DECISION DOCUMENT

Former Teutonia Hall Site
Brownfield Cleanup Program
Yonkers, Westchester County
Site No. C360085
February 2012

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

DECLARATION STATEMENT - DECISION DOCUMENT

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Brownfield Cleanup Program
Yonkers, Westchester County
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Statement of Purpose and Basis

This document presents the remedy for the Former Teutonia Hall Site 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 Former Teutonia Hall Site 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:

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and 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;

- Maximizing habitat value and creating habitat when possible

- Fostering green and healthy communities and working landscapes which balance

ecological, economic and social goals; and

• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development

2. On-site soils will be excavated to achieve the unrestricted SCOs. Any fill material brought to the site will meet the unrestricted soil cleanup objectives. It is estimated that 31,000 cubic yards will be removed for off-site disposal at a permitted facility.

3. If clean confirmatory samples cannot establish that the unrestricted SCOs have been achieved, the Volunteer will achieve a Track 2 residential cleanup, which will require institutional and engineering controls to manage potential exposures, as well as a site management plan.

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.

February 2, 2012

Date

Robert J. Cozzy, Director
Remedial Bureau B

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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: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Yonkers Public Library
One Larkin Center
Yonkers, NY 10701
Phone: (914) 375-7940

NYSDEC Region 3 Office
21 S. Putt Corners Road
New Paltz, NY 12561
Phone: (845)256-3154

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Teutonia Hall site is 0.75 acres in area, consisting of four adjoining tax lots 41, 43-47, 49-51, and 53-55 Buena Vista Avenue in the City of Yonkers, Westchester County. This site is bounded to the west by the Metro North/Amtrak active railroad line, to the north by an old railroad repair shop known as the trolley barn building, to the east by Buena Vista Avenue and residential properties to the south.

Site Features: The site is located in downtown Yonkers and consists of five vacant buildings which were formerly used as industrial/commercial buildings. Currently, there are two vacant three-story buildings, a vacant two story building with an adjoining one-story addition, and a one-story auto repair garage and a parking area.

Current Zoning: The site is currently zoned mixed use residential/commercial, but is being re-zoned for similar uses but with significantly higher density.

Historic Uses: Historically this site has been used for a variety of industrial and petroleum-related commercial purposes, including but not limited to, auto repair, a garage with underground storage tanks, a knitting mill, a dry cleaner, a toy manufacturer, a jewelry manufacturer and a printing facility.

Operable Units: Since the Brownfield applicant is an innocent owner (Volunteer), they are not responsible for contamination which has migrated off-site. Therefore, the NYSDEC has conducted vapor intrusion investigations in several of the adjacent/proximal properties over the past three heating seasons. For more information about these off-site investigations, see Site #C360085A.

Site Geology and Hydrogeology: Fill materials consist of a gravel sub-base directly beneath concrete building floors. Fill ranges from six inches to one foot in thickness across the site. A fine-coarse grained sand unit consisting of stratified sand with inter-bedded lenses of gravel and silty sand deposits was encountered throughout the site. Bedrock was encountered at approximately 47 feet below grade. Groundwater was encountered between 30 44 feet below grade.

A site location map is attached as Figure 1.

SECTION 4: 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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the remedial investigation (RI) against unrestricted use standards, criteria and guidance values (SCGs) for the site contaminants is available in the RI Report.

SECTION 5: 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 and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: 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 6.4.

6.1.1: 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

6.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- 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:

tetrachloroethylene (pce)	arsenic
trichloroethene (tce)	cadmium
naphthalene	chromium
benzo(a)pyrene	copper
benz(a)anthracene	mercury
benzo(b)fluoranthene	lead
benzo[k]fluoranthene	nickel
indeno(1,2,3-cd)pyrene	silver
dibenz[a,h]anthracene	zinc

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

- soil
- soil vapor

6.2: 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.

6.3: 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.*

Direct contact with contaminants in soil is unlikely because the entire site is covered with buildings and pavement. People are not drinking the groundwater because the area is served by a public water supply that is not affected by the site. Volatile organic compounds in the soil 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 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 soil vapor intrusion to occur on-site should the site buildings be re-occupied and/or if new construction occurs. In addition, sampling indicates that site-related contaminants have migrated off-site in soil vapor.

6.4: 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 on all investigations to date, the primary contaminants of concern are volatile organic compounds (VOCs), polyaromatic hydrocarbons (PAHs), and metals in soil and the chlorinated solvents tetrachloroethylene and trichloroethene in soil vapor. The Volunteer is pursuing a Track 1 clean-up, therefore, all concentrations are compared to Unrestricted Soil Cleanup Objectives.

Soil Vapor: Sub-slab soil vapor samples were collected in 2005, 2006 and 2007. Soil vapor contaminated with site-related contaminants of concern (COCs) is limited to the southern half of the site including 51 and 53 Buena Vista Avenue. Concentrations of tetrachloroethylene (29 – 190,000 micrograms per cubic meter [ug/m3]) and trichloroethene (ND – 9,100 ug/m3) were detected. The Volunteer is not responsible for off-site contamination since they are an innocent owner, therefore, a State Superfund vapor intrusion investigation was undertaken. See Site # C360085A for additional off-site investigation information.

Subsurface Soil: The following VOCs were found to exceed the Soil Cleanup Objectives (SCOs) for xylene (7.1 – 14 ppm, SCO is 0.26ppm); tetrachloroethylene (one sample at 12 ppm, SCO is 1.3ppm). The following metals were found to exceed unrestricted SCOs: maximum arsenic concentration of 20.4 parts per million (ppm) (SCO is 13 ppm); maximum cadmium concentration of 11.4 ppm (SCO is 2.5 ppm); maximum chromium concentration of 141 ppm (SCO is 30 ppm); maximum copper concentration of 2,180 ppm (SCO is 50 ppm); maximum lead concentration of 44,200 ppm (SCO is 63 ppm); and maximum mercury concentration of 1.5ppm (SCO is 0.18 ppm). PAHs were detected up to 32 ppm. Currently, the site is completely covered by buildings and asphalt minimizing the potential exposure to contaminated soil. The future development will also completely cover the site.

Groundwater: Based on information collected during the Remedial Investigation, as well as previous investigations, groundwater beneath the site is not an environmental concern. Several dissolved metals (Antimony, Arsenic, Chromium, Copper, Lead) were detected above guidance but the City of Yonkers provides safe potable water via the same upstate reservoir system used to provide New York City with its potable water.

Significant Threat: This site presents a significant threat due to the potential for soil vapor intrusion to occur in residential and commercial properties.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented 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 1: Unrestricted use remedy.

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

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design,

implementation, and 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;

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- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

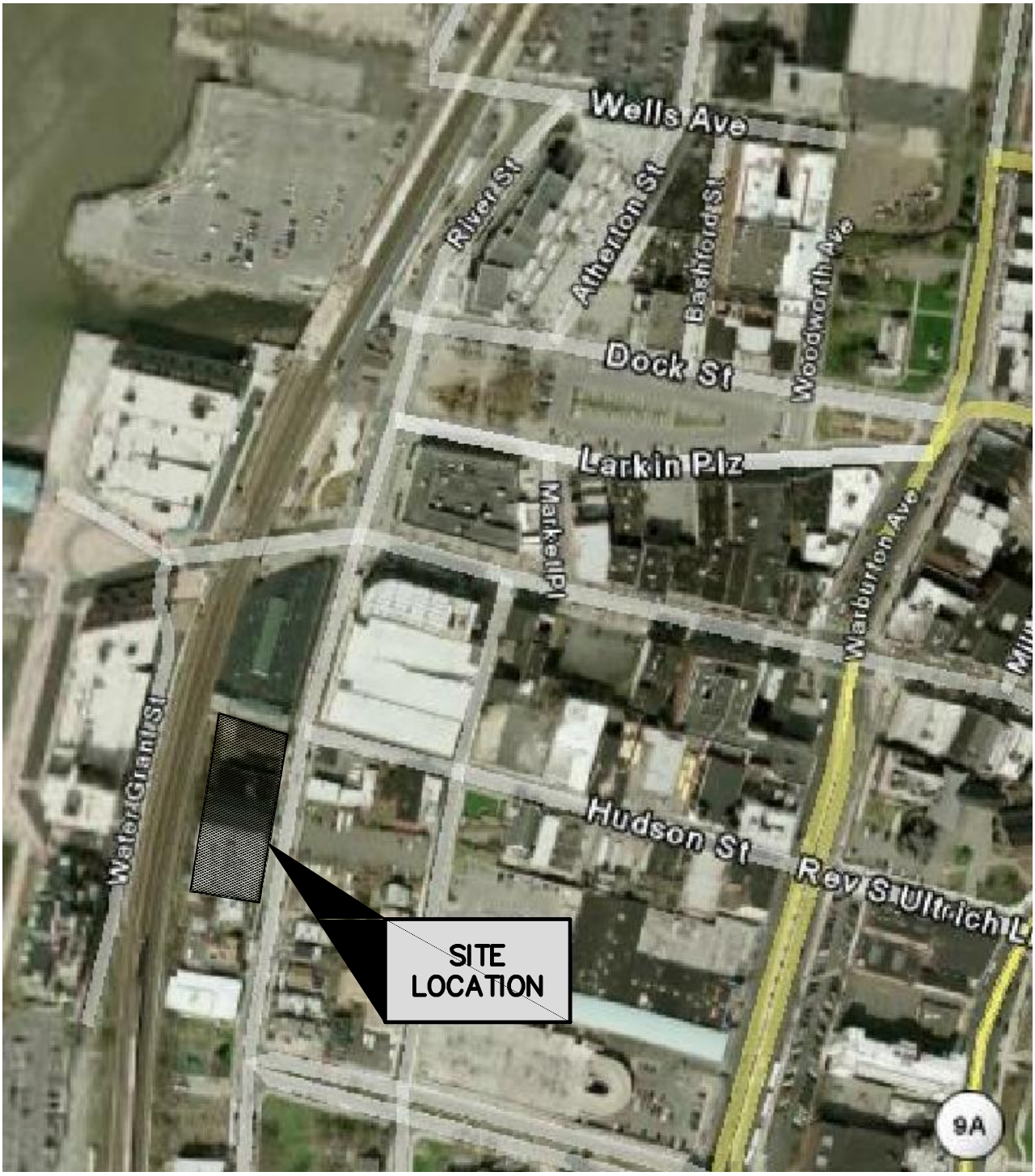
- Maximizing habitat value and creating habitat when possible

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development

2. On-site soils will be excavated to achieve the unrestricted SCOs. Any fill material brought to the site will meet the unrestricted soil cleanup objectives. It is estimated that 31,000 cubic yards will be removed for off-site disposal at a permitted facility.

3. If clean confirmatory samples cannot establish that the unrestricted SCOs have been achieved, the Volunteer will achieve a Track 2 residential cleanup, which will require institutional and engineering controls to manage potential exposures, as well as a site management plan.



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User: dewyer Spec: PIRNIE STANDARD File: F:\5633002\CADD\RI Files\5633F006.DWG Scale: 1:1 Date: 10/26/2011 Time: 13:21 Layout: Figure 1

PROJECT NO. 5633-002			
ARCADIS	YONKERS, NEW YORK FORMER TEUTONIA HALL SITE 41 TO 53 BUENA VISTA AVE.	SITE LOCATION	ARCADIS U.S., INC. NOVEMBER 2011 FIGURE 1

RAILROAD

#53

OFFICES

#51

#47

#45

#41

RESIDENTIAL

1 STORY BUILDING
(#53)

VACANT BUILDING

OFFICES

3 STORY BRICK
BUILDING (LOT 15)

2 1/2 STORY BRICK
BUILDING (LOT 13)

1 STORY BRICK
AND CONCRETE
BLOCK BUILDING

3 STORY BRICK
BUILDING (LOT 11)

BASEMENT

BUENA VISTA AVENUE

LEGEND:

- SITE BOUNDARY
- EXISTING BUILDING
- AREA OF EXCAVATION (MIN. DEPTH = 23 FEET)

10 0 10 20

APPROXIMATE SCALE: 1" = 20'

PROJECT NO. 5633-002

ARCADIS

YONKERS, NEW YORK
FORMER TEUTONIA HALL SITE
41 TO 53 BUENA VISTA AVE.

PROPOSED REMEDY

ARCADIS U.S., INC.
NOVEMBER 2011
FIGURE 2