Phase II Environmental Site Investigation

North Park
West Hunter Valley Road
Bloomington, Indiana 47408

Prepared for:
Mr. Jeff Cockerill – Attorney
Monroe County Board of Commissioners
100 West Kirkwood Avenue
Bloomington, Indiana 47404

Prepared by:

VET Environmental Engineering, LLC
2335 West Fountain Drive
Bloomington, Indiana 47404

Date:
August 30, 2024

Project Number:
24-167

Phase II Environmental Site Investigation

North Park – West Hunter Valley Road
Bloomington, Indiana 47408

VET ENVIRONMENTAL ENGINEERING, LLC PROJECT NO. 24-167

LIST OF EXHIBITS

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VET ENVIRONMENTAL ENGINEERING, LLC

2335 West Fountain Drive, Bloomington, IN 47404
Phone: (812) 822-0400 Fax: (812) 650-3892
Email: info@vet-env.com

August 30, 2024

Mr. Jeff Cockerill
Monroe County Board of Commissioners
100 West Kirkwood Avenue
Bloomington, Indiana 47404

RE: Phase II Environmental Site Investigation
North Park – West Hunter Valley Road
Bloomington, Indiana 47408

Dear Mr. Cockerill,

VET Environmental Engineering, LLC (VET) conducted a Phase II Environmental Site Investigation (PII-2024) at North Park – West Hunter Valley Road, Bloomington, Indiana (Site) on behalf of Mr. Jeff Cockerill, County Attorney for the Monroe County Board of Commissioners (Client). The PII-2024 was conducted on July 30, 2024.

VET completed a Phase I Environmental Site Assessment (ESA, PI-2024) at the Site in April 2024 in accordance with the *ASTM Standard Practice for Environmental Site Assessments: Phase I ESA Process (Designation: E1527-21)*. The PI-2024 was conducted on behalf of the Client as a due diligence measure pursuant to a prospective purchase of the Site. The objective of the PII-2024 was to assess for the presence or absence of on-Site contamination associated with the following recognized environmental conditions (RECs), identified by the PI-2024 in connection with the Site:

- REC 1: *"Residual contamination of polychlorinated biphenyls (PCBs) exists to the east of the Site at the Bennett Site and in Stout Creek, which adjoins the eastern Site boundary. This suggests the potential for adverse impacts to soil, groundwater and/or vapor and constitutes an REC."*

The PI-2024 also identified Business Environmental Risks (BERs) and de minimis conditions. The PII-2024 was not designed to address the identified BERs and de minimis conditions. Any investigation into the BERs and de minimis conditions will be delivered under separate cover.

1.0 SITE BACKGROUND

The Site is comprised of three parcels of land zoned for general commercial use located at North Park – West Hunter Valley Road, Bloomington Township, Bloomington, Indiana. Site details and the parcel identification number are displayed in **Table A**.

TABLE A. SITE DETAILS	
Site Acreage	56.13 acres
Source of Acreage Information	Assessor – Property Report Card
Parcel ID Number(s)	Parcel #1: 53-05-30-100-006.008-004 Parcel #2: 53-05-30-100-006.000-004 Parcel #3: 53-05-19-300-006.098-004
Source of Parcel ID Number(s)	Assessor – Property Report Card
Property Zoning/Usage	Vacant Land
Number of Structures on Site	0
Date(s) of Construction	N/A
Source of Construction Date Information	N/A
Number of Lease Spaces	None
Legal Description	Parcel #1: 012-09850-00 North Park Tract A-7 Parcel #2: 012-09850-08 North Park Tract A-8 40.67 A (part in section 30 see 012-09850-98 for part in section 19) Parcel #3: 012-09850-98 North Park Tract A-8 1.16 A (part in section 19 see 012-09850-08 for part in section 30)
Source of Legal Description	Assessor – Property Report Card
Tenants	None

The Site is located on the east side of Interstate 69 and on the south side of West Curry Pike and West Hunter Valley Road. The Site is located at an approximate elevation of 770 feet above mean sea level (MSL). The Site exhibits lower elevations surrounding an ephemeral stream and retention basin on the northern portion of the Site. Two local topographic high points exist on the northeastern corner at approximately 784 MSL and in the west-central portion of the Site at approximately 792 MSL. An east-west trending valley is located on the central portion of the Site. The surrounding areas generally slope toward Stout Creek to the east of the Site.

The Site is in the Mitchell Plateau physiographic region of Indiana. The Mitchell Plateau physiographic region is characterized by the presence of karst topography features (sinkholes, swallow holes, sinking streams, etc.). The Site is reportedly in an area where drainage is mostly through solution channels. Bedrock is mapped as Mississippian Age, Blue River Group containing mostly micritic, skeletal, and Oolitic limestone. Bedrock is shallow in this area and expected to be less that 50 feet below ground surface. Two ephemeral unnamed tributaries of Stout Creek were identified on-Site. One ephemeral stream flows across the northern half of the Site, from the western boundary toward a retention basin its discharge point on the eastern boundary. The second ephemeral stream flows from the northern Site boundary toward the south to converge with the west-east trending ephemeral stream. Surface water that flows through the retention basin ultimately discharges on the eastern edge of the eastern edge of the Site and into Stout Creek on the eastern adjacent property. Anticipated groundwater depth on the Site is

approximately ten feet below ground surface (bgs), according to a review of Indiana Department of Natural Resources (IDNR) well logs in the vicinity of the Site.

The United States Environmental Protection Agency (USEPA) *Ground Water Handbook, Vol. 1 Ground Water and Contamination* indicates that regional groundwater elevation typically mimics regional surface elevation. Therefore, shallow groundwater generally flows from areas of higher surficial elevation to areas of lower surficial elevation. Localized groundwater flow direction may vary as a result of tide, rainfall, development, geologic characteristics, nearby surface water bodies, underground utilities, or the presence of high-volume extraction wells. As such, groundwater flow direction on the Site is anticipated to be to the east.

Site reconnaissance conducted as part of the PI-2024 did not reveal hazardous substances or petroleum products. A search for infrastructure that contains or is likely to contain polychlorinated biphenyls (PCBs) to include electrical or hydraulic equipment was conducted. No likely PCB-containing infrastructure was identified at the Site. The PII-2024 was therefore designed to determine if the presence of PCBs from the Bennett Site and Stout Creek to the east of the Site caused contamination of soil on the Site. The PII-2024 was not an exhaustive study but rather a broad evaluation that sought to identify the presence or absence of conditions associated with the RECs identified in the PI-2024. The PII-2024 did not evaluate vapor intrusion related to the identified RECs, nor did it serve to identify conditions associated with other out of scope considerations such as radon gas intrusion.

2.0 PHASE II INVESTIGATIVE ACTIVITIES

VET was retained by the Client to conduct the PII-2024 to investigate problematic conditions resulting from the RECs identified by the PI-2024. The PII-2024 was specifically designed to determine whether PCB impacts from documented PCB contamination in Stout Creek and on the eastern adjacent Bennett Site crossed Stout Creek to the west, and whether PCB and volatile impacts in areas of the Site most likely to be affected by cross-creek contamination migration occurred.

The Bennett Site is located across Stout Creek from the Site. Stout Creek separates the Site from the Bennett Site and likely influences shallow groundwater flow direction in the area. The flood zone of Stout Creek adjoins the eastern boundary of the Site (**Exhibit 2**). Documentation reviewed pertaining to the Bennett Site indicates that karst springs located on the Bennett Site act as direct conduits for PCB-impacted groundwater discharge into Stout Creek. Engineering controls implemented at the Bennett Site to mitigate groundwater and surface water impacts include collection, treatment, and diversion of groundwater from karst springs to Stout Creek.

Ongoing surface water monitoring performed by the USEPA at Stout Creek indicates that PCB concentrations downstream of the Bennett Site are below the 0.3 parts per billion (ppb) discharge criteria. Although the PCB concentrations downstream of the Bennett Site are currently below the applicable regulatory criteria, historic impacts to soil and groundwater at the Site, particularly along flood fringe of Stout Creek, which adjoins the Subject Property's eastern boundary, could not be ruled out solely based on desktop reconnaissance performed during the PI-2024.

Based on a review of readily ascertainable IDEM and USEPA documentation, environmental investigations at the Bennett Site did not extend to the Site. VET performed Phase II environmental investigations on the southeastern adjacent property and eastern adjacent property in July 2020 and

February 2021, respectively. Both reports were performed for and provided to the Client at the conclusion of those investigations. The southeastern and eastern adjacent properties slope generally toward Stout Creek, which separates these properties from the Site. Although Stout Creek acts as a hydrologic divide between the Site and the eastern and southeastern properties, uncertainties exist regarding localized hydrologic dynamics. This PII-2024 was designed to eliminate uncertainties regarding potential cross-creek surficial and subsurface contamination migration toward the Site.

The groundwater exposure pathway is not complete at the Subject Property, as groundwater is not used in this area of Monroe County. Groundwater was not encountered during the PII-2024 investigative activities. Therefore, the scope of the PII-2024 did not include groundwater sampling. Depending on planned use of the Subject Property, a groundwater use restriction may be warranted to ensure the groundwater exposure pathway remains incomplete.

A utility locate request was submitted prior to commencement of PII-2024 activities. VET representatives, Ms. Sara Hamidovic, MS, PE, CHMM, CPESC and Mr. Daniel Elliott conducted PII-2024 activities at the Site on July 30, 2024. VET's PII-2024 activities were uninhibited by weather conditions.

2.1 Soil Boring Installation

VET and personnel with Strata Environmental Contractors, LLC (Strata), the drilling subcontractor, advanced six soil borings at the Site on July 30, 2024 utilizing a track-mounted Geoprobe® 7822DT direct push technology (DPT) drill rig. Soil borings VB-1, VB-2, VB-3, VB-4, VB-5, and VB-6 were advanced to a depth of 3.5 to 5.5 feet bgs. Soils were visualized and logged by Ms. Hamidovic. Soil samples collected during field sampling activities were classified in the field in accordance with the U.S. Department of Agriculture (USDA) soil classification system pertaining to soil texture, structure, and reaction. Soil boring logs with soil classification, color (identified with Munsell Color Chart), moisture, and conditions including the presence of petroleum staining and atypical odors are included in **Attachment 2**.

Soil borings were advanced to evaluate for the presence or absence of problematic conditions resulting from RECs identified in the PI-2024. Specifically, soil borings were advanced in areas most likely to be impacted from possible PCB contamination from the eastern adjacent Stout Creek and Bennett Site, particularly within and along the flood fringe associated with Stout Creek. PCBs are generally lipophilic and adsorb readily to sediments when released to soil and water. Because low-level PCB contamination is documented in Stout Creek, the area expected to be impacted by PCBs is within the floodplain of Stout Creek, where PCBs may have adsorbed to surface soil and sediments during historic flood events.

VET selected soil boring locations based on a combination of topographic, hydrologic, erosional, and vegetative indicators suggesting the presence of historic or ongoing flooding inside the floodplain to the west of Stout Creek. VET biased soil boring locations based on proximity to the suspected floodplain and proximity to the eastern boundary of the Site. Uncertainties with respect to mapped features and the actual Site boundary were considered during PII-2024 activities to ensure the worst-case scenario conditions with respect to possible contamination migration toward the Site were represented.

Sample depth intervals within each boring were selected as a suspected worst-case scenario based upon a combination of visual, olfactory, and field screening observations. Field screening was conducted by exposing fresh surfaces from soils within the acetate liner and then removing and placing soils from the sample interval into plastic Ziplock bags. Ziplock bags were sealed, labeled by appropriate depth interval, and given at least two-minutes to equilibrate prior to conducting headspace screening with a photoionization detector (PID) and a portable flame ionization detector (FID). Headspace screening results are recorded on soil boring logs (**Attachment 2**).

Soil boring VB-1 was advanced near the southeast boundary of the Site and to the west of Stout Creek. VB-1 was advanced to a total drilled depth (TDD) of 4.33 bgs. Moist soil conditions, specifically silty clay, were encountered from (1.5' – 3.5' bgs). Saturated sand and gravel were encountered at (3.5' – 4' bgs). Saturated weathered limestone bedrock with an upper layer of cherty limestone was encountered at (4' – 4.33' bgs). The soil boring terminated at 4.33' bgs due to GeoProbe refusal on the limestone bedrock surface. A soil sample (VB-1 (0' – 2')) for polychlorinated biphenyls (PCBs) was collected from the 0' – 2' depth interval. A soil sample (VB-1 (2'– 4')) for polycyclic aromatic hydrocarbons (PAHs), PCBs, and Resource Conservation and Recovery Act (RCRA) 8 Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) was collected from the 2' – 4' depth interval. A soil sample (VB-1 (4'– 4.33')) for volatile organic compounds (VOCs) was collected from the 4' – 4.33' depth interval. No temporary well (piezometer) was installed, no formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-1.

Soil boring VB-2 was advanced between the eastern Site boundary and Stout Creek just north of VB-1. VB-2 was advanced to a TDD of 4 feet bgs. Saturated soil conditions, specifically saturated silt, were encountered from (2' – 3.75' bgs). Saturated silt with sand and gravel, atop weathered limestone bedrock was encountered at (3.75' – 4' bgs). The soil boring terminated at 4' bgs due to GeoProbe refusal on the limestone bedrock surface. A soil sample (VB-2 (0' – 2')) for PCBs was collected from the 0' – 2' depth interval. A soil sample (VB-2 (2'-4')) for VOCs was collected from the 2' – 4' depth interval. A piezometer (MW-2) was installed in VB-2 with a four-foot slotted screen at a depth of (4' bgs). No groundwater was encountered in the piezometer following the stabilization period. No formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-2.

Soil boring VB-3 was advanced near the eastern Site boundary near the floodplain boundary west of Stout Creek and just northwest of VB-2. VB-3 was advanced to a TDD of 5 feet bgs. Saturated soil conditions, specifically saturated silt, were encountered from (2.25' – 4' bgs). Saturated silty sand and gravel with weathered limestone at the base was encountered from (4' – 5' bgs). The soil boring terminated at 5' bgs due to GeoProbe refusal on the limestone bedrock surface. A soil sample (VB-3 (0' – 2')) for VOCs and PCBs was collected from the 0' – 2' depth interval. A soil sample (VB-3 (2'– 4')) for PAHs, PCBs, and RCRA 8 Metals was collected from the 2' – 4' depth interval. A duplicate sample (VB-DUP-1) was collected for VOCs from the 0' – 2' depth interval, and for PCBs, PAHs, and RCRA 8 Metals from the 2' – 4' depth interval. No piezometer was installed, no formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-3.

Soil boring VB-4 was advanced near the eastern Site boundary to the west of Stout Creek, immediately north of the ephemeral stream (Stream #1) that discharges from the on-Site retention

basin, and just northwest of VB-3. VB-4 was advanced to a TDD of 3.5 feet bgs. Moist soil conditions, specifically moist silt, were encountered from (2.25' – 3.5' bgs). The soil boring terminated at 3.5' bgs due to GeoProbe refusal on the limestone bedrock surface. A soil sample (VB-4 (0' – 2')) for PCBs was collected from the 0' – 2' depth interval. No piezometer was installed, no formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-4.

Soil boring VB-5 was advanced near the eastern Site boundary to the west of Stout Creek and to the northeast of VB-4. VB-5 was advanced to a TDD of 4 feet bgs. Dry soil conditions, specifically dry silt, were encountered from (2' – 3.25' bgs). Saturated silt was encountered from (3.25' – 4' bgs). Saturated weathered limestone bedrock was encountered at (4' bgs). The soil boring terminated at 4' bgs due to GeoProbe refusal on the limestone bedrock surface. A soil sample (VB-5 (0' – 2')) for PCBs was collected from the 0' – 2' depth interval. A soil sample (VB-5 (2'-4')) for PAHs, PCBs, and RCRA 8 Metals was collected from the 2' – 4' depth interval. No piezometer was installed, no formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-5.

Soil boring VB-6 was advanced on the northeastern corner of the Site to the west of Stout Creek and just northeast of VB-5. VB-6 was advanced to a TDD of 5.5 feet bgs. Saturated soil conditions, specifically saturated silt, were encountered from (2' – 4' bgs). Saturated silty sand and gravel was encountered from (4' – 4.5' bgs). Saturated weathered limestone bedrock was encountered from (4.5' – 5.5' bgs). A soil sample (VB-6 (0' – 2')) for PCBs was collected from the 0' – 2' depth interval. The soil boring terminated at 5.5' bgs due to GeoProbe refusal on the limestone bedrock surface. No piezometer was installed, no formal survey was conducted, and no visual or olfactory signs of contamination were observed at VB-6.

2.2 Groundwater Sampling

One piezometer was installed during the soil sampling event. Groundwater was not encountered in any of the soil borings or the piezometer, therefore no groundwater samples were collected. Saturated soil conditions observed in the soil borings advanced along Stout Creek are associated with the capillary fringe associated with Stout Creek above the expected depth of the water table. Further, the groundwater exposure pathway is not complete at the Subject Property, as groundwater is not used in this area of Monroe County.

2.3 Sample Management

Samples submitted for analysis of VOCs were collected utilizing Method 5035. Method 5035 samples were collected by advancing five-gram Terra Core samplers directly into the target soil materials and extruding individual sample aliquots into laboratory-supplied, one preserved (Methanol) and two unpreserved, 40 milliliter (mL) vials. Traditional sampling methodology was utilized for the balance of the parameters. Eight-ounce and four-ounce soil jars (moisture and balance of parameters) were filled by transferring soil directly into laboratory-supplied containers. VOC samples were collected first to minimize the loss of VOCs to the atmosphere.

VET donned new nitrile gloves prior to collection of each sample and utilized dedicated, disposable, or decontaminated equipment for collection of each sample to prevent cross contamination.

All samples were placed into iced coolers and shipped to the Eurofins Laboratory facility in University Park, Illinois via FedEx under strict chain-of-custody documentation.

Soil samples were analyzed for the following constituent groups under each respective United States Environmental Protection Agency (USEPA) method of analysis:

TABLE B. SUBSURFACE AND SURFACE SOIL ANALYTICAL PARAMETERS		
Parameter	**Abbreviation**	**Method**
Volatile Organic Compounds	VOCs	USEPA 8260B
Polycyclic Aromatic Hydrocarbons	PAHs	USEPA 8270E
Polychlorinated Biphenyls	PCBs	USEPA 8082A
Resource Conservation & Recovery Act Metals	RCRA 8 Metals	USEPA 6010B USEPA 7471B

3.0 ANALYTICAL RESULTS

Soil laboratory analytical results are tabulated in **Table 1**. The Level II analytical report is included in **Attachment 3**. The Level IV QA/QC report is included in **Attachment 3** of the electronic file. Analytical results are compared to 2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs). IDEM R2 PLs represent concentrations of chemicals in soil, groundwater, or vapor that the IDEM Office of Land Quality (OLQ) has determined are acceptable under specific exposure scenarios, including residential, commercial/industrial, and construction worker exposures.

3.1 Soil Lithology

Site soils are mapped as Crider Silt Loam (67.4%), 6-12% Slopes, Caneyville Silt Loam (28.7%), 12-18% Slopes, Haymond Silt Loam (3.0%), and Crider Silt Loam (0.9%), 2-6% Slopes (**Exhibit 3**). Site soils observed were predominantly composed of silt, silty clay, sand and gravel, and limestone. Lithologic descriptions are included on the boring logs in **Attachment 2**.

3.2 Soil Analytical Results

Soil analytical results are compared to IDEM R2 PLs for long-term residential, long-term commercial/industrial, and short-term soil excavation exposure scenarios. Based on the planned use of the Site, the long-term commercial/industrial and short-term soil excavation exposure scenarios are most applicable to the Site. Soil analytical results are tabulated in **Table 1**. Soil sample locations are displayed graphically on **Exhibit 4**.

3.2.1 VOCs

VOCs are compounds that exhibit a high vapor pressure and are emitted as gases from certain solids or liquids. The list of VOCs investigated and analyzed as part of the PII-2024 includes a variety of chemicals that can have both short- and long-term health effects on both humans and ecological receptors. VOCs are included in a myriad of manmade products including but not limited to paints and lacquers, paint thinners and strippers, hydraulic fluids, cleaning supplies, refrigerants, dry cleaning agents, pesticides, building materials and furnishings, copiers and printers, glues and adhesives,

byproducts from the drinking water chlorination process, and petroleum products. All of these products can release organic compounds while in use, but can also cause contamination in soil, groundwater, and can release potentially harmful vapors when released to the environment.

Five soil samples (VB-1, VB-2, VB-3, VB-5, and VB-DUP-1) were collected and analyzed for VOCs at the laboratory. No detections of VOCs above laboratory reporting limits were reported in the soil samples analyzed.

3.2.2 PAHs

PAHs are a class of chemicals that occur naturally in coal, crude oil, and gasoline but are also produced during incomplete combustion of organic substances. PAHs are generated when burning fossil fuels as in motor vehicle exhaust, burning garbage, smoking tobacco, eating charred or grilled meats, burning wood, and in fumes from asphalt roads. Many PAHs investigated and analyzed as part of the PII-2024 are considered to be cancer-causing in both humans and ecological receptors.

Four soil samples (VB-1, VB-3, VB-5, and VB-DUP-1) were collected and analyzed for PAHs at the laboratory. No detections of PAHs above laboratory reporting limits were reported in the soil samples analyzed.

3.2.3 PCBs

PCBs are a group of manmade organic chemicals that were widely produced in the United States from 1929 until production was banned in 1979. Production was banned due to observed harmful effects and chemical stability and associated persistence in the environment. PCBs were used in a plethora of industrial applications due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties. PCBs were used in oils for electrical equipment such as transformers and capacitors, oils in motors and hydraulic equipment, oil-based paints, plastic and rubber products, pigments and dyes, fluorescent light ballasts, thermal and cable insulation, adhesives and tape, and in floor finishes. The PCBs investigated and analyzed as part of the PII-2024 are linked with a number of health effects in both humans and ecological receptors. These include but are not limited to both cancer and non-cancer effects such as immune effects, reproductive effects, neurological effects, and endocrine effects.

All soil samples collected during the PII-2024 were analyzed for PCBs. Sample VB-1 exhibited detections of PCB-1248 above laboratory reporting limits; however, no analytical results exceeded the 2024 IDEM R2 PLs for any analyzed PCB congeners.

3.2.4 RCRA 8 Metals

The RCRA 8 Metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The USEPA regulates the RCRA 8 Metals due to their toxicity and ability to cause serious health effects to humans and ecological receptors and to cause environmental impacts. The metals investigated and analyzed for as part of the PII-2024 are shown to cause cancer, acute poisoning, nervous system disorders, skin lesions, vascular damage, birth defects, other reproductive problems, and gastrointestinal and kidney dysfunction. These metals are found naturally in the environment, but are also found in a variety of commercial products and industrial processes and applications including but not limited to batteries, electronics, paints, pesticides, glassmaking, fireworks, pigments in paints

and dyes, thermometers, fluorescent light bulbs, electrical equipment, solar cells, and photocopiers.

Four soil samples (VB-1, VB-3, and VB-5, and VB-DUP-1) were collected and analyzed for RCRA 8 Metals at the laboratory. VB-DUP-1 was collected in the location of VB-3. RCRA 8 metals were detected above laboratory reporting limits in all four samples analyzed. Arsenic was detected at concentrations exceeding the IDEM R2 Residential Long-Term Exposure PL in VB-DUP-1. No other analytical results from samples analyzed for RCRA 8 Metals exceeded applicable IDEM R2 PLs.

4.0 DISCUSSION

The R2 is IDEM's system for describing selected approaches to investigation and risk-based closure of contaminated or potentially contaminated sites as prescribed in Indiana Code (IC). It is VET's professional opinion that the soil direct contact exposure scenario for construction workers developing the Site (Short Term Excavation), and long-term residential and commercial/industrial exposure scenarios for future users of the Site are the most applicable of readily available screening criteria.

4.1 Soil

Analytical results for soil samples collected on the Site did not indicate presence of analyzed parameters in exceedance of applicable IDEM R2 PLs, with the exception of one incidence of exceedance of the IDEM R2 Residential Long-Term Exposure PL for arsenic at VB-DUP-1.

Arsenic occurs naturally in southern Indiana soils, and specifically Bloomington soils, at levels that often exceed the most conservative IDEM R2 PLs. IDEM's Office of Land Quality Fact Sheet titled "Arsenic in Soils" (**Attachment 5**) indicates that background concentrations of arsenic may exceed the residential soil PL of 10 mg/kg. As such, it is VET's opinion, based on experience and published documentation, that ubiquitous presence of arsenic on a site in southern Indiana is likely attributable to a naturally occurring condition. The observed exceedance of the IDEM R2 PL in one soil sample collected at the Site is therefore not likely indicative of impacts from the REC identified in the PI-2024. This does not, however, discount relevance of the PLs published by IDEM, nor does it suggest that naturally occurring arsenic poses any less risk than that from an anthropogenic source. The argument that arsenic is naturally occurring serves to communicate challenges with regard to remedy selection and implementation due to its widespread nature.

It is VET's professional opinion that impacts to soils resulting from the RECs identified in the PI-2024 are unlikely. Therefore, based on the investigations conducted and analytical results reported, further soil investigation is not warranted. VET recommends implementing protective measures described in **Attachment 5** to prevent ingestion and inhalation exposure pathways to arsenic at the Site for both workers performing development activities at the Site and long-term residents. VET recommends incorporating protective measures into a Site-specific Soil Management Plan (SMP) for development and long-term residential activities at the Site.

4.2 Groundwater

Groundwater was not encountered in any of the soil borings or the piezometer, therefore no groundwater samples were collected. The groundwater exposure pathway is not complete at the

Subject Property, as groundwater is not used in this area of Monroe County. Depending on planned use of the Subject Property, a groundwater use restriction may be warranted to ensure the groundwater exposure pathway remains incomplete.

4.3 Vapor

Investigations into vapor on the Site were not formally conducted. No evidence of VOC contamination in subsurface soil was identified making a problematic vapor condition in structures on the Site unlikely. However, the Site is located in Radon Zone 1. Therefore, VET recommends existing structures along with future developments on the Site be appropriately tested, mitigated, and/or constructed utilizing radon resistant new construction (RRNC) technology to prevent intrusion of radon. An appropriately designed and constructed radon mitigation system also serves as a vapor mitigation system reducing intrusion of both radon gas and volatile vapors associated with releases of VOCs.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PII-2024 was designed to determine whether PCB impacts from documented PCB contamination in Stout Creek and on the eastern adjacent Bennett Site crossed Stout Creek to the west, and whether PCB and volatile impacts in areas of the Site most likely to be affected by cross-creek contamination migration occurred. The PII-2024 was not an exhaustive study but rather a targeted evaluation that sought to identify the presence or absence of conditions associated with the REC identified in the PI-2024 that might influence decision-making with respect to real estate transactions associated with the Site. The PII-2024 did not evaluate vapor intrusion related to the identified REC, nor did it serve to identify potentially harmful conditions associated with other out of scope considerations such as radon gas intrusion.

Field screening results were used to guide sample selection at each sampling location. Sample locations were placed in what VET believes are the areas most representative of residual contamination from the REC identified. Based on analytical results and Site observations, conditions that constitute reportable quantity releases under the Indiana Spill Rule (**Attachment 4**) are not likely. VET recommends that the Client retain experienced environmental counsel to evaluate reporting requirements. Based on work at the Site and the findings of this PII-2024, further investigation and/or remediation is not warranted.

VET appreciates the opportunity to provide environmental consulting services for the Client. If you have any questions or concerns, please do not hesitate to contact VET at (812) 822-0400.

Respectfully submitted,

Sara R. Hamidovic, MS, PE, CHMM, CPESC
President/CEO, Principal Engineer

REFERENCES

ASTM. (2021). *Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-21).* West Conshohocken, PA: American Society for Testing Materials.

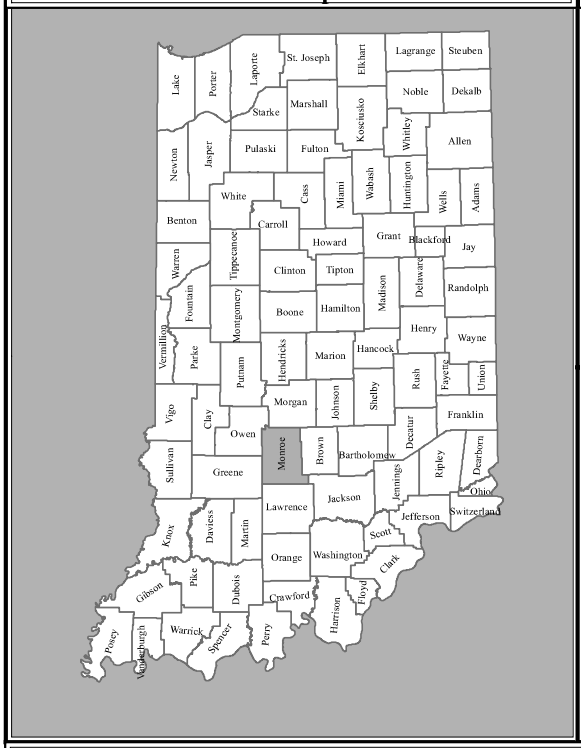
Agency for Toxic Substances and Disease Registry (ATSDR) (1995). *Toxicological Profile for Polycyclic Aromatic Hydrocarbons*. Atlanta, Georga. United States Department of Health and Human Services, Public Health Service.

Indiana Department of Environmental Management (IDEM) (2013). *IC13-25-5-8.5 Risk Based Closure* Retrieved February 12, 2021, from https://www.in.gov/idem/cleanups/2328.htm

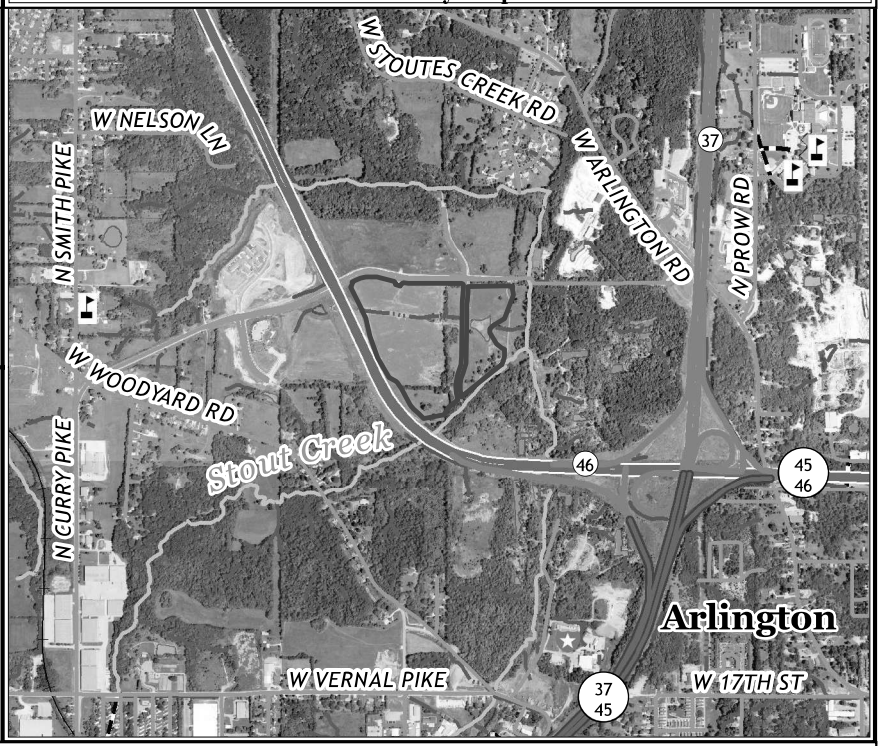
VET Environmental Engineering, LLC (2024). *Phase I Environmental Site Assessment*. North Park – West Hunter Valley Road, Bloomington, Indiana 47408. April 3, 2024.

EXHIBITS

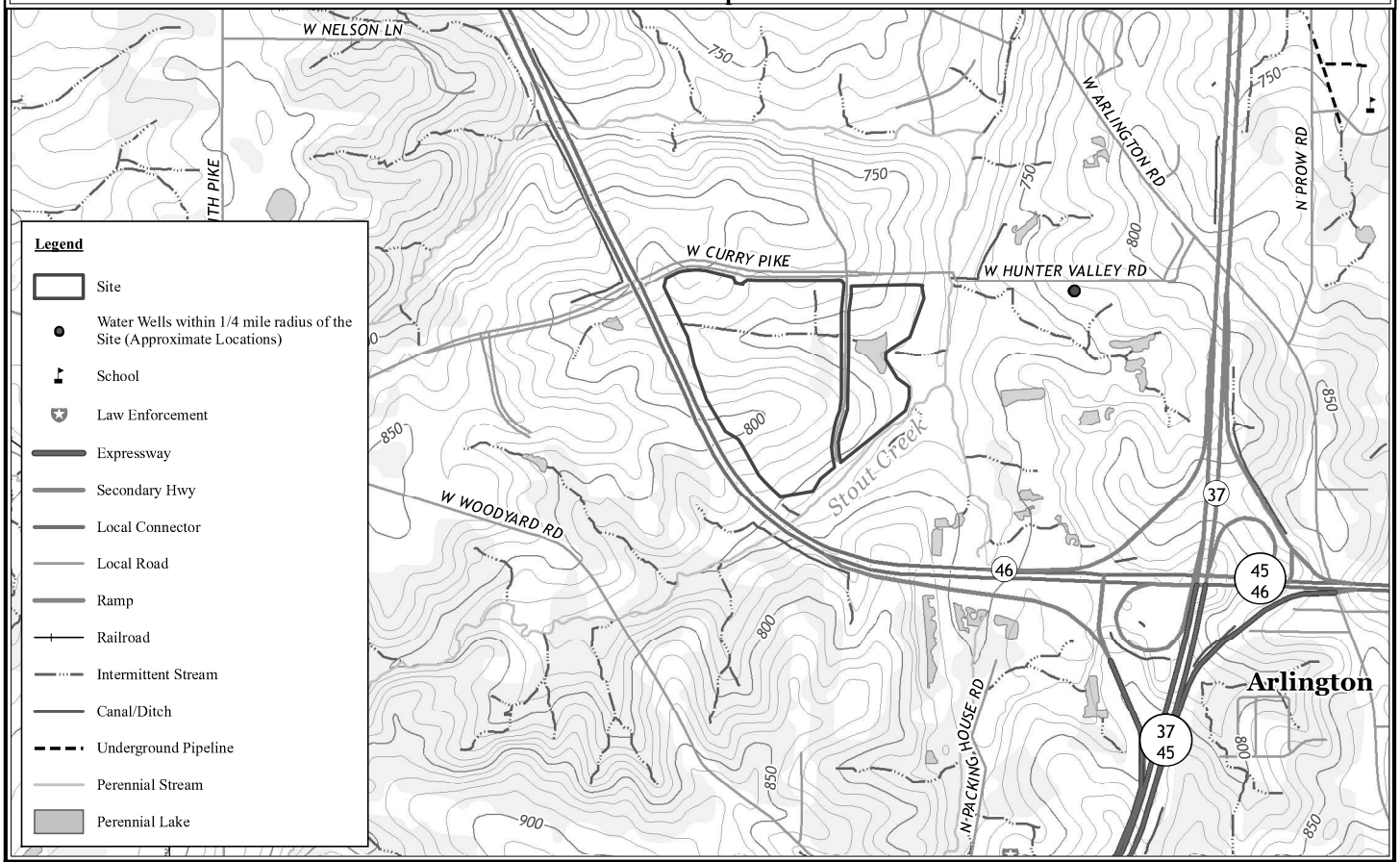
State Map



Vicinity Map



Site Map



VET Environmental Engineering, LLC

2335 W. Fountain Drive
Bloomington, IN 47404
Phone: (812) 822-0400
www.vet-env.com

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1 " = 1,500 '

0 360 720 1,080 Feet

Project:	Monroe County Commissioners Hunter Valley - North Park Phase II
VET Project No.:	24-167
NPDES Permit No.:	N/A
Date:	8/8/2024
Exhibit:	1
Drawn By:	EMT
Notes:	Water wells shown: 1 in 1/4 mile radius of Site

Title:	Area Map
Location:	West Hunter Valley Road Bloomington, Indiana 47404 Monroe County
Data Sources:	Indiana Census TIGER 2000 and IGS Counties, 2016 NAIP Imagery, 2019 USGS TNM Topo Indiana Bloomington 7.5'

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Bloomington, IN 47404
Phone: (812) 822-0400
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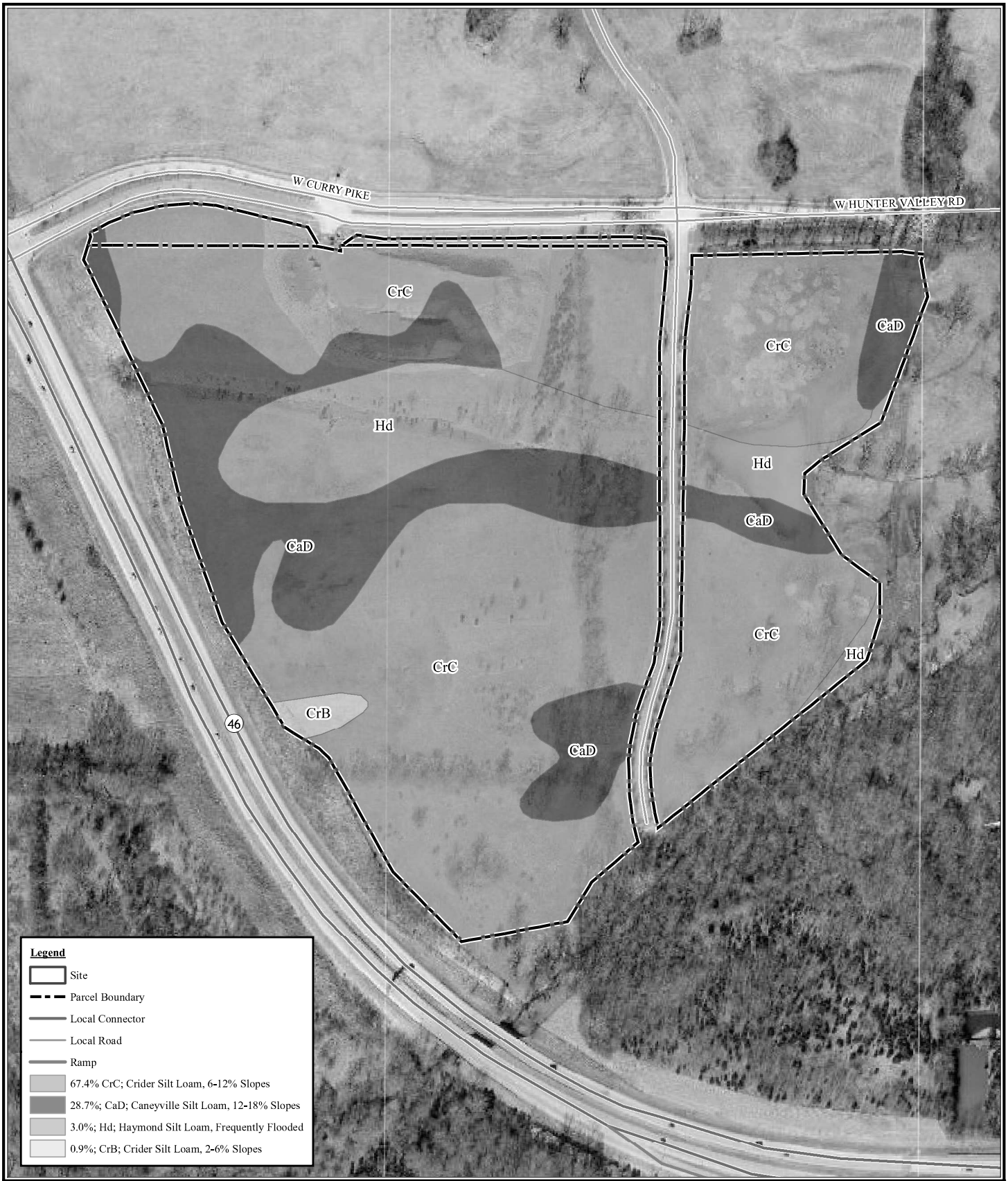
N

1 " = 375 '

0 80 160 240 Feet

Project:	Monroe County Commissioners Hunter Valley - North Park Phase II
VET Project No.:	24-167
NPDES Permit No.:	N/A
Date:	8/8/2024
Exhibit:	2
Drawn By:	EMT
Notes:	Intermittent Stream, Perennial Lake, & FEMA Floodway Reported On Site

Title:	Parcel Map
Location:	West Hunter Valley Road Bloomington, Indiana 47404 Monroe County
Data Sources:	2022 Elevate Imagery, 2023 USGS TNM Topo Indiana Bloomington 7.5'



VET Environmental Engineering, LLC

2335 W. Fountain Drive
Bloomington, IN 47404
Phone: (812) 822-0400
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N

1 " = 333 '

0 80 160 240 Feet

Project:	Monroe County Commissioners Hunter Valley - North Park Phase II
VET Project No.:	24-167
NPDES Permit No.:	N/A
Date:	8/8/2024
Exhibit:	3
Drawn By:	EMT
Notes:	Hydric Soils Hd Reported On Site

Title:	Soils Map
Location:	West Hunter Valley Road Bloomington, Indiana 47404 Monroe County
Data Sources:	2022 Elevate Imagery, 2016 USDA WSS Soils, 2023 USGS TNM Topo Indiana Bloomington 7.5'

Constituent (mg/kg)	VB-6 (0'-2') 7/30/2024
VOCs	NA
PAHs	NA
RCRA 8 Metals	NA
PCBs	ND

Constituent (mg/kg)	VB-5 (0'-2') 7/30/2024
VOCs	NA
PAHs	NA
RCRA 8 Metals	NA
PCBs	ND

Constituent (mg/kg)	VB-5 (2'-4') 7/30/2024
VOCs	ND
PAHs	ND
RCRA 8 Metals	BA
PCBs	ND

Constituent (mg/kg)	VB-4 (0'-2') 7/30/2024
VOCs	NA
PAHs	NA
RCRA 8 Metals	NA
PCBs	ND

Constituent (mg/kg)	VB-2 (0'-2') 7/30/2024
VOCs	NA
PAHs	NA
RCRA 8 Metals	NA
PCBs	ND

Constituent (mg/kg)	VB-2 (2'-4') 7/30/2024
VOCs	ND
PAHs	NA
RCRA 8 Metals	NA
PCBs	NA

Constituent (mg/kg)	VB-1 (0'-2') 7/30/2024
VOCs	NA
PAHs	NA
RCRA 8 Metals	NA
PCBs	BA

Constituent (mg/kg)	VB-1 (2'-4') 7/30/2024
VOCs	NA
PAHs	ND
RCRA 8 Metals	BA
PCBs	BA

Constituent (mg/kg)	VB-1 (4'-4.33') 7/30/2024
VOCs	ND
PAHs	NA
RCRA 8 Metals	NA
PCBs	NA

Constituent (mg/kg)	VB-3 (0'-2') 7/30/2024
VOCs	ND
PAHs	NA
RCRA 8 Metals	NA
PCBs	BA

Constituent (mg/kg)	VB-DUP-1 (0'-2') 7/30/2024
VOCs	ND
PAHs	NA
RCRA 8 Metals	NA
PCBs	NA

Constituent (mg/kg)	VB-3 (2'-4') 7/30/2024
VOCs	NA
PAHs	ND
RCRA 8 Metals	BA
PCBs	ND

Constituent (mg/kg)	VB-DUP-1 (2'-4') 7/30/2024
VOCs	NA
PAHs	ND
Arsenic	24
Balance RCRA 8 Metals	BA
PCBs	ND

Legend

- Site
- Parcel Boundary
- Soil Boring Location
- 2' Topographic Contour (2021)
- Local Connector
- Local Road
- Ramp
- Intermittent Stream
- Canal/Ditch
- Perennial Stream
- Perennial Lake

ND = Constituent Not Detected at Laboratory Reporting Limit
NA = Constituent Not Analyzed
BA = Constituent Detected Above Laboratory Reporting Limit, but Below 2024 IDEM Screening Level
100.0 = Detection exceeds 2024 IDEM R2 Long Term Residential Soil Published Level

N

1" = 102'

0 25 50 100 150 200 Feet

VET Environmental Engineering, LLC

2335 W. Fountain Drive
Bloomington, IN 47404
Phone: (812) 822-0400
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Title:	Phase II Site Map
Location:	West Hunter Valley Road, Bloomington, Indiana 47404, Monroe County
Project:	Monroe County Commissioners, Hunter Valley - North Park Phase II
VET Project No.:	24-167
NPDES Permit No.:	N/A
Date:	9/3/2024
Exhibit:	4
Drawn By:	EMT
Notes:	N/A
Data Sources:	2022 Elevate Imagery, 2019 USGS TNM Topo Indiana Bloomington & Clear Creek 7.5'

TABLES

Table 1. Soil Analytical Results
North Park - West Hunter Valley Road, Bloomington, Indiana
2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs)

Constituents (mg/kg)		2024 IDEM Risk-Based Closure Guide (R2) Published Levels			VB-1 (0'-2')	VB-1 (2'-4')	VB-1 (4'-4.33')
		Long Term		Short Term			
		Residential	Commercial/ Industrial	Excavation	7/30/2024	7/30/2024	7/30/2024
					500-254319-1	500-254319-2	500-254319-3
CAS #	VOCs (GC/MS) Method 8260D						
71-55-6	1,1,1-Trichloroethane	**	**	600	NA	NA	<0.0017
79-00-5	1,1,2-Trichloroethane	**	**	30	NA	NA	<0.0017
75-34-3	1,1-Dichloroethane	**	**	2,000	NA	NA	<0.0017
75-35-4	1,1-Dichloroethene	**	**	1,000	NA	NA	<0.0017
95-63-6	1,2,4-Trimethylbenzene	**	**	200	NA	NA	<0.0017
107-06-2	1,2-Dichloroethane (EDC)	**	**	700	NA	NA	<0.0043
78-87-5	1,2-Dichloropropane	**	**	400	NA	NA	<0.0017
108-67-8	1,3,5-Trimethylbenzene	**	**	200	NA	NA	<0.0017
123-91-1	1,4-Dioxane	**	**	10,000	NA	NA	<0.085 *
78-93-3	2-Butanone (MEK)	**	**	30,000	NA	NA	<0.0043
591-78-6	2-Hexanone	**	**	3,000	NA	NA	<0.0043
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	NA	<0.0043
67-64-1	Acetone	**	**	100,000	NA	NA	<0.017
71-43-2	Benzene	**	**	2,000	NA	NA	<0.0017
75-25-2	Bromoform	**	**	900	NA	NA	<0.0017
74-83-9	Bromomethane	**	**	200	NA	NA	<0.0043
75-15-0	Carbon disulfide	**	**	700	NA	NA	<0.0043
56-23-5	Carbon tetrachloride	**	**	500	NA	NA	<0.0017
108-90-7	Chlorobenzene	**	**	800	NA	NA	<0.0017
124-48-1	Chlorodibromomethane	**	**	800	NA	NA	<0.0017
75-00-3	Chloroethane	**	**	2,000	NA	NA	<0.0043
67-66-3	Chloroform	**	**	2,000	NA	NA	<0.0017
74-87-3	Chloromethane	**	**	1,000	NA	NA	<0.0043
156-59-2	cis-1,2-Dichloroethene	**	**	1,000	NA	NA	<0.0017
10061-01-5	cis-1,3-Dichloropropene	**	**	**	NA	NA	<0.0017
110-82-7	Cyclohexane	**	**	100	NA	NA	<0.0017
75-27-4	Dichlorobromomethane	**	**	900	NA	NA	<0.0017
100-41-4	Ethylbenzene	**	**	500	NA	NA	<0.0017
106-93-4	Ethylene Dibromide (EDB)	**	**	200	NA	NA	<0.0017
98-82-8	Isopropylbenzene (Cumene)	**	**	300	NA	NA	<0.0017
79-20-9	Methyl acetate	**	**	30,000	NA	NA	<0.021
108-10-1	Methyl Isobutyl Ketone (MIBK)	**	**	3,000	NA	NA	<0.0043
1634-04-4	Methyl tertiary butyl ether (MTBE)	**	**	9,000	NA	NA	<0.0017
108-87-2	Methylcyclohexane	**	**	**	NA	NA	<0.0017
75-09-2	Methylene Chloride	**	**	3,000	NA	NA	<0.0043
91-20-3	Naphthalene	30	90	3,000	NA	NA	<0.0043
100-42-5	Styrene	**	**	900	NA	NA	<0.0017
127-18-4	Tetrachloroethylene (PCE)	**	**	200	NA	NA	<0.0017
108-88-3	Toluene	**	**	800	NA	NA	<0.0017
156-60-5	trans-1,2-Dichloroethene	**	**	2,000	NA	NA	<0.0017
10061-02-6	trans-1,3-Dichloropropene	**	**	**	NA	NA	<0.0017
79-01-6	Trichloroethylene (TCE)	**	**	100	NA	NA	<0.0017
75-69-4	Trichlorofluoromethane	**	**	1,000	NA	NA	<0.0043
108-05-4	Vinyl acetate	**	**	3,000	NA	NA	<0.0043
75-01-4	Vinyl chloride (chloroethene)	**	**	1,000	NA	NA	<0.0017
1330-20-7	Xylene, Total	**	**	300	NA	NA	<0.0034
CAS #	PAHs (GC/MS) Method 8270E						
90-12-0	1-Methylnaphthalene	300	400	400	NA	<0.043	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	<0.043	NA
83-32-9	Acenaphthene	5,000	50,000	100,000	NA	<0.043	NA
208-96-8	Acenaphthylene	**	**	**	NA	<0.043	NA
120-12-7	Anthracene	30,000	100,000	100,000	NA	<0.043	NA
56-55-3	Benzo(A)Anthracene	20	200	10,000	NA	<0.043	NA
50-32-8	Benzo(A)Pyrene	2	20	500	NA	<0.043	NA
205-99-2	Benzo(B)Fluoranthene	20	200	10,000	NA	<0.043	NA
191-24-2	Benzo(G,H,I)Perylene	**	**	**	NA	<0.043	NA
207-08-9	Benzo(K)Fluoranthene	200	2,000	100,000	NA	<0.043	NA
218-01-9	Chrysene	2,000	20,000	100,000	NA	<0.043	NA
53-70-3	Dibenz(A,H)Anthracene	2	20	1000	NA	<0.043	NA
206-44-0	Fluoranthene	3,000	30,000	70,000	NA	<0.043	NA
86-73-7	Fluorene	3,000	30,000	70,000	NA	<0.043	NA
193-39-5	Indeno(1,2,3-C,D)Pyrene	20	200	10,000	NA	<0.043	NA
91-20-3	Naphthalene	30	90	3,000	NA	<0.043	NA
85-01-8	Phenanthrene	**	**	**	NA	<0.043	NA
129-00-0	Pyrene	3,000	20,000	50,000	NA	<0.043	NA
CAS #	Metals - Method (ICP/MS) 6010D						
7440-38-2	Arsenic	10	30	900	NA	**7.2**	NA
7440-39-3	Barium	20,000	100,000	100,000	NA	**110**	NA
7440-43-9	Cadmium	10	100	200	NA	<0.26	NA
7440-47-3	Chromium, Total	**	**	**	NA	**18**	NA
7439-92-1	Lead	400	800	1,000	NA	**14**	NA
7782-49-2	Selenium	500	6,000	10,000	NA	<1.3	NA
7440-22-4	Silver	500	6,000	10,000	NA	<0.66	NA
CAS #	Mercury - Method 7471B (CVAA)						
7439-97-6	Mercury	3	3	3	NA	**0.037**	NA
CAS #	PCBs Method 8082A						
12674-11-2	PCB-1016	6	50	100	<0.10	<0.021	NA
11104-28-2	PCB-1221	3	8	500	<0.10	<0.021	NA
11141-16-5	PCB-1232	2	7	500	<0.10	<0.021	NA
53469-21-9	PCB-1242	3	10	600	<0.10	<0.021	NA
12672-29-6	PCB-1248	3	9	600	**0.90**	**0.039**	NA
11097-69-1	PCB-1254	2	10	30	<0.10	<0.021	NA
11096-82-5	PCB-1260	3	10	600	<0.10	<0.021	NA
1336-36-3	PCBs, Total (High Risk)	3	9	600	**0.90**	**0.039**	NA

Table 1. Soil Analytical Results
North Park - West Hunter Valley Road, Bloomington, Indiana
2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs)

Constituents (mg/kg)		2024 IDEM Risk-Based Closure Guide (R2) Published Levels			VB-2 (0'-2')	VB-2 (2'-4')	VB-3 (0'-2')
		Long Term		Short Term			
		Residential	Commercial/ Industrial	Excavation	7/30/2024	7/30/2024	7/30/2024
					500-254319-4	500-254319-5	500-254319-6
CAS #	VOCs (GC/MS) Method 8260D						
71-55-6	1,1,1-Trichloroethane	**	**	600	NA	<0.0018	<0.0020
79-00-5	1,1,2-Trichloroethane	**	**	30	NA	<0.0018	<0.0020
75-34-3	1,1-Dichloroethane	**	**	2,000	NA	<0.0018	<0.0020
75-35-4	1,1-Dichloroethene	**	**	1,000	NA	<0.0018	<0.0020
95-63-6	1,2,4-Trimethylbenzene	**	**	200	NA	<0.0018	<0.0020
107-06-2	1,2-Dichloroethane (EDC)	**	**	700	NA	<0.0045	<0.0049
78-87-5	1,2-Dichloropropane	**	**	400	NA	<0.0018	<0.0020
108-67-8	1,3,5-Trimethylbenzene	**	**	200	NA	<0.0018	<0.0020
123-91-1	1,4-Dioxane	**	**	10,000	NA	<0.090 *	<0.098 *
78-93-3	2-Butanone (MEK)	**	**	30,000	NA	<0.0045	<0.0049
591-78-6	2-Hexanone	**	**	3,000	NA	<0.0045	<0.0049
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	<0.0045	<0.0049
67-64-1	Acetone	**	**	100,000	NA	<0.018	<0.020
71-43-2	Benzene	**	**	2,000	NA	<0.0018	<0.0020
75-25-2	Bromoform	**	**	900	NA	<0.0018	<0.0020
74-83-9	Bromomethane	**	**	200	NA	<0.0045	<0.0049
75-15-0	Carbon disulfide	**	**	700	NA	<0.0045	<0.0049
56-23-5	Carbon tetrachloride	**	**	500	NA	<0.0018	<0.0020
108-90-7	Chlorobenzene	**	**	800	NA	<0.0018	<0.0020
124-48-1	Chlorodibromomethane	**	**	800	NA	<0.0018	<0.0020
75-00-3	Chloroethane	**	**	2,000	NA	<0.0045	<0.0049
67-66-3	Chloroform	**	**	2,000	NA	<0.0018	<0.0020
74-87-3	Chloromethane	**	**	1,000	NA	<0.0045	<0.0049
156-59-2	cis-1,2-Dichloroethene	**	**	1,000	NA	<0.0018	<0.0020
10061-01-5	cis-1,3-Dichloropropene	**	**	**	NA	<0.0018	<0.0020
110-82-7	Cyclohexane	**	**	100	NA	<0.0018	<0.0020
75-27-4	Dichlorobromomethane	**	**	900	NA	<0.0018	<0.0020
100-41-4	Ethylbenzene	**	**	500	NA	<0.0018	<0.0020
106-93-4	Ethylene Dibromide (EDB)	**	**	200	NA	<0.0018	<0.0020
98-82-8	Isopropylbenzene (Cumene)	**	**	300	NA	<0.0018	<0.0020
79-20-9	Methyl acetate	**	**	30,000	NA	<0.022	<0.024
108-10-1	Methyl Isobutyl Ketone (MIBK)	**	**	3,000	NA	<0.0045	<0.0049
1634-04-4	Methyl tertiary butyl ether (MTBE)	**	**	9,000	NA	<0.0018	<0.0020
108-87-2	Methylcyclohexane	**	**	**	NA	<0.0018	<0.0020
75-09-2	Methylene Chloride	**	**	3,000	NA	<0.0045	<0.0049
91-20-3	Naphthalene	30	90	3,000	NA	<0.0045	<0.0049
100-42-5	Styrene	**	**	900	NA	<0.0018	<0.0020
127-18-4	Tetrachloroethylene (PCE)	**	**	200	NA	<0.0018	<0.0020
108-88-3	Toluene	**	**	800	NA	<0.0018	<0.0020
156-60-5	trans-1,2-Dichloroethene	**	**	2,000	NA	<0.0018	<0.0020
10061-02-6	trans-1,3-Dichloropropene	**	**	**	NA	<0.0018	<0.0020
79-01-6	Trichloroethylene (TCE)	**	**	100	NA	<0.0018	<0.0020
75-69-4	Trichlorofluoromethane	**	**	1,000	NA	<0.0045	<0.0049
108-05-4	Vinyl acetate	**	**	3,000	NA	<0.0045	<0.0049
75-01-4	Vinyl chloride (chloroethene)	**	**	1,000	NA	<0.0018	<0.0020
1330-20-7	Xylene, Total	**	**	300	NA	<0.0036	<0.0039
CAS #	PAHs (GC/MS) Method 8270E						
90-12-0	1-Methylnaphthalene	300	400	400	NA	NA	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	NA	NA
83-32-9	Acenaphthene	5,000	50,000	100,000	NA	NA	NA
208-96-8	Acenaphthylene	**	**	**	NA	NA	NA
120-12-7	Anthracene	30,000	100,000	100,000	NA	NA	NA
56-55-3	Benzo(A)Anthracene	20	200	10,000	NA	NA	NA
50-32-8	Benzo(A)Pyrene	2	20	500	NA	NA	NA
205-99-2	Benzo(B)Fluoranthene	20	200	10,000	NA	NA	NA
191-24-2	Benzo(G,H,I)Perylene	**	**	**	NA	NA	NA
207-08-9	Benzo(K)Fluoranthene	200	2,000	100,000	NA	NA	NA
218-01-9	Chrysene	2,000	20,000	100,000	NA	NA	NA
53-70-3	Dibenz(A,H)Anthracene	2	20	1000	NA	NA	NA
206-44-0	Fluoranthene	3,000	30,000	70,000	NA	NA	NA
86-73-7	Fluorene	3,000	30,000	70,000	NA	NA	NA
193-39-5	Indeno(1,2,3-C,D)Pyrene	20	200	10,000	NA	NA	NA
91-20-3	Naphthalene	30	90	3,000	NA	NA	NA
85-01-8	Phenanthrene	**	**	**	NA	NA	NA
129-00-0	Pyrene	3,000	20,000	50,000	NA	NA	NA
CAS #	Metals - Method (ICP/MS) 6010D						
7440-38-2	Arsenic	10	30	900	NA	NA	NA
7440-39-3	Barium	20,000	100,000	100,000	NA	NA	NA
7440-43-9	Cadmium	10	100	200	NA	NA	NA
7440-47-3	Chromium, Total	**	**	**	NA	NA	NA
7439-92-1	Lead	400	800	1,000	NA	NA	NA
7782-49-2	Selenium	500	6,000	10,000	NA	NA	NA
7440-22-4	Silver	500	6,000	10,000	NA	NA	NA
CAS #	Mercury - Method 7471B (CVAA)						
7439-97-6	Mercury	3	3	3	NA	NA	NA
CAS #	PCBs Method 8082A						
12674-11-2	PCB-1016	6	50	100	<0.022	NA	<0.021
11104-28-2	PCB-1221	3	8	500	<0.022	NA	<0.021
11141-16-5	PCB-1232	2	7	500	<0.022	NA	<0.021
53469-21-9	PCB-1242	3	10	600	<0.022	NA	<0.021
12672-29-6	PCB-1248	3	9	600	<0.022	NA	**0.23**
11097-69-1	PCB-1254	2	10	30	<0.022	NA	<0.021
11096-82-5	PCB-1260	3	10	600	<0.022	NA	<0.021
1336-36-3	PCBs, Total (High Risk)	3	9	600	<0.022	NA	**0.23**

Table 1. Soil Analytical Results
North Park - West Hunter Valley Road, Bloomington, Indiana
2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs)

Constituents (mg/kg)		2024 IDEM Risk-Based Closure Guide (R2) Published Levels			VB-3 (2'-4')	VB-DUP-1	VB-4 (0'-2')
		Long Term		Short Term			
		Residential	Commercial/ Industrial	Excavation	7/30/2024	7/30/2024	7/30/2024
					500-254319-1	500-254319-2	500-254319-2
CAS #	VOCs (GC/MS) Method 8260D						
71-55-6	1,1,1-Trichloroethane	**	**	600	NA	<0.0018	NA
79-00-5	1,1,2-Trichloroethane	**	**	30	NA	<0.0018	NA
75-34-3	1,1-Dichloroethane	**	**	2,000	NA	<0.0018	NA
75-35-4	1,1-Dichloroethene	**	**	1,000	NA	<0.0018	NA
95-63-6	1,2,4-Trimethylbenzene	**	**	200	NA	<0.0018	NA
107-06-2	1,2-Dichloroethane (EDC)	**	**	700	NA	<0.0046	NA
78-87-5	1,2-Dichloropropane	**	**	400	NA	<0.0018	NA
108-67-8	1,3,5-Trimethylbenzene	**	**	200	NA	<0.0018	NA
123-91-1	1,4-Dioxane	**	**	10,000	NA	<0.091 *	NA
78-93-3	2-Butanone (MEK)	**	**	30,000	NA	<0.0046	NA
591-78-6	2-Hexanone	**	**	3,000	NA	<0.0046	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	<0.0046	NA
67-64-1	Acetone	**	**	100,000	NA	<0.018	NA
71-43-2	Benzene	**	**	2,000	NA	<0.0018	NA
75-25-2	Bromoform	**	**	900	NA	<0.0018	NA
74-83-9	Bromomethane	**	**	200	NA	<0.0046	NA
75-15-0	Carbon disulfide	**	**	700	NA	<0.0046	NA
56-23-5	Carbon tetrachloride	**	**	500	NA	<0.0018	NA
108-90-7	Chlorobenzene	**	**	800	NA	<0.0018	NA
124-48-1	Chlorodibromomethane	**	**	800	NA	<0.0018	NA
75-00-3	Chloroethane	**	**	2,000	NA	<0.0046	NA
67-66-3	Chloroform	**	**	2,000	NA	<0.0018	NA
74-87-3	Chloromethane	**	**	1,000	NA	<0.0046	NA
156-59-2	cis-1,2-Dichloroethene	**	**	1,000	NA	<0.0018	NA
10061-01-5	cis-1,3-Dichloropropene	**	**	**	NA	<0.0018	NA
110-82-7	Cyclohexane	**	**	100	NA	<0.0018	NA
75-27-4	Dichlorobromomethane	**	**	900	NA	<0.0018	NA
100-41-4	Ethylbenzene	**	**	500	NA	<0.0018	NA
106-93-4	Ethylene Dibromide (EDB)	**	**	200	NA	<0.0018	NA
98-82-8	Isopropylbenzene (Cumene)	**	**	300	NA	<0.0018	NA
79-20-9	Methyl acetate	**	**	30,000	NA	<0.023	NA
108-10-1	Methyl Isobutyl Ketone (MIBK)	**	**	3,000	NA	<0.0046	NA
1634-04-4	Methyl tertiary butyl ether (MTBE)	**	**	9,000	NA	<0.0018	NA
108-87-2	Methylcyclohexane	**	**	**	NA	<0.0018	NA
75-09-2	Methylene Chloride	**	**	3,000	NA	<0.0046	NA
91-20-3	Naphthalene	30	90	3,000	NA	<0.0046	NA
100-42-5	Styrene	**	**	900	NA	<0.0018	NA
127-18-4	Tetrachloroethylene (PCE)	**	**	200	NA	<0.0018	NA
108-88-3	Toluene	**	**	800	NA	<0.0018	NA
156-60-5	trans-1,2-Dichloroethene	**	**	2,000	NA	<0.0018	NA
10061-02-6	trans-1,3-Dichloropropene	**	**	**	NA	<0.0018	NA
79-01-6	Trichloroethylene (TCE)	**	**	100	NA	<0.0018	NA
75-69-4	Trichlorofluoromethane	**	**	1,000	NA	<0.0046	NA
108-05-4	Vinyl acetate	**	**	3,000	NA	<0.0046	NA
75-01-4	Vinyl chloride (chloroethene)	**	**	1,000	NA	<0.0018	NA
1330-20-7	Xylene, Total	**	**	300	NA	<0.0037	NA
CAS #	PAHs (GC/MS) Method 8270E						
90-12-0	1-Methylnaphthalene	300	400	400	<0.043	<0.043	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	<0.043	<0.043	NA
83-32-9	Acenaphthene	5,000	50,000	100,000	<0.043	<0.043	NA
208-96-8	Acenaphthylene	**	**	**	<0.043	<0.043	NA
120-12-7	Anthracene	30,000	100,000	100,000	<0.043	<0.043	NA
56-55-3	Benzo(A)Anthracene	20	200	10,000	<0.043	<0.043	NA
50-32-8	Benzo(A)Pyrene	2	20	500	<0.043	<0.043	NA
205-99-2	Benzo(B)Fluoranthene	20	200	10,000	<0.043	<0.043	NA
191-24-2	Benzo(G,H,I)Perylene	**	**	**	<0.043	<0.043	NA
207-08-9	Benzo(K)Fluoranthene	200	2,000	100,000	<0.043	<0.043	NA
218-01-9	Chrysene	2,000	20,000	100,000	<0.043	<0.043	NA
53-70-3	Dibenz(A,H)Anthracene	2	20	1000	<0.043	<0.043	NA
206-44-0	Fluoranthene	3,000	30,000	70,000	<0.043	<0.043	NA
86-73-7	Fluorene	3,000	30,000	70,000	<0.043	<0.043	NA
193-39-5	Indeno(1,2,3-C,D)Pyrene	20	200	10,000	<0.043	<0.043	NA
91-20-3	Naphthalene	30	90	3,000	<0.043	<0.043	NA
85-01-8	Phenanthrene	**	**	**	<0.043	<0.043	NA
129-00-0	Pyrene	3,000	20,000	50,000	<0.043	<0.043	NA
CAS #	Metals - Method (ICP/MS) 6010D						
7440-38-2	Arsenic	10	30	900	**8.4**	24	NA
7440-39-3	Barium	20,000	100,000	100,000	**160**	**380**	NA
7440-43-9	Cadmium	10	100	200	**0.30**	**1.0**	NA
7440-47-3	Chromium, Total	**	**	**	**24**	**92**	NA
7439-92-1	Lead	400	800	1,000	**17**	**44**	NA
7782-49-2	Selenium	500	6,000	10,000	<1.2	**1.8**	NA
7440-22-4	Silver	500	6,000	10,000	<0.59	<0.65	NA
CAS #	Mercury - Method 7471B (CVAA)						
7439-97-6	Mercury	3	3	3	**0.043**	**0.030**	NA
CAS #	PCBs Method 8082A						
12674-11-2	PCB-1016	6	50	100	<0.023	<0.022	<0.020
11104-28-2	PCB-1221	3	8	500	<0.023	<0.022	<0.020
11141-16-5	PCB-1232	2	7	500	<0.023	<0.022	<0.020
53469-21-9	PCB-1242	3	10	600	<0.023	<0.022	<0.020
12672-29-6	PCB-1248	3	9	600	<0.023	<0.022	<0.020
11097-69-1	PCB-1254	2	10	30	<0.023	<0.022	<0.020
11096-82-5	PCB-1260	3	10	600	<0.023	<0.022	<0.020
1336-36-3	PCBs, Total (High Risk)	3	9	600	<0.023	<0.022	<0.020

Table 1. Soil Analytical Results
North Park - West Hunter Valley Road, Bloomington, Indiana
2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs)

Constituents (mg/kg)		2024 IDEM Risk-Based Closure Guide (R2) Published Levels			VB-5 (0'-2')	VB-5 (2'-4')	VB-6 (0'-2')
		Long Term		Short Term			
		Residential	Commercial/ Industrial	Excavation	7/30/2024	7/30/2024	7/30/2024
					500-254319-1	500-254319-2	500-254319-2
CAS #	VOCs (GC/MS) Method 8260D						
71-55-6	1,1,1-Trichloroethane	**	**	600	NA	<0.0017	NA
79-00-5	1,1,2-Trichloroethane	**	**	30	NA	<0.0017	NA
75-34-3	1,1-Dichloroethane	**	**	2,000	NA	<0.0017	NA
75-35-4	1,1-Dichloroethene	**	**	1,000	NA	<0.0017	NA
95-63-6	1,2,4-Trimethylbenzene	**	**	200	NA	<0.0017	NA
107-06-2	1,2-Dichloroethane (EDC)	**	**	700	NA	<0.0042	NA
78-87-5	1,2-Dichloropropane	**	**	400	NA	<0.0017	NA
108-67-8	1,3,5-Trimethylbenzene	**	**	200	NA	<0.0017	NA
123-91-1	1,4-Dioxane	**	**	10,000	NA	<0.084 *	NA
78-93-3	2-Butanone (MEK)	**	**	30,000	NA	<0.0042	NA
591-78-6	2-Hexanone	**	**	3,000	NA	<0.0042	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	<0.0042	NA
67-64-1	Acetone	**	**	100,000	NA	<0.017	NA
71-43-2	Benzene	**	**	2,000	NA	<0.0017	NA
75-25-2	Bromoform	**	**	900	NA	<0.0017	NA
74-83-9	Bromomethane	**	**	200	NA	<0.0042	NA
75-15-0	Carbon disulfide	**	**	700	NA	<0.0042	NA
56-23-5	Carbon tetrachloride	**	**	500	NA	<0.0017	NA
108-90-7	Chlorobenzene	**	**	800	NA	<0.0017	NA
124-48-1	Chlorodibromomethane	**	**	800	NA	<0.0042	NA
75-00-3	Chloroethane	**	**	2,000	NA	<0.0042	NA
67-66-3	Chloroform	**	**	2,000	NA	<0.0017	NA
74-87-3	Chloromethane	**	**	1,000	NA	<0.0042	NA
156-59-2	cis-1,2-Dichloroethene	**	**	1,000	NA	<0.0017	NA
10061-01-5	cis-1,3-Dichloropropene	**	**	**	NA	<0.0017	NA
110-82-7	Cyclohexane	**	**	100	NA	<0.0017	NA
75-27-4	Dichlorobromomethane	**	**	900	NA	<0.0017	NA
100-41-4	Ethylbenzene	**	**	500	NA	<0.0017	NA
106-93-4	Ethylene Dibromide (EDB)	**	**	200	NA	<0.0017	NA
98-82-8	Isopropylbenzene (Cumene)	**	**	300	NA	<0.0017	NA
79-20-9	Methyl acetate	**	**	30,000	NA	<0.021	NA
108-10-1	Methyl Isobutyl Ketone (MIBK)	**	**	3,000	NA	<0.0042	NA
1634-04-4	Methyl tertiary butyl ether (MTBE)	**	**	9,000	NA	<0.0017	NA
108-87-2	Methylcyclohexane	**	**	**	NA	<0.0017	NA
75-09-2	Methylene Chloride	**	**	3,000	NA	<0.0042	NA
91-20-3	Naphthalene	30	90	3,000	NA	<0.0042	NA
100-42-5	Styrene	**	**	900	NA	<0.0017	NA
127-18-4	Tetrachloroethylene (PCE)	**	**	200	NA	<0.0017	NA
108-88-3	Toluene	**	**	800	NA	<0.0017	NA
156-60-5	trans-1,2-Dichloroethene	**	**	2,000	NA	<0.0017	NA
10061-02-6	trans-1,3-Dichloropropene	**	**	**	NA	<0.0017	NA
79-01-6	Trichloroethylene (TCE)	**	**	100	NA	<0.0017	NA
75-69-4	Trichlorofluoromethane	**	**	1,000	NA	<0.0042	NA
108-05-4	Vinyl acetate	**	**	3,000	NA	<0.0042	NA
75-01-4	Vinyl chloride (chloroethene)	**	**	1,000	NA	<0.0017	NA
1330-20-7	Xylene, Total	**	**	300	NA	<0.0033	NA
CAS #	PAHs (GC/MS) Method 8270E						
90-12-0	1-Methylnaphthalene	300	400	400	NA	<0.037	NA
91-57-6	2-Methylnaphthalene	300	3,000	7,000	NA	<0.037	NA
83-32-9	Acenaphthene	5,000	50,000	100,000	NA	<0.037	NA
208-96-8	Acenaphthylene	**	**	**	NA	<0.037	NA
120-12-7	Anthracene	30,000	100,000	100,000	NA	<0.037	NA
56-55-3	Benzo(A)Anthracene	20	200	10,000	NA	<0.037	NA
50-32-8	Benzo(A)Pyrene	2	20	500	NA	<0.037	NA
205-99-2	Benzo(B)Fluoranthene	20	200	10,000	NA	<0.037	NA
191-24-2	Benzo(G,H,I)Perylene	**	**	**	NA	<0.037	NA
207-08-9	Benzo(K)Fluoranthene	200	2,000	100,000	NA	<0.037	NA
218-01-9	Chrysene	2,000	20,000	100,000	NA	<0.037	NA
53-70-3	Dibenz(A,H)Anthracene	2	20	1000	NA	<0.037	NA
206-44-0	Fluoranthene	3,000	30,000	70,000	NA	<0.037	NA
86-73-7	Fluorene	3,000	30,000	70,000	NA	<0.037	NA
193-39-5	Indeno(1,2,3-C,D)Pyrene	20	200	10,000	NA	<0.037	NA
91-20-3	Naphthalene	30	90	3,000	NA	<0.037	NA
85-01-8	Phenanthrene	**	**	**	NA	<0.037	NA
129-00-0	Pyrene	3,000	20,000	50,000	NA	<0.037	NA
CAS #	Metals - Method (ICP/MS) 6010D						
7440-38-2	Arsenic	10	30	900	NA	**6**	NA
7440-39-3	Barium	20,000	100,000	100,000	NA	**94**	NA
7440-43-9	Cadmium	10	100	200	NA	<0.22	NA
7440-47-3	Chromium, Total	**	**	**	NA	**13**	NA
7439-92-1	Lead	400	800	1,000	NA	**18**	NA
7782-49-2	Selenium	500	6,000	10,000	NA	<1.1	NA
7440-22-4	Silver	500	6,000	10,000	NA	<0.55	NA
CAS #	Mercury - Method 7471B (CVAA)						
7439-97-6	Mercury	3	3	3	NA	**0.075**	NA
CAS #	PCBs Method 8082A						
12674-11-2	PCB-1016	6	50	100	<0.019	<0.019	<0.022
11104-28-2	PCB-1221	3	8	500	<0.019	<0.019	<0.022
11141-16-5	PCB-1232	2	7	500	<0.019	<0.019	<0.022
53469-21-9	PCB-1242	3	10	600	<0.019	<0.019	<0.022
12672-29-6	PCB-1248	3	9	600	<0.019	<0.019	<0.022
11097-69-1	PCB-1254	2	10	30	<0.019	<0.019	<0.022
11096-82-5	PCB-1260	3	10	600	<0.019	<0.019	<0.022
1336-36-3	PCBs, Total (High Risk)	3	9	600	<0.019	<0.019	<0.022

Table 1. Soil Analytical Results
North Park - West Hunter Valley Road, Bloomington, Indiana
2024 IDEM Risk-Based Closure Guide (R2) Published Levels (PLs)

Table Legend

NA	= Constituent Not Analyzed
*	= Data qualified (see analytical report)
**	= Criteria for Constituent Not Available
<0.0	= Constituent not detected at reporting limit
<0.0	= Constituent not detected **-** Reporting limit exceeds IDEM R2 Long Term Residential Published Level
<0.0	= Constituent not detected **-** Reporting limit exceeds IDEM R2 Long Term Commercial Published Level
<0.0	= Constituent not detected **-** Reporting limie exceeds IDEM R2 Short Term Excavation Published Level
100.0	= Detection does not exceed IDEM R2 Published Levels
100.0	= Detection exceeds IDEM R2 Long Term Residential Published Level
100.0	= Detection exceeds IDEM R2 Long Term Commercial Published Level
100.0	= Detection exceeds IDEM R2 Short Term Excavation Published Level