



# III.E

## Hazardous Materials

### 1. Existing Conditions

#### Investigation of the Project Site's History

The Project Site has been used for the production of pharmaceutical products throughout its developed history. The Project Site was developed in 1964 by Geigy, Inc., who then merged with Ciba, Inc. creating Ciba-Geigy, Inc. in 1971. In 1997 Ciba-Geigy, Inc. and Sandoz, Inc. merged creating Novartis Pharmaceuticals Corporation. The pharmaceutical operations were ceased as of 2017 and the Project Site has remained vacant since that time.

Historical sources, including aerial photographs, indicate that the Project Site was undeveloped and consisted of mostly cleared farmland since the 1950's. From the mid-1960's and onward, a portion of the Project Site was developed with additional buildings and parking areas while most of the forested area was maintained.

Based on a site inspection conducted on April 9 and April 17, 2020 as part of a Phase I Environmental Site Assessment, the Project Site was observed to be comprised of a "main campus" that occupies an area of 50 acres (see **Figure III.E-1**). The main campus contained buildings (including a vacant one- and two-story former pharmaceutical building), roadways, and lawn areas. The four largest buildings are the Head Building, Production Building, Energy Center, and Terminal and Automated Storage / Retrieval System (AS/RS) Building. The Energy Center Building contained boilers, former brine and acid tanks, and associated equipment. The AS/RS and Terminal Buildings contained large equipment. A variety of materials including air filters, general household trash, extra parts, and ski bindings were stored in these areas. General cleaning chemicals were observed in the Terminal Building. The Head Building contained two floors consisting of former office space, lab space, a cafeteria, and mechanical rooms. The Production Building contained two floors consisting of lab spaces, office spaces, mechanical rooms, and open production space. Finally, two dumpster areas were observed around the exterior of the Head and Production Buildings. Other support buildings included a guard house, sewage pump house, waste storage shed, fire pump houses, and landscape shed. The Project Site also includes parking areas and a pond located to the south of the Terminal Building.

The remainder of the Project Site consists of 112 acres of densely wooded hilly terrain. The forested areas to the west of the vacant buildings contained a stream and several piles of fill material and



construction debris. Remnant stone building foundations were observed in the northeast corner of the property.

## Review of Federal and State Databases

A search of the regulatory agency databases was performed as part of this environmental review. The Project Site is not listed on the National Priorities List or the Emergency Response Notification System. The Project Site does not appear to be subject to any current regulatory enforcement actions by Federal, State, or local regulatory agencies.

- › The New York Spills database and New York Leaking Storage Tank Incident Reports (LTANKS) database indicate that three leaking tank incidents and 47 New York State Department of Environmental Conservation (NYSDEC) spill incidents were reported on the Project Site.
- › The Project Site was identified on several additional databases as listed below:
  - CORRACTS for Pharmaceutical Preparation Manufacturing;
  - RCRA NonGen/NLR for classifying the Project Site as a historical large quantity generator due to the generation of waste impacted with hazardous concentrations of several metals;
  - Integrated Compliance Information System (ICIS);
  - US Aerometric Information Retrieval System (AIRS) and NY AIRS for (Air State Facility) ASF permits which have expired;
  - FINDS and ECHO;
  - NJ Manifest and NY Manifest for removal of hazardous material for disposal;
  - NY UST for one 15,000-gallon fuel oil underground storage tank (UST) and two 10,000-gallon fuel oil UST, all of which were closed on May 16, 2020;<sup>1</sup>
  - NY Cooling Tower database which includes the locations of cooling towers;
  - Aboveground Storage Tank (AST) database for the seven fuel oil storage tanks and two propane storage tanks that were observed on the Project Site based on the April 2020 site inspection. In addition, two drums containing non-hazardous waste and three boilers were also observed. These tanks and drums serviced the fire pump house, Energy Building, and Head Building. No staining or evidence of release was observed in the vicinity of any of these containment units. The secondary containment for two of the tanks in the Energy Building was observed to be filled with water; and
  - NY Tanks database in the Petroleum Bulk Storage Program.

## Phase I ESA and Phase II EI

A Phase I Environmental Site Assessment (ESA) was conducted for the Project Site by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) during the months of March to May 2020. See **Appendix K**. The ESA involved a multi-task investigation to establish current and historic environmental conditions on the Project Site and identified several

---

<sup>1</sup> There are tanks still present on the site. Dynamic Earth completed clean-out of the ASTs. The larger, accessible ASTs have been removed from the site in compliance with local and state processes. Dynamic Earth submitted Petroleum Bulk Storage (PBS) Tank Closure Application to NYSDEC on March 2, 2023 for NYSDEC to update tank registration form to identify all registered tanks as "removed". Where smaller ASTs are in interior portions of the building and are not easily accessible for removal, NYSDEC has advised the Applicant to remove the tanks during demolition. See Appendix L2 for a copy of the closure letter and updated Petroleum Bulk Storage registration reflecting the ASTs as closed.

Recognized Environmental Conditions (RECs). As such, Langan conducted a Phase II Environmental Investigation (Phase II EI) in November 2021 for the purposes of investigating potential subsurface impacts associated with the Project Site. See **Appendix L**. The Phase II EI assessed the following conditions on the Project Site:

### **Spill No. 9814355 - Sewer Break During Construction Activity**

A release of wastewater was reported due to a break in the main sewer pipe leading to the pump house in the central portion of the Project Site in 1998. In order to address potential impacts from Spill 9814355, Langan installed and sampled three soil borings (LAN-SB-1 through LAN-SB-3) and two temporary well points (LAN-TWP-1 and LAN-TWP-2) on August 12, 2021 in this area.

### **Spill No. 9903055 and Sanitary / Process Sewer Line Integrity**

The main sanitary/process sewer line receives sanitary and process wastes from the Head, Production, and Terminal Buildings, and the wastes are discharged to the local municipal sewer system. Groundwater infiltration was reported to have occurred at the main sewer pipeline, generating NYSDEC Spill No. 9903055, and Novartis subsequently determined that exfiltration of wastewater into the surrounding soil and groundwater may have occurred during periods of low groundwater elevations. The potential release of process water from historical operations was identified as an environmental concern. Three soil borings (LAN-SB-1 through LAN-SB-3) and two temporary well points (LAN-TWP-1 and LAN-TWP-2) were installed on August 12, 2021 to investigate Spill No. 9903055.

### **Former Drum Burial Area**

In 1997 Novartis discovered five partially buried fiber-board drums containing brownish-green particulate material. In order to address potential impacts in this area, Langan installed and sampled two soil borings (LAN-SB-4 and LAN-SB-5) and two temporary well points (LAN-TWP-3 and LAN-TWP-4) on August 12, 2021.

### **Hazardous Waste Storage Shed**

Former Resource Conservation and Recovery Act (RCRA) chemical storage areas (CSAs) were located at the site, including CSA-1: Hazardous Waste Storage Shed. Although no environmental impacts were identified in relation to this shed, it could not be confirmed that the obligations under the RCRA corrective actions were officially fulfilled by Ciba-Geigy and that regulatory obligations for this facility have been closed. In order to determine if groundwater impacts are present in this area, Langan installed and sampled one temporary well point (LAN-TWP-5) on August 12, 2021.

See Figures 1, 3, and 4 of the Phase II Subsurface Investigation (**Appendix L**) for the soil boring locations and temporary well points.

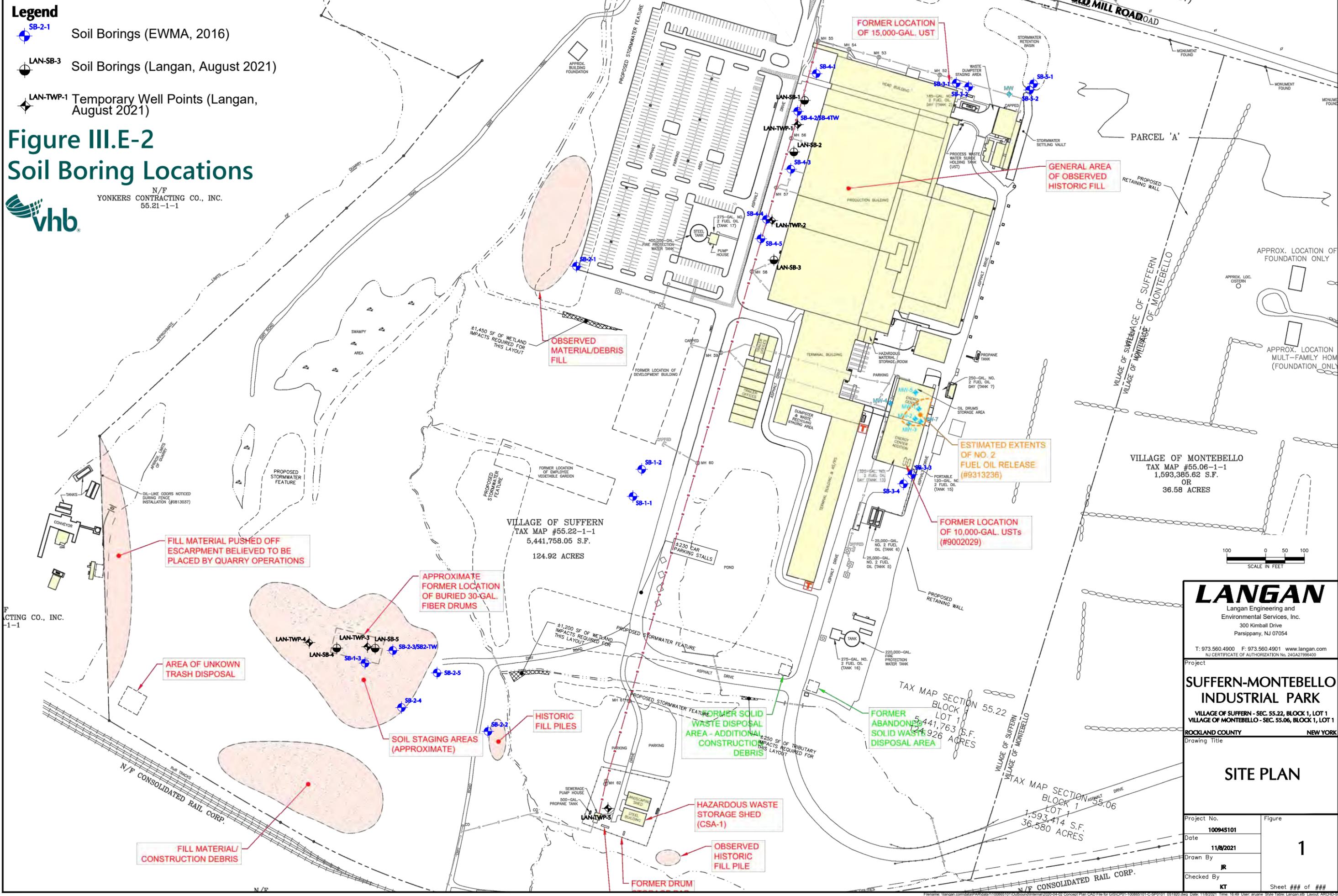
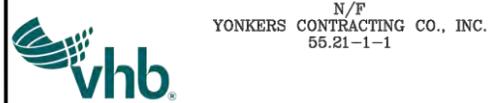
## **2. Potential Impacts**

The analytical results from the Phase II EI for the five soil boring samples showed exceedances of the NYSDEC Part 375 Unrestricted Use soil cleanup objectives (SCOs) at soil boring location LAN-SB-4 for acetone, which is a common laboratory artifact (see **Figure III.E-2** for the soil boring locations). No

**Legend**

-  SB-2-1 Soil Borings (EWMA, 2016)
-  LAN-SB-3 Soil Borings (Langan, August 2021)
-  LAN-TWP-1 Temporary Well Points (Langan, August 2021)

# Figure III.E-2 Soil Boring Locations



**LANGAN**  
Langan Engineering and Environmental Services, Inc.  
300 Kimball Drive  
Parsippany, NJ 07054  
T: 973.560.4900 F: 973.560.4901 www.langan.com  
NJ CERTIFICATE OF AUTHORIZATION No. 24G27996400

**SUFFERN-MONTEBELLO INDUSTRIAL PARK**  
VILLAGE OF SUFFERN - SEC. 55.22, BLOCK 1, LOT 1  
VILLAGE OF MONTEBELLO - SEC. 55.06, BLOCK 1, LOT 1  
ROCKLAND COUNTY NEW YORK  
Drawing Title

<b>SITE PLAN</b>	
Project No.	Figure
100945101	1
Date	
11/8/2021	
Drawn By	
JR	
Checked By	
KT	
Sheet ### of ###	

CTING CO., INC.  
-1-1

PROJECT NO. #####



**Legend**

-  SB-2-1 Soil Borings (EWMA, 2016)
-  LAN-SB-3 Soil Borings (Langan, August 2021)
-  LAN-TWP-1 Temporary Well Points (Langan, August 2021)

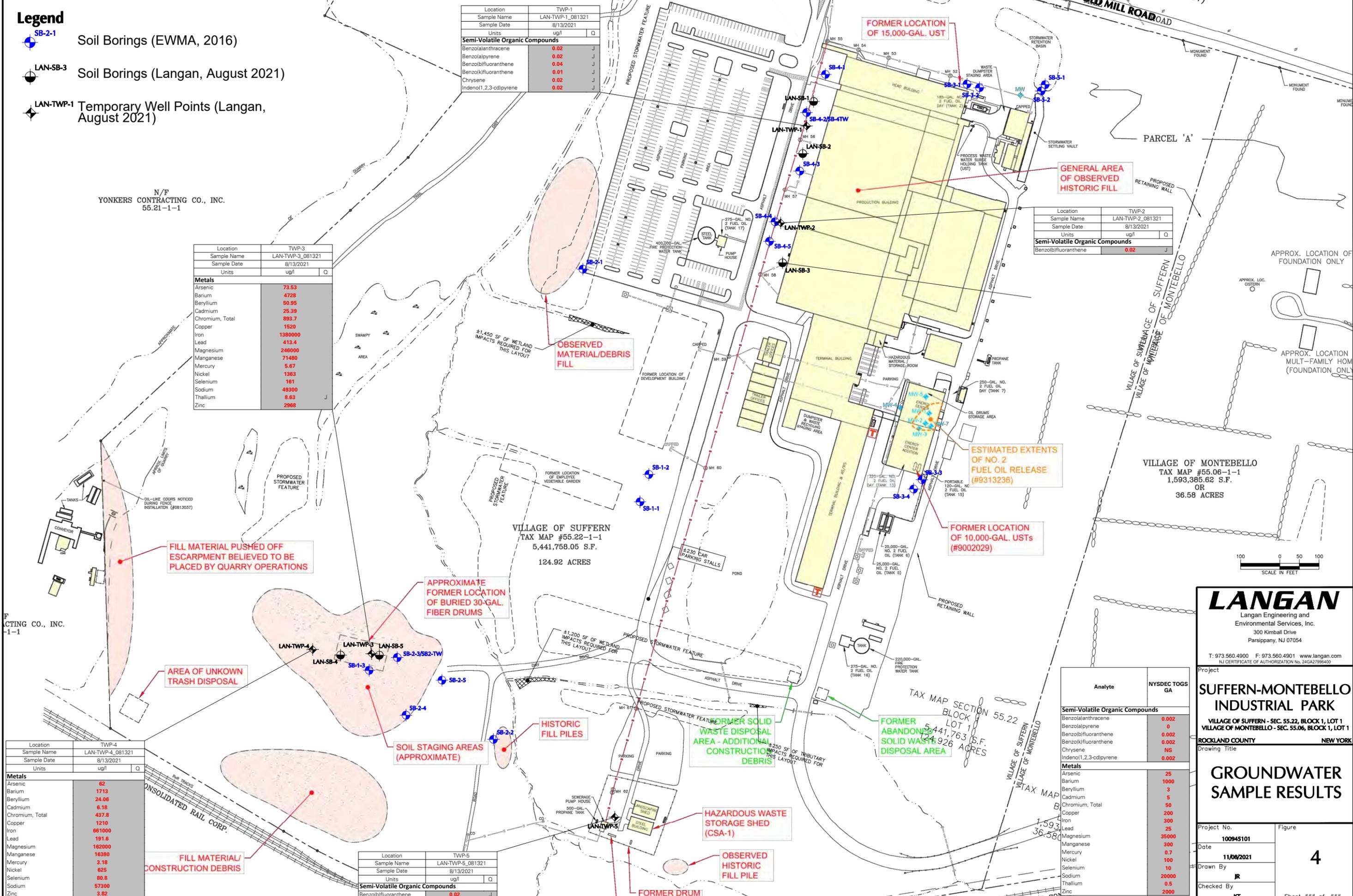
Location	TWP-1
Sample Name	LAN-TWP-1_081321
Sample Date	8/13/2021
Units	ug/l
<b>Semi-Volatile Organic Compounds</b>	
Benzo(a)anthracene	0.02 J
Benzo(a)pyrene	0.02 J
Benzo(b)fluoranthene	0.04 J
Benzo(k)fluoranthene	0.01 J
Chrysene	0.02 J
Indeno(1,2,3-cd)pyrene	0.02 J

Location	TWP-2
Sample Name	LAN-TWP-2_081321
Sample Date	8/13/2021
Units	ug/l
<b>Semi-Volatile Organic Compounds</b>	
Benzo(b)fluoranthene	0.02 J

Location	TWP-3
Sample Name	LAN-TWP-3_081321
Sample Date	8/13/2021
Units	ug/l
<b>Metals</b>	
Arsenic	73.53
Barium	4728
Beryllium	50.95
Cadmium	25.39
Chromium, Total	893.7
Copper	1520
Iron	1380000
Lead	413.4
Magnesium	246000
Manganese	71480
Mercury	5.67
Nickel	1363
Selenium	161
Sodium	49300
Thallium	8.63
Zinc	2968

Location	TWP-4
Sample Name	LAN-TWP-4_081321
Sample Date	8/13/2021
Units	ug/l
<b>Metals</b>	
Arsenic	62
Barium	1713
Beryllium	24.06
Cadmium	6.18
Chromium, Total	437.8
Copper	1210
Iron	661000
Lead	191.6
Magnesium	162000
Manganese	16380
Mercury	3.18
Nickel	625
Selenium	80.8
Sodium	57300
Zinc	3.82

Location	TWP-5
Sample Name	LAN-TWP-5_081321
Sample Date	8/13/2021
Units	ug/l
<b>Semi-Volatile Organic Compounds</b>	
Benzo(b)fluoranthene	0.02 J



**LANGAN**  
 Langan Engineering and Environmental Services, Inc.  
 300 Kimball Drive  
 Parsippany, NJ 07054  
 T: 973.560.4900 F: 973.560.4901 www.langan.com  
 NJ CERTIFICATE OF AUTHORIZATION No. 246A27896400

**SUFFERN-MONTEBELLO INDUSTRIAL PARK**  
 VILLAGE OF SUFFERN - SEC. 55.22, BLOCK 1, LOT 1  
 VILLAGE OF MONTEBELLO - SEC. 55.06, BLOCK 1, LOT 1  
 ROCKLAND COUNTY NEW YORK

**GROUNDWATER SAMPLE RESULTS**

Analyte	NYSDEC TOGS GA
<b>Semi-Volatile Organic Compounds</b>	
Benzo(a)anthracene	0.002
Benzo(a)pyrene	0
Benzo(b)fluoranthene	0.002
Benzo(k)fluoranthene	0.002
Chrysene	NS
Indeno(1,2,3-cd)pyrene	0.002
<b>Metals</b>	
Arsenic	25
Barium	1000
Beryllium	3
Cadmium	5
Chromium, Total	50
Copper	200
Iron	300
Lead	25
Magnesium	35000
Manganese	300
Mercury	0.7
Nickel	100
Selenium	10
Sodium	20000
Thallium	0.5
Zinc	2000

Project No.	100945101	Figure	4
Date	11/08/2021		
Drawn By	JR		
Checked By	KT		

other volatile organic compounds (VOCs) were detected in exceedance of the NYSDEC SCOs. No exceedances of the NYSDEC SCOs were detected for metals. As no other VOCs were detected in exceedance of the NYSDEC SCOs, the minor acetone exceedance at LAN-SB-4 is not believed to be associated with a site-related spill. Based on these data, the Phase II EI concluded that no further investigation or remediation is warranted for soils. The analytical results for the five temporary well points for groundwater testing showed that there were no exceedances of the NYSDEC Groundwater Quality Standards (GWQS) detected for VOCs, but semi-volatile organic compounds (SVOCs) were detected above the NYSDEC GWQS for polycyclic aromatic hydrocarbons (PAHs) in LAN-TWP-1, LAN-TWP-2, and LAN-TWP-5. Furthermore, exceedances of the NYSDEC GWQS were detected for various metals in the groundwater samples collected from TWP-4 and TWP-5, such as arsenic, barium, iron, and magnesium, among others. As elevated concentrations of these constituents were not also detected in the soils, these exceedances are not attributed to site-related spills and are likely related to elevated turbidity in the groundwater samples. None of the sites where exceedances were found were also locations where soil had been removed. Based on these data, the Phase II Subsurface Investigation concluded that no further investigation of groundwater is warranted in the areas where these samples were collected.

## Presence of Hazardous Building Materials

A Site Wide Asbestos Survey Report was prepared by Environ International Corporation in January 2012<sup>2</sup> which identified numerous building materials that were tested and found to be asbestos containing. The results of this report were documented in a Phase I ESA Report completed for the Project Site by ATC Group Services LLC (ATC) in March 2019. A complete Hazardous Materials Survey was prepared by Dynamic Earth in June 2022 (See [Appendix L1](#)). The scope of the survey consisted of a hazardous materials survey within the following structures: Main Building; Main Building Manufacturing Section; Energy Center; Guard House 1; Guard House 2; Fire Pump House 1; Fire Pump House 2; Hazmat Shed; Ground Keeper's Shed; and Sewage Pump House.

The purpose of the pre-demolition survey was to identify all environmentally hazardous materials located within the scope of work at the subject property to include asbestos containing materials (ACM), lead based paint (LBP), and other hazardous materials regulated under the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Toxic Substances Control Act (TSCA), or the Universal Waste Rule (UWR). The hazardous materials survey is in support of future plans to demolish the structures.

The inspection was performed by United States Environmental Protection Agency (USEPA)- certified asbestos building inspectors experienced in identifying and sampling suspect ACM and a trained X-Ray fluorescence (XRF) sampling technician experienced in testing surfaces for LBP using an XRF analyzer. All buildings were structurally sound and were able to be inspected entirely on the interior and exterior.

The asbestos types and building locations are detailed in [Appendix L1](#) Hazardous Materials Survey.

---

<sup>2</sup> As stated in the Phase I ESA, the January 2012 Environ report was not provided in the documents reviewed by Langan Engineering.

### 3. Mitigation Measures

Several steps are taken prior to the demolition of the facility to ensure the proper disposal of any materials which may be considered pollutants.

First, the Phase I Environmental Site Assessment (ESA) conducted by Langan in May 2020 checked all the elements of the property such as the construction materials, design, usage of the building prior to demolition, and building codes. In addition, the Phase I ESA checked for the presence of hazardous, toxic, radioactive, or flammable materials. This would include any materials with the following characteristics:

- Quantity, concentration or physical, chemical or infectious characteristics causes physical injury or illness when improperly treated, stored, transported, disposed of or otherwise managed
- Poses a present or potential hazard to the environment when improperly treated, stored, transported, disposed of or otherwise managed
- Because of its toxicity or concentration within biological chains, presents a demonstrated threat to biological life cycles when discharged into the environment.

Second, a Universal Waste survey was conducted. Universal waste is hazardous waste that is widely produced by households and many different types of businesses. Universal wastes include televisions, computers, printers and other electronic devices, refrigerators, batteries, fluorescent lamps, mercury thermostats, window air conditioning units, fire extinguishers, etc.

Dynamic Engineering was hired to perform the Universal waste survey. While searching for Universal Waste, a small bit of remaining hazardous material was identified. Dynamic Engineering disposed of any remaining hazardous waste (such as sludge left in tanks) that may have been missed during the decommissioning of the facility.

The extensive asbestos abatement survey identified an abatement scope of work. This was conducted by a licensed abatement company. The following process has been followed:

- Isolate asbestos-containing materials by installing decontamination units
- Prepare the work areas for asbestos abatement
- Remove all of the identified and quantified asbestos materials as per the Dynamic Engineering asbestos survey quantities
- Dispose of all asbestos-containing materials in a United States Environmental Protection Agency (EPA) facility
- Air monitoring as required by Occupational Safety and Health Administration (OSHA)
- Notify all necessary and state and federal agencies

To date, the Applicant has fully abated the asbestos in the roof flashing on the Hazardous Waste Shed and Ground Keeper's Shed to the south of the property as well as the silver roofing in the Production Building. In the Energy Center, full abatement of the asbestos in the roof flashing, pipe fittings, and boiler rope gasket has been completed. In the Guard House full abatement of asbestos in the building caulk and window caulk has been completed. The abatement in the Head Building is scheduled to be complete by April 1<sup>st</sup>, 2023 which includes complete asbestos abatement on the following:

- Spray On
- Ceiling Plaster
- Floor Tile & Mastic
- Pipe Insulation, Elbows, Hangers
- Lab tops
- Fume Hoods
- Sink Undercoat
- Tank Insulation
- Boiler Breeching & Insulation
- Generator Exhaust Insulation
- Duct Packing
- Roofing & Flashing

The Environmental Site Assessment, Universal Waste Assessment, and decommissioning of the Novartis campus removed any materials or products stored on the premise with these properties. The only remaining potential pollutants are materials connected to the structure of the building.

When assessing the materials utilized to construct a building, exploratory probes are complete by the environmental site assessment professionals, hazardous abatement surveyors, as well as the demolition contractors. Understanding what lies behind walls, floor coverings, etc. is critical to accurately understand the scope of work associated with the demolition of the facility. If the Phase I Environmental or asbestos surveys did not warrant special removal, the rest of the materials can be removed by demolition professionals.

Demolition contractors are under stringent requirements for where they can haul specific types of scrap materials. Demolition debris can be disposed of in either construction and demolition debris landfills or municipal solid waste landfills. The receiving facilities will vary in severity of contaminants it will accept.

During the bidding process, the demolition contractor professionals conduct exploratory probes to identify if there are any problematic materials that will need to be disposed of through special processes. With thorough Phase I, asbestos, and universal waste surveys already complete, the remaining structural materials were not flagged to be dangerous. The materials can be removed utilizing industry-standard practices.

After hazardous material removal, asbestos abatement, and universal waste removal is complete, the interior gutting of the buildings can be performed. This removes all partitions, equipment, furniture, etc. Once the buildings are stripped down to their bare structure, they can be prepared for structural demolition.

Structural demolition can be performed in numerous ways; the demolition at the existing Novartis campus will be performed by weakening structural members and allowing for controlled falls. This is a process of understanding the structural design/engineering behind each existing structure and weakening it in sections to allow for the structural materials to give way to the ground.

This methodology ensures the minimum amount of dust from the operation is created. Floors at the highest elevations are removed using pneumatic grips. The structure is pulled to the ground instead of allowing to topple.

The practices outlined above minimize impact, but some dust is still generated. Fire hydrants on site remain active and available to help keep air-borne particles suppressed. The hydrants wrap the property allowing for ease of access no matter where the demolition operation is occurring.

Demolition laborers will be present onsite during the entirety of the wrecking operation to ensure that the dust is suppressed. This is done by utilizing fire hoses to spray the dust and help it settle back down on site. Ample amounts of water will be used to ensure that the dust is kept down. Next to the structural safety of the building, this is the most important operation in relation to demolition.

All dust will be brought down using the hoses and settle back onsite within the silt fence. This will ensure that no dust is able to leave the property

Scrap metal will be separated from the crushed building concrete using magnets and excavating equipment. The magnetic process ensures minimal dust removal that could occur during scrap sorting. The scrap metal will be loaded into trucks and taken away without any dust leaving the project. The heavy equipment sifting the material will shake all loose dust off the material being loaded to leave the project site

All crushed concrete/fine particle material will remain onsite. It will be recycled as a part of the proposed development mass grading operation. The material will be stockpiled and respread at a later date. The finest particles (closest to dust) will settle to the bottom of the pile through spraying the pile. Having the finest particle material at the bottom of the material will mitigate its ability to get picked up by wind.