this site and further onto downgradient off-site parcels. The current post C915208 IRM shallow groundwater plume area is depicted in Figure 3. Though there is residual chlorinated VOC contamination in the deep groundwater zone at both BCP sites C915208 and C915237 (see Figure 4), no measures to address this residual chlorinated VOC contamination in the deep groundwater zone is proposed.

In-Situ Groundwater Treatment via enhanced natural attenuation of VOCs in groundwater (e.g., microbial inoculation, zero-valent iron, hydrogen release compounds, or a combination thereof) is proposed for site C915208 residual source with a partial extension onto the 267 Franklin Street apartment parcel. Contaminant plume reduction will be accomplished by injecting in-situ treatment materials along a series of injection points 10 to 20 feet in depth along accessible southern and western perimeter areas of this BCP site and along the western perimeter of the 275 Franklin Street parcel of the C915208 BCP site to create a continuous permeable reactive treatment zone (see Figure 5) along the accessible downgradient edges of both BCP sites. The in-situ treatment materials will utilize the same materials used in the source area treatment system at BCP site C915208 to promote enhanced natural attenuation of residual chlorinated VOC contamination in the shallow groundwater zone.

Vapor Mitigation

The existing SSDS in the existing building will require continued operation until vapor intrusion no longer occurs and is a health threat in this building.

Institution Control

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 DEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allows continued restricted residential use of the apartment building and the use and development of the controlled property for restricted residential, 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 DOH or County DOH;
- Requires compliance with DEC approved Site Management Plan.

Site Management Plan

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: (ICs) discussed in Paragraph 4.

Engineering Controls: The site cover discussed in Paragraph 2 above, plume reduction discussed in Paragraph 1, and vapor mitigation discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. a Monitoring Plan to ensure groundwater quality and to assess the performance and effectiveness of the site cover;
iii. descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
iv. provisions for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
v. provisions for the management and inspection of the identified engineering controls;
vi. maintaining site access controls and Department notification; and
vii. 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:
   i. monitoring of groundwater to assess the performance and effectiveness of the remedy;
   ii. a schedule of monitoring and frequency of submittals to the Department; and
   iii monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item a.iv above.

The proposed remedy was developed by Buffalo Development Corporation ("applicant(s)") after performing a detailed investigation of the site under New York's Brownfield Cleanup Program (BCP).

Summary of the Investigation

An RI commenced in this site and adjoining BCP site C915208 in late 2006. Results from this work revealed chlorinated solvents commonly used by dry cleaners (tetrachloroethene [PCE]) in soils up to 20,000 microgram/kilogram (ug/kg) PCE and shallow groundwater up to 19 parts per million (ppm) PCE at the adjoining BCP site C915208 275-277 Franklin Street parcel. The water quality standard for PCE is 0.005 ppm. The source area in shallow groundwater contamination appears to be centered around MW-5 on BCP site C915208. Investigation of the 267 Franklin Street parcel initially revealed chlorinated solvents in shallow groundwater at levels up to 18 ppm for PCE. The 2006 RI revealed an extensive shallow groundwater contaminant plume located on adjoining companion BCP site C915208 had migrated onto the 267 Franklin Street parcel, which is situated downgradient of BCP site C915208. The RI results suggest that the 432 Pearl Street parcel is on the fringe of the shallow groundwater contaminant plume emanating from source area (BCP site C915208), and the shallow groundwater contaminant levels were just slightly above the groundwater quality standard (0.005 ppm) for the VOC contaminants of concern. The 267 Franklin Street parcel is immediately downgradient of the source area (BCP site C915208), and as a result, the PCE contaminant levels on site were significantly higher in the shallow groundwater zone (up to 18 ppm prior to the implementation of an IRM). The deep groundwater zone was impacted, but to a lesser degree.

Investigation of off-site areas by DEC on adjoining downgradient properties revealed the extensive chlorinated VOC plume extended to the south/southwest.

A supplemental site investigation was conducted in 2008 to develop an IRM for BCP site C915208. An IRM to treat contaminated groundwater via in-situ methods was implemented in 2008 at the adjoining companion BCP site C915208. Because of a silty clay soil lens midway between the surface and bedrock, two distinct groundwater zones exist at the site. The silty clay soil lens has limited some downward migration of the dissolved contamination. However, the 2008 supplemental investigation of companion BCP site C915208 confirmed that deeper groundwater zone is contaminated with the chlorinated solvents, with one deep monitoring well at adjoining companion BCP site C915208 initially containing 9.4 ppm PCE. PCE levels at this monitoring point have dropped to 0.091 ppm PCE during the 2012 sampling event. The 2008 investigation confirmed that the bedrock zone does not appear to be contaminated with chlorinated solvents. An additional investigative boring and deep monitoring well was installed in 2012 at 267 Franklin Street to further assess deep groundwater impacts. Deep groundwater sampling confirmed dissolved chlorinated VOC contamination at levels up to 0.069 ppm total VOCs at this new deep well.

A thin fill layer (3-5 feet) at the 432 Pearl Street parcel contains several SVOCs [benzo(a)anthracene, benzo(b)flourene, benzo(a)pyrene and dibenzo(a,h) anthracene) at levels slightly above commercial SCOs. There were no exceedances for metals above commercial levels at both parcels.

Because of the extent of the dissolved shallow plume, vapor intrusion (VI) from the chlorinated solvents was a concern with structures on around the BCP site. Prior to the BCP volunteer's acquisition of the apartment building at 267 Franklin Street, a soil VI evaluation was completed by the Department in 2008. The VI evaluation revealed PCE impacts to indoor air quality inside the apartment building. The Department subsequently installed a sub-slab depressurization system (SSDS) inside the apartment building to address VI and reduce indoor air concentrations of PCE. Vapor intrusion was confirmed in another off-site building in 2011 and an SSDS was installed in 2012.

Additional investigations were required to assess off-site impacts, health and safety concerns, the presence of DNAPL, and bedrock aquifer contamination. The Department completed an off-site groundwater evaluation in 2009 which revealed that an elongated PCE plume has migrated in a southwesterly direction across Franklin Street. PCE contamination was revealed primarily in the shallow groundwater zone. Deep groundwater was impacted at one of the off-site monitoring points along Franklin Street. Additional investigation of impacts to downgradient properties and structures was implemented in 2011 and 2012 and revealed shallow groundwater zone contamination, over 3 ppm for PCE, at another downgradient property along Franklin Street.

Next Steps

DEC will consider public comments, revise the plan as necessary, and issue a final Decision Document. New York State Department of Health (DOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The draft Remedial Work Plan and Proposed Decision Document are revised as needed to describe the selected remedy, and will be made available to the public. The applicant may then design and perform the cleanup action to address the site contamination, with oversight by DEC and DOH.

DEC will keep the public informed throughout the investigation and cleanup of the site.

Background

Location: The BCP site consists of two non-contiguous parcels in the City of Buffalo, Erie County. The BCP site contains a 0.45 acre parcel located at 432 Pearl Street and a 0.25 acre parcel located at 267 Franklin Street. The two parcels are adjacent to each other, but are separated by a City of Buffalo owned alley known as Asbury Alley. The site is situated in an urban commercial district.

The site is adjacent to BCP site C915208 also owned by the 432 Pearl Street BCP volunteer. The 432 Pearl Street BCP site and the adjacent BCP site are part of a common proposed redevelopment project.

Site Features: The 432 Pearl Street parcel is a paved commercial parking lot. The 267 Franklin Street parcel site contains both a paved parking lot and an occupied apartment building.

Current Zoning/Use: Both non-contiguous parcels that constitute the site are situated in the Downtown Opportunity (DO) zoning district which currently contains a mix of uses including apartment residences, restaurants, retail, entertainment, office and parking. The surrounding parcels are currently used for a combination of commercial uses including surface parking, restaurant and entertainment.

Historic Uses: Information concerning the use of both parcels dates back to the late 1800s when the area was predominantly closely spaced urban residential, interspersed with commercial businesses and establishments.

432 Pearl Street: In the late 1800s, the northern half of the parcel consisted of four separate lots with residential buildings facing Pearl Street and carriage sheds facing Asbury Alley. By the 1940s, one of the residences was demolished and converted to a surface parking lot. The balance of these residences were demolished in subsequent years and also converted to surface parking lots. No known date concerning the demolition of the residences and conversion to parking lots is available or provided. Continuing southward along this parcel, in the late 1800s, two lots also contained residences and two lots contained apartment/rooming houses. By the mid 1920, the two residences were replaced by a retail commercial building (record use indicates that a heating equipment company occupied the building). By the 1940s, the commercial building and apartment/rooming houses were demolished and converted to surface parking.

267 Franklin Street: In the late 1800s through 1926, land use consisted of two separate apartment buildings on this parcel. The northern half of the 267 Pearl Street parcel contained a residential apartment building facing Franklin Street. The apartment building appears to have been demolished between 1925 and 1946. No other land use for the former apartment building lot other than as a parking lot appears to have occurred after 1946. The southern half of the parcel contains the current tenement style apartment building which remains actively used as an occupied apartment building. Tenant parking is provided on the northern half of the site that contained the former apartment building.

According to the BCP application, future development plans for the site, in conjunction with BCP site C915208, consists of a hotel with conference and parking facilities.

Geology: Overburden: The site is located within the Erie-Ontario lake plain physiographic province, which is typified by little topographic relief and gentle slope toward Lake Erie, except in the immediate vicinity of major drainage ways. The surficial geology of the Lake Erie plain generally consists of a thin glacial till layer, glaciolacustrine (lake-laid laminated silts and clays) deposits, alluvium, and soils derived by these deposits. Glacial till deposits were not encountered at the site except for a thin layer (1 to 2 feet thick) above limestone bedrock. The site geology consists of a lake-laid sandy ridge deposit about 40 to 45 feet thick with several inter-bedded silty clay lenses. The 432 Pearl Street parcel is covered by a thin soil/fill layer approximately 2 to 5 feet thick. The fill is characteristic of urban fill common in the City of Buffalo. Bedrock: The site is situated over the Onondaga formation limestone. Limestone bedrock was encountered about 52 feet below the surface.

Hydrogeology: Unconfined shallow groundwater was encountered within the native soils at depths of approximately 10 to 12 feet below ground surface. Because of a silty clay soil lens within the sandy soil profile found at a depth of approximately 25 to 30 feet below ground surface, the site has a defined shallow and deep groundwater zone. The deep groundwater hydrostatic surface is nominally below the shallow groundwater surface. Site groundwater flow gradient (shallow and deep) appears to flow in a south/southwest direction. Regional groundwater appears to flow west/southwest toward Lake Erie and confluence of the Buffalo River.

Additional site details, including environmental and health assessment summaries, are available on DEC's website at http://www.dec.ny.gov/chemical/92611.html and http://www.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm?pageid=3&progno=C915237

Brownfield Cleanup Program

New York's Brownfield Cleanup Program (BCP) encourages the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and redeveloped. These uses include recreation, housing, business or other uses. A brownfield is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. For more information about the BCP, visit: http://www.dec.ny.gov/chemical/8450.html.

Site Location