

The NuHart Toxic Waste Site – Harmful Chemicals Lurking in Greenpoint

Mike Schade, Neighbors Allied for Good Growth (NAG)
June 30 2016



NEIGHBORS ALLIED FOR **GOOD GROWTH**

NuHart Plastics – State Superfund Site



Where? Corner of DuPont and Franklin in Greenpoint



Very Basic History of Site

- Prior to the late 1940s, the site and the surrounding lots were used as a boiler shop for Logan Ironworks, two stables, a gas and light fixture factory, a sheet metal works, a soap factory, a waterproofing factory, and a scrap metal facility.
- After 1950 the building complex was primarily used for the production, storage, and shipping of plastic and vinyl products by several tenants (the last tenant ceased operation in 2004).
- From 1983 to 2004, NuHart and Company made vinyl siding and sheeting at the site. After 2004, NuHart removed all of their equipment and offices.

NuHart Superfund Site

- Made vinyl siding, sheet metal, foam rubber and asbestos sheeting.
- Approximately 1 acre – Superfund
- Other parts of site – City Brownfield and DEC oil spill site
- Listed as of Class “2” Superfund site in July 2010
- Class 2 – “representing a significant threat to public health and/or the environment and requiring action”

New Owners of Site as of May 2014

Commercial Real Estate

Greenpoint

05/29/14 11:30am

Huge, Contaminated Greenpoint Factory Finally Sells to Developers, 400 Apartments Planned

DuPont Street Developers LLC

390 Berry Street, Suite 200

Brooklyn, NY 11249

Contact: Joseph Brunner

“In the jockeying over the Brooklyn property, one low-key investor named Joseph Brunner inked a contract in 2012 to buy the site for \$23.3 million. In a complicated and opaque fashion — and with other suitors competing to get in on the action — the deal took until last month to finally close. And in a twist, Brunner has now found another investor to flip it to for almost double what he paid: \$48.5 million.”

http://therealdeal.com/issues_articles/brooklyns-old-school-investors/

Remedial Investigation (RI) Reports

REMEDIAL INVESTIGATION REPORT

Former NuHart Plastic Manufacturing Site

280 Franklin Street
Brooklyn, New York

NYSDEC Hazardous Waste Site: 224136

May 2, 2014
(Revised July 2015)

ESI File: SB09110.52

Prepared By:



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SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT

FORMER NUHART PLASTIC MANUFACTURING SITE
280 FRANKLIN STREET, BROOKLYN, NEW YORK
NYSDEC SITE #224136

PREPARED FOR
DUPONT STREET DEVELOPERS, LLC

PREPARED BY

FPMgroup.

909 MARCONI AVENUE
RONKONKOMA, NEW YORK 11779

OCTOBER 2015

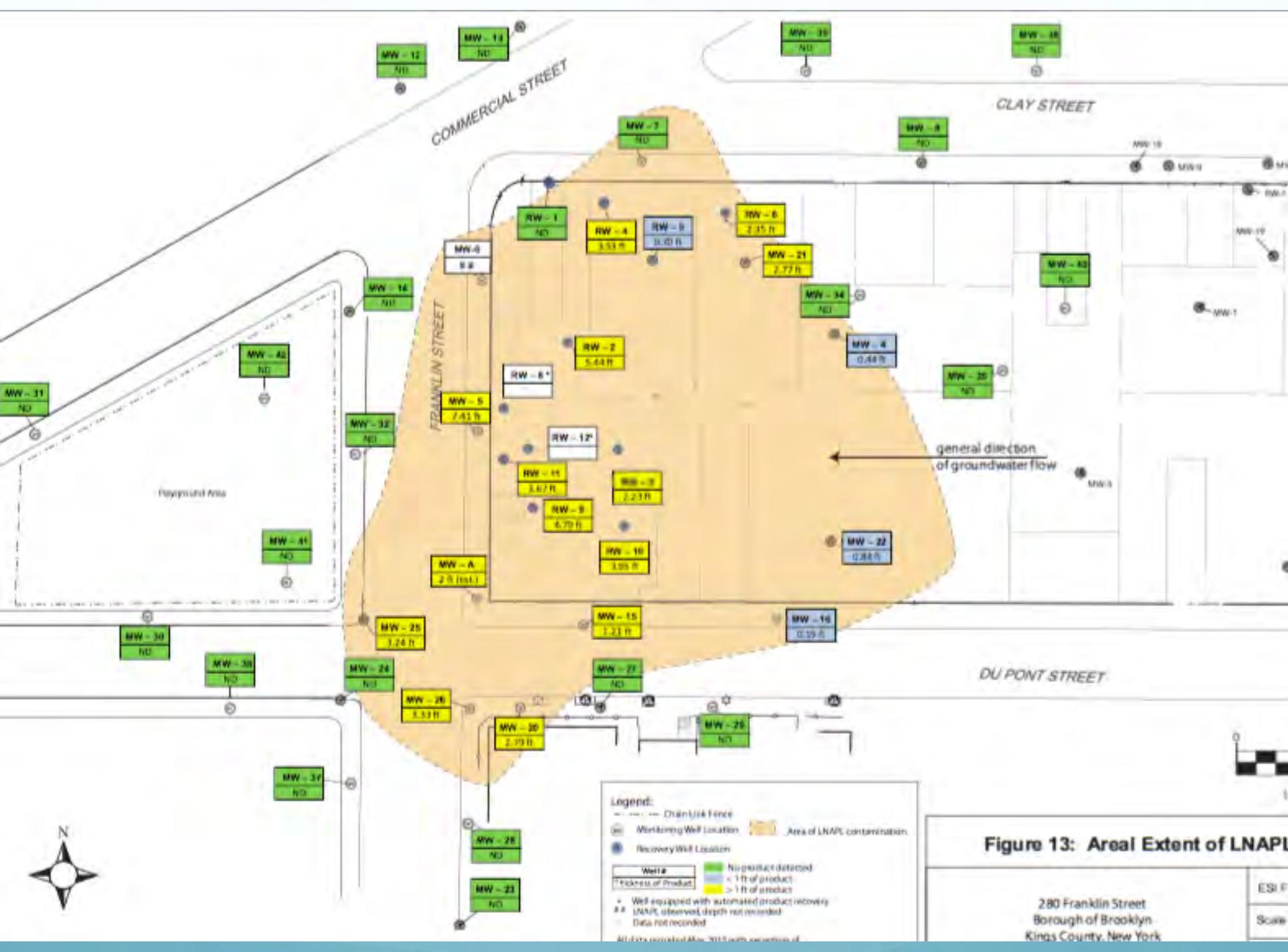
Summary of Environmental Health Hazards

- **Onsite and offsite contamination with Phthalates (DEHP and DOP):**
 - Soil - Total phthalate concentrations exceeded 1,000,000 ppb in 11 samples (peak total concentration of 59,776,000 ppb)
 - The total on-site volume of phthalate contaminated soils (at concentrations warranting response) is **estimated at 7,900 cubic yards**.
 - LNAPL – as much as **63,000 gallons of phthalates underneath plant and offsite underneath the street – Franklin Ave, DuPont St, sidewalks.**
 - Groundwater - DEHP
- **Onsite and offsite contamination with TCE, PERC and other chlorinated chemicals:**
 - Soil – above “unrestricted use” thresholds for TCE
 - Groundwater- TCE concentration of 33,000 µg/L
 - Soil vapor – could pose hazards to workers, future building occupants
- **Onsite and offsite petroleum**
 - The total on-site volume of petroleum contaminated soil is estimated at 800 cubic yards
- **Offsite oil spill – separate program (east of site and on northeastern part)**

Underground Storage Tanks

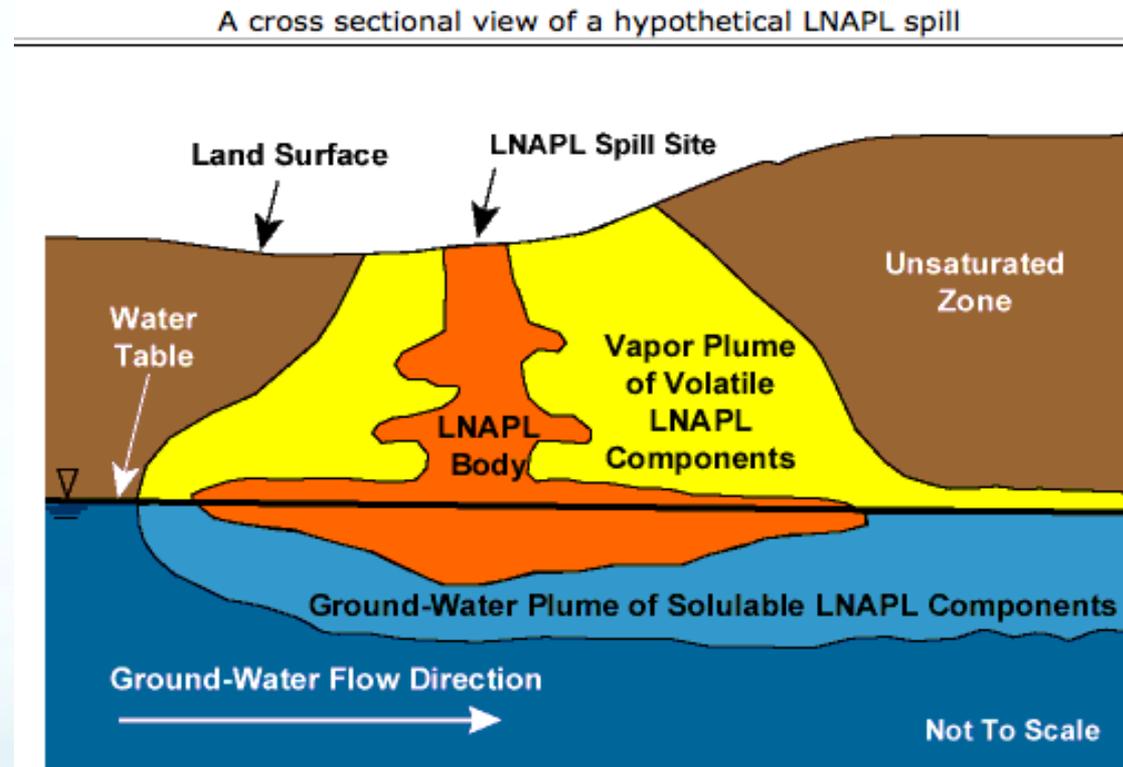
- 17 large underground tanks in total were found
- Large – up to 10,000 gallons each...
- A total of 8 tanks containing phthalates at the site.
- 4 tanks containing “Super Hecla” oil (a heavy-weight machine lubricant) were located at the Site,
- 5 tanks (3 fuel oil tanks and 2 chemical tanks) were located east of the Site at the northeastern corner of the Building.
- “Based on the apparent volume and extent of the product (including its extent in 2006) and its variable composition, **it is likely that the releases occurred from multiple sources and were ongoing for a number of years.**”
- “The majority of the tanks from which the releases may have occurred are located in the southwestern portion of the Site. This area is approximately 100 feet upgradient of the apparent location of the leading edge of the product at present. **Using this information alone, a simple arithmetic calculation would suggest an LNAPL migration rate of between 1.7 and 3 feet a year.**”

Phthalates On and Migrated Off Site



LNAPL -- Who in the what?

- **LNAPL (Light Nonaqueous Phase Liquid) –**
- "An LNAPL is one of a group of organic substances that are relatively insoluble in water and are less dense than water. LNAPLs, such as oil, tend to spread across the surface of the water table and form a layer on top of the water table." - U.S. Environmental Protection Agency, 2010



How much phthalates as LNAPL?

- **Plume – about 13.5 feet below slab.**
- **Phthalates on site** - The total volume of free product at this Site is estimated at 32,900 gallons on-site and
- **Phthalates off site** - An additional 9,000 gallons
- **Could be more** - an expressed error range of 50% (that is, **total on and off site volume could be as great as 63,000 gallons**)
- **How much in total?** Estimated at between 42,000 and 63,000 gallons, with greatest volume of free product located in the west-central and southwestern portion of the Site (and at adjacent off- site areas).
- Off-site wells to the west and south of this area (e.g., MW-5 and MW-25) consistently demonstrate **product thicknesses greater than four feet, supporting the conclusion that product is moving off-site in the direction of groundwater flow.**

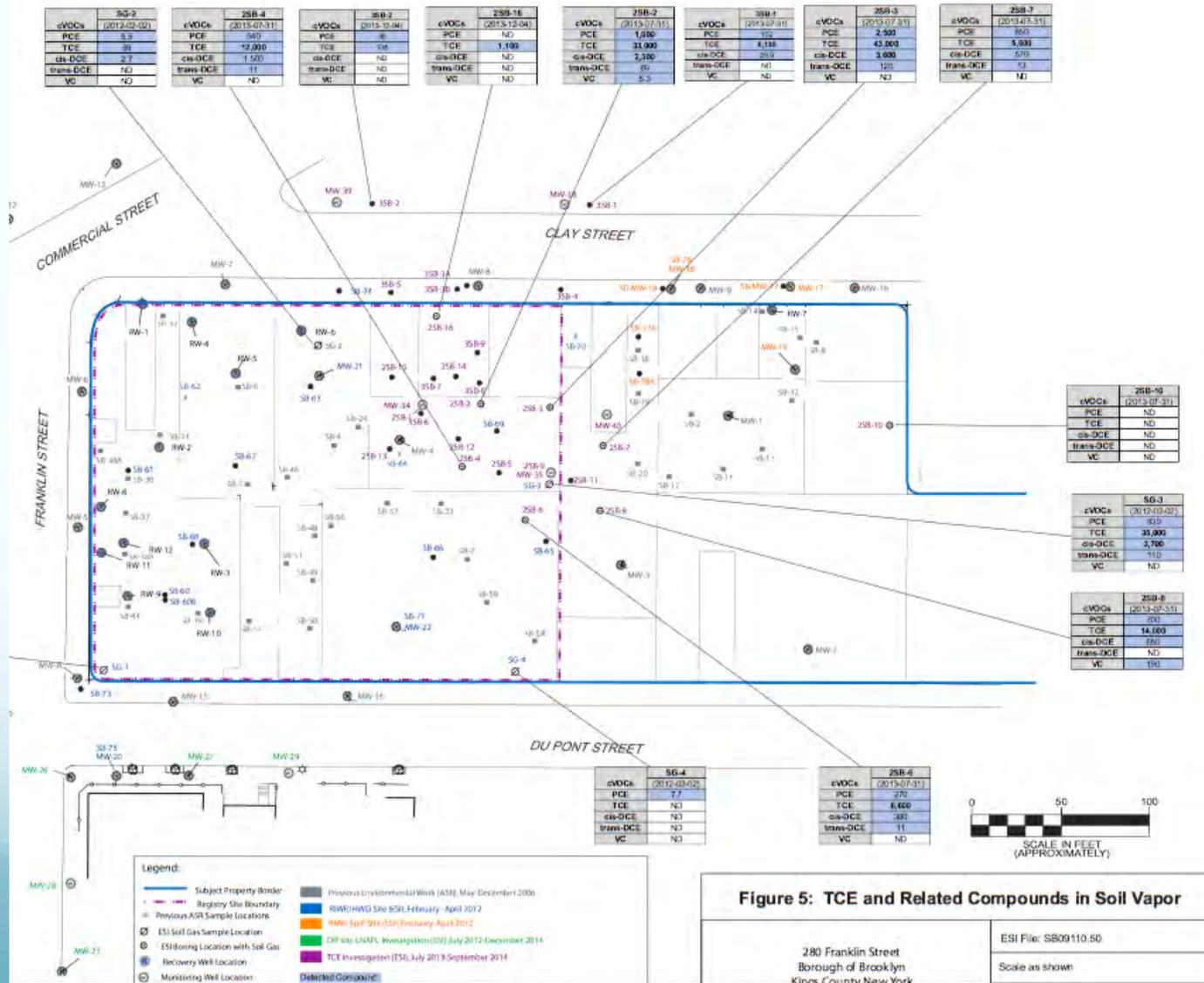
Are phthalates at proposed school and park? Not now at least.

- “LNAPL does not extend as far as the playground to the west of the Site, the vacant property to the southwest of the Site, or across Clay or Commercial Streets, based on repeated measurements in the offsite wells in these areas starting in 2006 and conducted on a monthly basis over the past four years.”
- Barrier at proposed school most likely to be part of remedial plan – prevent migration.

Chlorinated Solvents Contamination at TCE

- TCE – carcinogen, one of chemicals also at Meeker Ave. Plumes
- TCE in soil and groundwater, on and off site
 - “The highest concentrations of chlorinated VOCs are detected at onsite well MW-34 and offsite wells MW-8 and MW-40, located immediately north and east, respectively, of the apparent source area on the northeastern portion of the Site.”
- Used to clean equipment?
- Soil vapor – vapor intrusion concerns
 - “Soil vapor impacted by TCE and related CVOCs is present beneath the northeastern portion of the Site building, with the greatest impacts coinciding with CVOC-impacted groundwater in this area.”
 - Some petroleum-related VOCs may be associated with the known petroleum spill located on the former NuHart facility just to the east of the Site and additional offsite petroleum vapor detections on the north side of Clay Street may be associated with an offsite source.

TCE Vapor Intrusion Concerns



Vapor Intrusion a Potential Concern Across the Street

- **“The offsite soil vapor sampling results suggest that SVI is a potential concern for offsite properties at 15 and 29 Clay Street. However, the potential for SVI at these properties cannot be confirmed unless access for SVI sampling is provided by the property owners.**
- **SVI may also present a concern at 48 Commercial Street if a building is constructed on this property in the future (the property presently does not include a building).”**

Revealed: AB Architekten's 29 Clay Street to Bring Manhattan Modernism to Greenpoint

POSTED ON FRI, FEBRUARY 27, 2015 BY ONDEL HYLTON

IN ARCHITECTURE, CONDOS, GREENPOINT, NEW DEVELOPMENTS



PCB's found in some samples

- “Based on this information, it appears that PCBs may be present in a limited portion of the onsite product plume near the southwest side of the Site and in offsite product to the southwest along Franklin Street, as shown in Figure 2.2.6.1.
- Historic records indicate several spills of PCB-containing oils in Con Ed electric vaults and manholes on Dupont and Franklin Streets, which may have resulted in the PCB detections in the product.
- The detected concentrations of PCBs are low (no more than 6.71 ppm) and are well below the level (50 ppm or greater) that would trigger disposal as a TSCA-regulated waste. However, the affected product will require disposal as a waste with low-level PCB contamination.”

Interim Remedial Measures..

- ASR conducted an interim remedial measure (IRM) from 2006 through 2009, consisting of the removal of LNAPL from recovery wells located within the building, using both manual bailing and automated equipment (approximately 9,000 gallons were removed).
- IRM's continue on a monthly basis...

DRAFT Feasibility Study – April 2016

**FEASIBILITY STUDY REPORT
FOR
FORMER NUHART PLASTIC MANUFACTURING SITE
280 FRANKLIN STREET
BROOKLYN, NEW YORK
NYSDEC SITE # 224136**

**PREPARED FOR
DUPONT STREET DEVELOPERS, LLC**

PREPARED BY
FPM Engineering Group, P.C.

909 MARCONI AVENUE
RONKONKOMA, NEW YORK 11779

APRIL 2016

TABLE 3.4.4
SCREENING OF LNAPL REMEDIAL TECHNOLOGIES
FORMER NUHART PLASTIC MANUFACTURING SITE #224136
BROOKLYN, NEW YORK

Technology	Overall Protectiveness of Public Health and the Environment	Conformance with SCGs	Recommended Action
SCGs for LNAPL:	• The NYSDEC Part 375 Environmental Remediation Program (6NYCRR 375-1.6(c)) provides guidance concerning source removal and control.		
No Action	Not protective as there is no control or removal of source material and no ECs or ICs to prevent exposures.	Does not result in conformance with SCGs.	Reject due to non-compliance with threshold criteria.
Monitoring	Not protective as there is no control or removal of LNAPL. However, monitoring data will be needed to assess changes in LNAPL due to other remedial measures.	Does not result in conformance with SCGs, but does provide the data to assess whether conformance with SCGs has been achieved due to other remedial measures.	Retain for inclusion as an aspect of other remedial measures.
Barrier - Physical	Provides some protection in that potential migration of LNAPL may be controlled but there would be no removal of LNAPL. Protection is permanent.	Results in partial conformance with SCGs in that potential LNAPL migration would be permanently controlled, but the source would not be removed.	Retain for further consideration, particularly in combination with LNAPL removal measures.
Barrier - Hydraulic	Provides some protection in that some LNAPL removal is likely and potential further migration of LNAPL may be controlled. However, this method will induce some LNAPL migration as a result of significant drawdown from groundwater pumping and no control or removal is provided if the active equipment fails.	Results in partial conformance with SCGs in that potential LNAPL migration would be controlled and some of the source would be removed while the equipment operates. Will not provide conformance with SCGs if equipment fails.	Reject due to partial compliance with threshold criteria and potential risks.
In-situ Thermal Treatment Electrical Resistivity Heating (ERH)	Not protective for source removal or control as site-specific viscosity testing indicates little potential for reduced LNAPL viscosity at higher temps. Must be used with a recovery (extraction) system, may increase soil VOC vapors.	Unlikely to result in conformance with SCGs. Difficult to apply ERH safely in occupied and/or populated spaces due to potential electrical exposure issues. ERH causes elevated subsurface temperatures, resulting in additional safety concerns and potential damage to subsurface utilities. Application of ERH precludes other remedial activities while ERH is ongoing.	Reject due to non-compliance with threshold criteria.

TABLE 3.4.4 (CONTINUED)
SCREENING OF LNAPL REMEDIAL TECHNOLOGIES
FORMER NUHART PLASTIC MANUFACTURING SITE #224136
BROOKLYN, NEW YORK

Technology	Overall Protectiveness of Public Health and the Environment	Conformance with SCGs	Recommended Action
In-situ Thermal Treatment - Thermal Conduction Treatment	Not protective - thermal conduction treatment does not lower LNAPL viscosity, as per site-specific test results. Can result in high soil vapor VOC concentrations. Elevated subsurface temperatures present potential utility and safety concerns.	Does not result in conformance with SCGs as source control would not occur and test results demonstrate that source removal is unlikely.	Reject due to non-conformance with threshold criteria.
In-situ Chemical Treatment - Surfactant or other Injection	May provide limited protection in that source control and removal may be improved if LNAPL viscosity is lowered. Bench Testing and pilot testing required to demonstrate protectiveness.	May provide limited conformance with SCGs if LNAPL recovery is enhanced. Typically used as a "polishing" method in combination with other remedial measures.	Retain for further consideration, particularly in combination with other measures. Bench and pilot testing are required to demonstrate effectiveness.
In-situ Stabilization	May provide limited environmental protection (source control) by reducing soil porosity/permeability. Does not provide any protection via a source removal mechanism. Bench testing would be required to evaluate feasibility.	May provide limited conformance with SCGs via source control, but does not result in source removal. Requires closely-spaced application points, difficult to control injections in variable stratigraphy, and presents concerns for subsurface utilities.	Reject due to limited conformance with threshold criteria and implementation concerns.
Extraction and Disposal	Protective of public health and the environment in that LNAPL is removed from the subsurface. Removal and transport of LNAPL in offsite areas presents potential safety concerns and must be properly managed.	Provides for significant conformance with SCGs in that source materials are controlled and removed. Removal may be enhanced by application of complementary technologies if supported by testing results. Monitoring is required to assess SCG conformance. Removal amounts are significantly affected by LNAPL properties and remedial design.	Retain for further consideration due to conformance with threshold criteria.
Excavation with Offsite Disposal	Protective of public health and the environment in that LNAPL is removed from the subsurface. Removal is limited by access issues and depth and can result in significant surface disruptions.	Provides for significant conformance with SCGs in the areas where LNAPL is accessible to removal via excavation. Does not provide for source control and does not result in source removal in inaccessible areas.	Retain for further consideration due to ability to achieve significant conformance in accessible areas.

4.1.3 Alternative 3: Physical Barrier with LNAPL Extraction/Disposal, Targeted Soil Excavation and Disposal with In-Situ Chemical Treatment, Air Sparging/Soil Vapor Extraction, Groundwater/LNAPL Monitoring, Sub-Slab Depressurization and Vapor Barrier, Soil Vapor/SVI Monitoring, and ECs/ICs

This comprehensive remedial alternative would address identified impacts in each of the Site media with the objective of removing more impacts than Alternative 2, including removal of the apparent sources of LNAPL, providing offsite containment of LNAPL, and providing protection from potential exposures for all media. This alternative involves more intrusive remedial activity onsite and offsite, with associated impacts as noted in the evaluation criteria be necessary to implement this remedy, control potential exposure potential exposures over the long term.

In evaluating this remedial alternative it is assumed that the continues for a period of time following initial implementation includes partial excavation of the Site subsurface, facilitatin described in subsequent sections. It is also assumed that the east is redeveloped.

**TABLE 4.1.3.8
ESTIMATED COSTS FOR
REMEDIAL ALTERNATIVE 3**

Description	Cost	
	30 Years	Variable Durations
Initial Capital Costs		
LNAPL Physical Barrier and Extraction/Disposal	\$2,220,600	\$2,220,600
Targeted Soil Excavation/Disposal w/in-situ Treatment	\$1,437,000	\$1,437,000
AS/SVE (TCE-impacted area)	\$183,600	\$183,600
Groundwater/LNAPL Monitoring Network	\$36,600	\$36,600
SSDS and Vapor Barrier	\$292,800	\$292,800
Soil Vapor/SVI Monitoring Network	\$38,600	\$38,600
Implement ECs and ICs (environmental easement, SMP)	\$46,000	\$46,000
Initial Capital Cost Subtotal:	\$4,255,200	\$4,255,200
O&M Net Present Worth over Anticipated O&M Periods		
LNAPL Extraction (onsite and offsite, 8 years)	\$3,333,000	\$1,193,700
AS/SVE (4 years)	\$1,179,400	\$223,700
Groundwater/LNAPL Monitoring (6 and 10 years)	\$3,187,300	\$1,126,500
SSDS (6 years)	\$1,181,700	\$326,600
Soil Vapor/SVI monitoring (8 years)	\$940,300	\$259,900
Certification and Reporting (30 years)	\$255,400	\$255,400
O&M, Certification and Reporting Net Present Worth Subtotal:	\$10,077,100	\$3,385,800
Post-Remedial Capital Costs		
LNAPL Extraction System Removal (8 years)	\$177,100	\$339,300
AS/SVE System Removal	\$6,800	\$14,800
Groundwater and LNAPL Monitoring Network Abandonment (10 years)	\$19,500	\$35,200
SSDS Removal (6 years)	\$3,200	\$6,600
Soil Vapor/SVI Monitoring Network Abandonment (6 years)	\$15,700	\$32,000
Post-Remedial Capital Cost Subtotal:	\$222,400	\$427,900
TOTAL COST (Initial and Post-Remediation Capital, O&M/Certification/Reporting)	\$14,554,700	\$8,068,900

Note: Assumed interest rate is 5% and assumed inflation rate is 2%.

Is this the best option?

More comprehensive clean-up option: “alternative 4”

4.1.4 Alternative 4: Soil and LNAPL Excavation and Disposal, LNAPL Physical Barriers and Extraction/Disposal, Groundwater Air Sparging/Thermal Conduction Treatment/Soil Vapor Extraction, Groundwater/LNAPL Monitoring, Sub-Slab Depressurization, Soil Vapor/SVI Monitoring, and ECs/ICs

This comprehensive remedial alternative would address identified impacts in each of with the objective of returning the Site and vicinity to pre-release conditions to the exter all media. Although the goal of this alternative would be to maximize remediation, E continue to be necessary to implement this remedy, control potential exposures (activities, and in the likely event that pre-release conditions are not obtained, c exposures over the long term.

In evaluating this remedial alternative it is assumed that following excavation and dispo soil and LNAPL the Site is restored to a condition that supports redevelopment with a contemplated (below-grade crawlspace and first floor parking). It is also assumed that of this building are intended to be occupied; the remedial measures were developed acc

TABLE 4.1.4.8
ESTIMATED COSTS FOR
REMEDIAL ALTERNATIVE 4

Description	Cost	
	30 Years	Variable Durations
Initial Capital Costs		
Soil and LNAPL Excavation and Disposal (Tent/Ventilate Alt.)	\$15,768,400	\$15,768,400
	(\$1,826,500)	(\$1,826,500)
LNAPL Physical Barriers and Extraction/Disposal	\$1,886,300	\$1,886,300
AS/SVE/Thermal Treatment (TCE-impacted area)	\$502,500	\$502,500
Groundwater/LNAPL Monitoring Network	\$72,400	\$72,400
SSDSs and Vapor Barrier	\$364,200	\$364,200
Soil Vapor/SVI Monitoring Network	\$39,300	\$39,300
Implement ECs and ICs (environmental easement, SMP)	\$46,000	\$46,000
Initial Capital Cost Subtotal:	\$18,679,100	\$18,679,100
	(\$1,826,500)	(\$1,826,500)
O&M Net Present Worth over Anticipated O&M Periods		
LNAPL Extraction (offsite, 15 years)	\$2,729,500	\$1,918,700
AS/SVE/Thermal Treatment (1 and 4 years)	\$1,392,300	\$323,700
Groundwater/LNAPL Monitoring (6 and 15 years)	\$3,187,300	\$1,168,700
SSDSs (6 years)	\$1,578,700	\$368,900
Soil Vapor/SVI monitoring (6 years)	\$1,109,800	\$308,700
Certification and Reporting (30 years)	\$255,400	\$255,400
O&M, Cert. and Reporting Net Present Worth Subtotal:	\$10,253,000	\$4,342,100
Post-Remedial Capital Costs		
LNAPL Extraction System Removal (15 years)	\$164,500	\$256,200
AS/SVE/Thermal Treatment System Removal (1 and 4 years)	\$44,300	\$88,400
Groundwater and LNAPL Monitoring Network Abandonment (10 years)	\$15,500	\$24,200
SSDSs Removal (6 years)	\$13,000	\$27,200
Soil Vapor/SVI Monitoring Network Abandonment (6 years)	\$15,900	\$32,300
Post-Remedial Capital Cost Subtotal:	\$253,200	\$428,300
TOTAL COST (Initial and Post-Remediation Capital, O&M/Certification/Reporting)	\$29,185,300	\$23,449,500
	(\$1,826,500)	(\$1,826,500)

Note: Assumed interest rate is 5% and assumed inflation rate is 2%. All subtotal and total costs are rounded to the nearest \$100.

Next Steps...

- **Final Feasibility Study report** – summer or early fall
- **TAG consultant NAG hired will review final report, will prepare comments and fact-sheets**
- **DEC issues a “Proposed Remedial Action Plan” PRAP**
 - 30-60 day public comment period - OPPORTUNITY
 - Public meeting – OPPORTUNITY
- **Record of Decision** – final decision
- **Remedial Design and Construction**
- **Clean-up (how clean is clean?)**

What Can We Do?

- Sign up for NAG e-alerts and DEC mailing list on site
- Get informed: review materials at the Greenpoint library
 - RI and FS reports – contact me for electronic copies
- **Participate in public comment process!**
 - 30-60 day public comment period on proposed cleanup plan
 - Public meeting about proposed cleanup plan
 - Educate your neighbors / other community folks!

Thank You.

Mike Schade, Board Member of Neighbors Allied for Good Growth (NAG)

schadeyacres@gmail.com

<http://nag-brooklyn.org/>

Detailed Questions? Contact the DEC:

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