RT Environmental Services, Inc.

March 31, 2023

Ms. Charline Bass
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

RE: SUBMITTAL OF ACT 2 RIR-CP
PORTION OF FORMER ANZON SITE
eFACTS PF NO.856571
2507 ALMOND STREET
CITY OF PHILADELPHIA
PHILADELPHIA COUNTY, PENNSYLVANIA 19134
RT PROJECT #70137-23

Dear Ms. Bass:

On behalf of Riverwards Group (Remediator), RT Environmental Services, Inc., is submitting the ACT 2 Remedial Investigation Report and Cleanup Plan for the above-referenced site. It is noted that the notice of the report submittal was noticed in The Star Newspaper on March 29, 2023 and notices sent to the City Health Department on March 22, 2023.

We look forward to working you and your staff on this Land Recycling project.

Sincerely,

RT ENVIRONMENTAL SERVICES, INC.

Walter H. Hungarter, III, P.E.
Vice President

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS
LAND RECYCLING PROGRAM

Land Recycling Program
Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID 856571

Site Name Portion of Former Anzon Site

Site Address 2507 Almond Street, Philadelphia PA

Municipality and County City of Philadelphia in Philadelphia County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

☐ Background Standard
Final Report ($250 fee)

☒ Site-Specific Standard

- ☒ Remedial Investigation Report ($250 fee)
- ☐ Risk Assessment Report ($250 fee)
- ☒ Cleanup Plan ($250 fee)
- ☐ Final Report ($500 fee)*

☐ Statewide Health Standard*
Final Report ($250 fee)

☐ Special Industrial Area

- ☐ Work Plan (no fee)
- ☐ Baseline Environmental Report (no fee)

*A final report submitted under a combination of cleanup standards should be accompanied with a fee representing the higher of the two standards' final report fee.

Ensure your check covers all required fees and is made payable to the **Commonwealth of Pennsylvania**.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

☐ Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here Historic Release

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.

Stage 1 - Notice of Intent to Remediate (NIR)

☒ Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.

☒ Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.

☒ Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

3/22/2023 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

The Star Newspaper 3/29/2023 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, mailing addresses and business phone number of the individuals who can be contacted regarding this submission:

Consultant

Contact Person/Title: Walter H. Hungarter, III

Phone Number 610-265-1510 ext. 238

Email Address Whungarter@rtenv.com

Company Name: RT Environmental Services, Inc.

Mailing Address (street, city, state, zip)
215 W Church Road, King of Prussia, Pa 19406

Remediator

Contact Person/Title: Lawrence McKnight

Phone Number 267-979-4571

Email Address lMcKnight@riverwardsgroup.com

Company Name: Riverwards Group

Mailing Address (street, city, state, zip)
3020 Richmond Street, Philadelphia, Pa 19134

Other

Contact Person/Title: Todd Pilgrim

Relationship to Site Owner
(e.g. owner, participant in cleanup, responsible party, etc.)

Phone Number 215-584-1290

Email Address pilgrimt@comcast.net

Company Name: Port Richmond Development, VIII, L.P.

Mailing Address (street, city, state, zip)
1845 Walnut Street, 25th Floor, Philadelphia, PA 19013

REMEDIAL INVESTIGATION REPORT
AND CLEAN UP PLAN

PORTION OF FORMER ANZON SITE
2507 ALMOND STREET
PHILADELPHIA, PENNSYLVANIA
eFACTS PF No.856571

PREPARED FOR:

RIVERWARDS GROUP
3020 RICHMOND STREET
PHILADELPHIA, PENNSYLVANIA 19134

RT PROJECT #70137-23

PREPARED BY:

RT ENVIRONMENTAL SERVICES, INC.
215 WEST CHURCH ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

MARCH 2023

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1.0 SUMMARY

RT Environmental Services, Inc. (RT) has prepared this Remedial Investigation Report – Clean up Report (RIR/CP) for a portion of the former Anzon Site property which is located at 2507 Almond Street in Philadelphia, Pennsylvania. This Act 2 work is being implemented for a portion of that site known as Lot 8, located at 2507 Almond Street, consisting of approximately 0.9 acres. The purpose of this document is to summarize prior investigations and remediation activities completed at this property along with a request for a change in the remedial standards previously attained (non-residential site specific standard via pathway elimination) to attain a residential site specific standard via pathway elimination. This RIR/CP includes available Site historical information, historical investigation and remedial activities, recent Site investigations, along with proposed remedial actions designed to demonstrate attainment of a Site-Specific Standards (SSS) for residential use.

Prior to this report the entire former Anzon site located at 2545 Aramingo Avenue completed the Act 2 Process and received a Release of Liability using a Site-Specific Standard for Non-Residential, that included the entire property of approximately 10 acres. The former remedial activities at the site included breakup of slabs and on-site regrading. At the end of site redevelopment, all historic building materials and impacted soils were appropriately capped as documented in the Final Act 2 Report from 2003.

Much of the historical information and descriptive information presented here is summarized from a draft Phase II Environmental Site Assessment (ESA) report prepared by Integrated Technical Services, Inc/Clean Earth, Inc. (ITS) (2001), and a Final Act 2 prepared by RT (2003) and approved by the PADEP. The ITS report was transmitted to the Pennsylvania Department of Environmental Protection (PADEP) by RT for review on April 24, 2002, and RT's previous Act 2 Final Report was approved on November 23, 2003.

As identified in the Final Report, this portion of the property attained a site specific standard through implementation of institutional (environmental covenant) and engineering controls (soil cap). In accordance with a Consent Order and Agreement (COA) dated November 1, 2017, entered into between the Owner of the property and PA Department of Environmental Protection (PADEP), a 2.3 foot clean fill cap was placed on areas of the site which were used to consolidate excavated soil generated from cap maintenance activities from other areas of the former Anzon

property. The work completed under the COA by the Owner involved excavation of lead impacted soils at various locations throughout the former Anzon site and consolidation of the excavated material on the 2507 Almond Street site. Following the consolidation activities, the 2507 Almond Street site was capped with 2.3 feet of clean fill in accordance with the COA. An Environmental Covenant was filed for the site documenting the work completed as part of the COA. The Owner submitted an Engineering Completion Report on April 4, 2019, which was subsequently approved by the PADEP. Following the work under the COA, the Environmental Covenant was finalized.

The current redevelopment plan for the Site will include upgrading the soil cap to impervious concrete, asphalt, (the planned apartment building) and a minimum of 2 foot soil caps (landscaped areas). The residential site specific standard via pathway elimination will be attained following project redevelopment. The Clean Up Plan provided herein documents how the redevelopment will be implemented, including soil management and air monitoring during the construction activities. An Environmental Covenant will be prepared and implemented for the Site which will include a Post Remediation Care Plan.

Upon submittal of the NIR for the 2507 Almond Street Site, the City of Philadelphia requested a public involvement plan be implemented. The developer, Riverwards Group, provided a Preliminary Soil Management Plan to the Olde Richmond Civic Association and there have been four public meetings since June of 2022. The public involvement plan questions and comments are also presented herein.

Based on the planned redevelopment, Riverwards Group will demonstrate attainment of the residential site specific standard via pathway elimination for the Site upon completion of the redevelopment.

2.0 INTRODUCTION

Riverwards Group retained RT to prepare this RIR/CP for a portion of the former Anzon Site located at 2507 Almond Street in the Olde Richmond Section of Philadelphia, Pennsylvania. The purpose of this investigation was to document the nature and extent of lead impacts to the subsurface, document the most recent site investigation activities, evaluate the potential risks posed by lead in soils, and petition the Department to approve the RIR/CP documenting attainment of the residential site specific standard via pathway elimination for the Site. Riverwards Group has obtaining City of Philadelphia approval for residential zoning of the site through the City's land use program. Documentation from the zoning board process is included in Attachment H.

According to the previous Act 2 Final Report approved on November 23, 2003, the Engineering Completion Report dated April 4, 2019 and the Environmental Covenant recorded September 26, 2019, the property had been restricted to non-residential use due to impacts of lead from prior site facility use. Through this report, Riverwards Group is planning to demonstrate attainment of the residential site specific standard via pathway elimination for the Site.

The current redevelopment plan for the Site will include upgrading the soil cap to impervious concrete, asphalt, (the planned apartment building) and a minimum of 2 foot soil caps (landscaped areas). The residential site specific standard via pathway elimination will be attained following project redevelopment. The Clean Up Plan provided herein documents how the redevelopment will be implemented, including soil management and air monitoring during the construction activities. An Environmental Covenant will be prepared and implemented for the Site which will include a Post Remediation Care Plan.

3.0 SITE INFORMATION

To obtain information regarding the physical Site setting, RT completed reasonably ascertainable published information regarding the geologic and topographic characteristics of the Site. Information reviewed included topographic and geologic maps. The Site setting is summarized in the following sections:

3.1 CURRENT SITE CONDITIONS

The site is located at 2507 Almond Street in the Olde Richmond section of the city of Philadelphia. The approximate Site location coordinates are latitude 39° 58' 40.65'' North longitude 75° 7' 12.46'' West. Portions of the property are situated on Almond Street to the north. There is a residential building immediately adjacent to the west, and two commercial buildings to the east of the site. The entire portion of the site is a vacant lot. A site location map is provided in Figure 1.

The current site was a portion of the former Anzon facility and impacted soils which were present on the site as well as impacted soil from other areas of the former Anzon facility were remediated in accordance with PA DEP Act 2 Land Recycling Program. The remedial approach approved by PA DEP was pathway elimination through an engineering control (the soil cap) and an institutional control (the environmental covenant).

3.2 SITE HISTORY

This portion of the Site was used for firebrick storage and residential dwellings in the 1870's. This tract of land remained residential until the 1930's, when the residential dwellings were razed, and the lot was used for miscellaneous storage. By 1951, an administrative building and parking lot were constructed on the southwest corner. The open portion of the lot was used for miscellaneous storage of goods until site operations were ceased in the 1970's.

The site was remediated in 2003 which was documented in the Act 2 Final Report prepared by RT Environmental Services, Inc. dated November 2003. As identified in the Final Report, this portion of the property attained a site specific standard through implementation of institutional (environmental covenant) and engineering controls (soil cap). In accordance with a Consent Order and Agreement (COA) dated November 1, 2017 entered into between the Owner of the

property and PA Department of Environmental Protection (PADEP), a 2-foot clean fill cap was placed on areas of the site which were used to consolidate excavated soil from other areas of the former Anzon property. The work completed under the COA by the Owner involved excavation of lead impacted soils at various locations throughout the former Anzon site and consolidation of the excavated material on the 2507 Almond Street site. Following the consolidation activities, the 2507 Almond Street site was capped with 2.3 feet of clean fill in accordance with the COA. An Environmental Covenant was filed for the site documenting the work completed as part of the COA. The Owner submitted an Engineering Completion Report on April 4, 2019 which was subsequently approved by the PADEP. Following the work under the COA, the Environmental Covenant was finalized. The Environmental Covenant documented the activity and use limitations for the site as follows:

- "Property Use Limitations – The use of the Property shall be limited to commercial or industrial activity.

- Soil Use Limitations - All landscaped portions of the Property have been capped with an orange woven geotextile fabric demarcation barrier and at least 2-feet of certified clean fill or 5 inches of concrete. All impervious surfaces (i.e. pavement, concrete, building foundation and slab, etc.) are also considered a cap at the Property. No excavation of soil or impervious surfaces is permitted at the Property without prior notification to the Grantor and Department. Any person disturbing soil for purposes of completing subsurface work at the Property must handle soil in accordance with federal, state, and local regulations, protect the community from exposure to contaminated soils, and restore the cap upon completion of the work.

- Groundwater Use Limitations - Groundwater underlying the Property shall not be used for drinking or recreational purposes.

- Post-Remediation Care Plan - Because the Property is using institutional and engineering controls to maintain a cap, the following actions will be completed to ensure that the selected attainment standards remain protective to human health and ecology:

    - The then-current owner of the Property, and its tenants, agents, employees and other persons under its control will inspect the cap on the Property annually to confirm that the cap remains in good condition and will make any necessary repairs as needed to maintain the cap."

3.3 PHYSICAL SITE CHARACTERISTICS

3.3.1 Topography

According to the NJ-PA, United States Geological Survey (USGS) 7.5-minute series topographic quadrangle map (2013), the site is located at an elevation of approximately 15-feet above mean

sea level (*msl*). The site is located near the contact of the Atlantic Coastal Plain and the Piedmont Physiographic Province. It is characterized by flat upper terraces cut with shallow valleys. Dendritic stream drainage patterns are common in this area.

3.3.2 Geology

The site is located near the geologic contact between Quaternary age Trenton Gravel unconsolidated sediments and the Cambrian age Wissahickon Schist bedrock, near the contact between the Coastal Plain and Piedmont Physiographic Provinces. The Quaternary age Trenton Gravel formation is described as a gravelly sand interstratified with silt and clay lenses (ITS, 2001).

3.3.3 Hydrology

3.3.3.1 Surface Water

The site is located in the Delaware River Drainage Basin, approximately 0.5 miles northwest of the Delaware River. Surface runoff from the site drains to the City of Philadelphia stormwater/sewer system. Thompson Creek (also referred to as Gunner's or Rambo's Run) traversed portions of the property in the past. Former watercourses may have been filled/sewered to facilitate site development.

ITS (2001) performed a fate and transport analysis using Act 2 methodology to assess whether contaminants in the groundwater beneath the site had potential to affect the Delaware River. The report found that concentrations were three to four orders-of-magnitude lower than the most stringent groundwater standards. Therefore, it is concluded that the contaminants in the groundwater beneath the site have no potential to impact the drinking water supply.

3.3.3.2 Groundwater

According to the prior Act 2 Final report, a groundwater assessment was conducted for the entirety of the Anzon site. Monitoring wells were implemented in April 2001 by Integrated Technical Services, Inc./Clean Earth, Inc. (ITS) and continually sampled by RT for 8 quarterly events. The spatial distribution of contaminants across the site is rather sporadic, as certain compounds show up in one well and not others. The pattern suggests that the impact to groundwater is limited to few isolation areas across the site. It is noted that the groundwater data obtained from the point of compliance monitoring wells has been consistent throughout the

characterization and attainment phase of the prior Act 2 project. Modeling indicated that the present concentration of constituents of concern in groundwater will not affect any downgradient receptors and that groundwater quality at the site is stable.

ITS also conducted a Groundwater Use Study for the site. The Pennsylvania Geological Survey well search indicated the presence of 14 wells within one mile radius of the site. However, no wells were located within ½ mile of the site. Philadelphia Health Department records indicated no potable wells exits within one mile of the site.

As part of the prior Act 2 work, RT had conducted eight groundwater sampling events in order to demonstrate an attainment of a site-specific standard. Groundwater concentrations have remained consistent with historical concentrations. RT had conducted a pathway elimination analysis, risk assessment, and groundwater use determination survey. Because there is no potable groundwater use in the vicinity of the site, and the site is to be capped, there are no sensitive receptors. The highest concentration of lead at the site in groundwater was reported to be below the applicable surface-water criteria. RT concluded that analytical sampling had demonstrated attainment of the specified standards for all compounds identified in groundwater at the subject site.

Based the prior reports, the groundwater pathway was documented to be not complete (i.e. no pathway) and a site specific standard was attained previously. As noted in the Environmental Covenant, groundwater will not be used for drinking or recreational purposes. The proposed redevelopment will continue to implement this restriction. As such, we have concluded that there are no changes in the previously approved groundwater remedy for the Site.

3.4 PROPOSED RE-DEVELOPMENT AREA

The proposed site for redevelopment is located at 2507 Almond Street. According to Harman Deutsh Ohler Architecture Site drawings which are found in Appendix C, the lot to be redeveloped consists of 37,863 square feet (0.87 acres) and is currently unoccupied and undeveloped. The site is proposed for redevelopment to include a five-story building covering the majority of the property. The first floor will be used for parking/support areas and the upper floors will be used for residential purposes. The first-floor parking elevation grade will be similar to existing grades at Almond Street. Green roof areas will be implemented as well as an onsite lined stormwater basin (a rain garden).

4.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

Much of the historical information and descriptive information presented here is summarized from a draft Phase II Environmental Site Assessment (ESA) report prepared by Integrated Technical Services, Inc/Clean Earth, Inc. (ITS) (2001), and a Final Act 2 prepared by RT (2003) and approved by the PADEP. The ITS report was transmitted to the Pennsylvania Department of Environmental Protection (PADEP) by RT for review on April 24, 2002, and RT's previous Act 2 Final Report was approved on November 23, 2003. Further, on August 24, 2015, RT completed a test pit investigation on the 2507 Almond Street site. As indicated herein, in 2019, the 2507 Almond Street site was used for the consolidation of lead impacted soils from the larger former Anzon site under the COA; the entire 2507 Almond Street site was capped at that time.

Information related to past investigation activities and environmental conditions is presented below.

4.1 SOIL QUALITY

4.1.1 ITS Phase II ESA (2001)

ITS's Phase II ESA activities (conducted in April and May 2001) included an investigation of the entire former Anzon site. The investigation activities included the installation of 43 soil borings and the collection of 60 soil samples. ITS's investigation included installation of three soil borings on the 2507 Almond Street site. Lead was detected in all three boring locations and the results are summarized below:

- SB-15 (1.5-2') – 280 mg/kg,
- SB-38A (1.5-2') – 1,400 mg/kg,
- SB-38B (3.5-4') – 3,200 mg/kg,
- SB-17 (1-1.5') – 590 mg/kg.

The soil boring locations for this site are shown in Figure 1. Soil analytical results are summarized in Table 1.

4.1.2 RT Act 2 Final Report (2003)

As part of the Act 2 work previously completed for the entire former Anzon site, soil characterization activities and remedial actions were completed. It is noted that the current Act 2

site, 2507 Almond Street, was a portion of the entire former Anzon site. Previous investigation activities completed as part of the Act 2 work documented lead in soils throughout the entire former Anzon site with lead concentrations ranging from 58 mg/kg to 29,000 mg/kg. Sampling depths throughout the entire former Anzon site varied between 1.5 feet and 14 feet below ground surface (bgs). The soil borings and lead concentrations identified on the current Act 2 site, 2507 Almond Street, were the borings completed by ITS as discussed above. Further information on lead detections across the entire former Anzon site is included in the report excerpts included in Appendix D.

4.1.3 RT Test Pit Investigation (2015)

RT completed a test pit investigation in August of 2015 for the purpose of characterizing soils related to a potential redevelopment project. RT installed eight test pits throughout the site. Utilizing a backhoe, each 6'x4' excavation was dug until the soil and/or fill material was noticeably wet, an indication that groundwater had been encountered. The purpose of the excavations was to allow for visual observations of the visual characteristics of the soil and sample collection at various depths.

Visual observations of the test pits are presented below.

Test Pit -1

A 6'x4' test pit was excavated to 7 feet below ground surface (bgs) in the North end of the subject property, adjacent to the western fence line. Fill consisted of soil, brick debris, concrete metal pieces, rocks, slag, and glass. Samples were collected at 1.5 and 6 feet bgs.

Test Pit -2

A 6'x4' test pit was excavated to 7.5 feet bgs adjacent to the western fence line of the subject property. Fill consisted of soil, brick debris, concrete metal pieces, rocks, slag, and glass. Samples were collected at 1.5 and 7 feet bgs.

Test Pit -3

A 6'x4' test pit was excavated to 8 feet bgs adjacent to the western fence line of the subject property. Fill consisted of soil, brick debris, concrete, metal pieces, rocks, metal pipe pieces, glass. Samples were collected at 1 and 7 feet bgs.

Test Pit -4

A 6'x4' test pit was excavated to 8 feet bgs adjacent to the southern fence line of the subject property. Fill consisted of soil, brick debris, sheet metal, black ashy sand, tar fragments, and glass. Samples were collected at 1.5, 2, and 7 feet bgs.

Test Pit -5

A 6'x4' test pit was excavated to 9 feet bgs, adjacent to the southern fence line of the subject property. Fill consisted of soil, brick debris, concrete, rocks, glass. Clay was observed from 6 to 9 feet bgs. Samples were collected at 1 and 8 feet bgs.

Test Pit -6

A 6'x4' test pit was excavated to 10 feet bgs, adjacent to the southern fence line of the subject property. Fill consisted of soil, brick debris, concrete, black ashy sand, and rocks. Clay was observed from 6 to 9 feet bgs. Samples were collected at 1 and 8 feet bgs.

Test Pit -7

A 6'x4' test pit was excavated to 7 feet bgs adjacent to the eastern fence line of the subject property. Fill consisted of soil, brick debris, concrete, and rocks. Clay was observed from 4.5 to 10 feet bgs. Samples were collected at 1.5 and 8 feet bgs.

Test Pit -8

A 6'x4' test pit was excavated to 7 feet bgs adjacent to the eastern fence line of the subject property. Fill consisted of soil, brick debris, concrete, rocks, slag, and glass. Clay was observed from 4.5 to 10 feet bgs. Samples were collected at 1 and 8 feet bgs.

Lead was detected in all soil borings at varying concentrations and at varying depths above the residential statewide health standards. Samples collected at shallow depths had lead concentrations which ranged between 728 mg/kg and 11,500 mg/kg. Samples collected at deeper locations had concentrations which ranged between 14 mg/kg and 2,050 mg/kg. These concentrations were higher than those observed by ITS in 2001, but similar to lead concentrations observed across the entire former Anzon site. It is noted that lead was detected above the soil to groundwater standard as well, however, groundwater was previously addressed as part of the prior Act 2 work completed at the site. There are no proposed changes to the groundwater

remedy for the site as part of the planned redevelopment.

The soil test pit locations for this site are shown in Figure 1. Soil analytical results are summarized in Table 1. Laboratory reports are included in Appendix A. Field logs from this investigation are included in Appendix B.

4.1.4 Engineering Completion Report (2019)

As indicated herein, previous investigation activities completed as part of the Act 2 work documented lead in soils throughout the entire former Anzon site with lead concentrations ranging from 58 mg/kg to 29,000 mg/kg. Sampling depths throughout the entire former Anzon site varied between 1.5 feet and 14 feet below ground surface (bgs). It is documented in the Engineering Completion Report that soil excavation activities were completed throughout portions of the entire former Anzon site which excavated soils being consolidated and capped on the current Act 2 site, 2507 Almond Street. Since excavated soils were from other portions of the former Anzon site were brought to the 2507 Almond Street site, it is expected that lead at similar concentrations would be present at the 2507 Almond Street site.

Capping activities took place in 2019 on the 2507 Almond Street site and were documented in the Engineering Completion Report. Soil present in the 2.3 foot cap layer was documented to be Clean Fill prior to being brought to the site. As this cap material was identified at Clean Fill at the time of placement and there is a separation layer between the Clean Fill Cap and the lead impcated soil, it will be managed as such during the redevelopment project.

5.0 COMPARISON TO STANDARDS

5.1 SOILS

The concentrations of lead detected in soil samples were compared to the soil-to-groundwater standards for Residential Used Aquifer and the Residential Direct Contact standards. The residential standard was chosen because the site is proposed for re-development into a residential apartment building. As indicated above, lead exceeded the residential statewide health standards throughout the site.

The soil-to-groundwater standards for Residential Used Aquifer was previously addressed through the Act 2 Program. Riverwards Group is not proposing changes in the groundwater

remedy at this time. The soil-to-groundwater standards for Residential Used Aquifer pathway is eliminated and not of further concern.

The Direct Contact Residential standard use was exceeded throughout the site. This was previously addressed as documented herein through demonstration of the site specific standard with pathway elimination. Remedial activities included providing a soil cap over top of the lead impacted soil.

The current redevelopment plan for the Site will include upgrading the soil cap to impervious concrete, asphalt, (the planned apartment building) and a minimum of 2 foot soil caps (landscaped areas). The residential site specific standard via pathway elimination will be attained following project redevelopment.

6.0 SENSITIVE RECEPTOR ANALYSIS

6.1 SURROUNDING LAND USE

Commercial and light-industrial facilities, and residences are located in the vicinity of the site. The current properties immediately surrounding the site include the following:

North: Residential dwellings (row houses) and Sergeant Storage located to the north of the site, along Almond Ave. Beyond that there is a baseball park located in Aramingo Square.

South: WSFS Bank is located immediately adjacent to the site, and beyond that along E Cumberland Street is Studio Crash Inc., O'Brian's Auto Service Center, CVS and Heery Loftus Casting to the south.

East: Immediately adjacent to the site is AutoZone Auto Parts and Cold Stone Creamery. Beyond that along Aramingo Ave is TD Bank, PNC Bank, and Wawa to the east.

West: Immediately adjacent to the site is St. Anne's Senior Citizen Center and beyond that along Almond Street and E Cumberland Street are residential dwellings (row houses) and Greensgrow Farms (a hydroponic garden/greenhouse).

The surrounding community has organized a civic association (Olde Richmond Civic Association, ORCA) which meets regularly to discuss issues of concern for the community. The redevelopment project proposed for the 2507 Almond Street Site has been the subject of concern to ORCA members. The developer has engaged with ORCA in planning the project and has obtained ORCA's concurrence with the project as detailed in the public involvement plan and the Clean Up Plan discussed herein. A copy of the ORCA letter of support is included in Appendix I.

7.0 CLEAN UP PLAN

7.1 INTRODUCTION

The current redevelopment plan for the Site will include upgrading the existing soil cap to impervious concrete, asphalt, (the planned apartment building) and a minimum of 2 foot soil caps (landscaped areas). The residential site specific standard via pathway elimination will be attained following project redevelopment. The Clean Up Plan provided herein documents how the redevelopment will be implemented, including soil management and air monitoring during the construction activities. An Environmental Covenant will be prepared and implemented for the Site. A Post Remediation Care Plan will be in effect upon project completion.

To facilitate the development grades for the project, Riverwards Group plans to partially remove and properly dispose of lead impacted soil from the 2507 Almond Street Site. Riverwards Group will secure permits from the City of Philadelphia Air Management Program and Water Department related to the dust and erosion and sediment controls prior to implementation of removal activities. Once the development grades have been achieved, Riverwards Group will install the final capped condition of the site. Further information related to the construction activities are presented below.

7.2 REMEDIAL ALTERNATIVES

Riverwards Group evaluated several remedial alternatives prior to selection of the proposed remedy for the site which took into account the currently approved remediation work completed at the site and the uses allowed at the site. The following summarizes remedial options considered:

- No Action – Under this scenario, the site would remain with the currently constructed soil cap surrounded by a fence. The usability of the site would be limited due to the capped impacted soil present. The development of the site would not take place.

  This action was not selected based on the desire to develop the site with a residential apartment building and upgrade the existing soil cap to impervious concrete/asphalt and expanded soil capped areas.

- Full Removal – Under this scenario, all lead impacted soil would be removed and

disposed off-site. This would include excavation of soils consolidated on the site in 2019 as well as soil at depth. It is anticipated that up to 10 feet of soil below Almond Street grade would need to be removed. The full removal would allow for a demonstration of the residential statewide health standard for lead.

This remedial approach is above and beyond what was previously approved for the site. Although the residential statewide health standard for lead could be demonstrated for the site, the overall removal volume and Clean Fill backfill material necessary to establish construction grades after removal makes this option not feasible due to construction costs associated with the work as compared to the overall cost of the proposed development.

- Partial Removal and Capping (Pathway Elimination) – Under this scenario, a portion of the lead impacted soil would be removed and disposed off-site to establish the construction grade for the project. No Clean Fill backfill material would be necessary under this scenario. Additionally, only the soil to approximately 14 inches below the Almond Street grade would need to be excavated and disposed off-site. Under this scenario, the residential site specific standard via pathway elimination would be attained; a similar approach as already approved and implemented at the site.

  This scenario was selected for the remedy based on the implementability of the project under the PADEP Act 2 Land Recycling Program requirements. The residential site specific standard via pathway elimination is a vialbe approach to protect human health and the environment. Further, the overall remedial costs compared to the cost of the proposed development could be incorporated such that the development of the site as proposed was feasible.

7.3 TREATABILITY STUDIES

No treatability studies were performed in conjunction with the site investigations. Based on the nature of the previously approved remedy and the proposed remedy, treatability studies are not necessary at this time.

7.4 DESIGN PLANS AND SPECIFICATIONS

7.4.1 Health and Safety Plan

This Project-wide Health and Safety Plan (HASP) has been prepared for cap construction activities on the Site located at 2507 Almond Street, in the Port Richmond section of the City of Philadelphia, Pennsylvania. The purpose of this Health & Safety Plan (HASP) is to provide health and safety information for site workers during cap construction activities. If other potential environmental, health and/or safety issues are discovered during field activities at the site that are not covered in this HASP, work should cease until the issues are evaluated and incorporated into this HASP, as deemed necessary.

I. GENERAL HEALTH & SAFETY PRACTICES

Section A - General

It is the intent of RT Environmental Services, Inc. (RT) to establish and implement a Health and Safety Program for its employees and any subcontractors as part of its commitment to providing safe working conditions in general and at this site particularly. This program conforms to Federal and State Statutes including 29 CFR 1910.120, 40 CFR 265.16, 34 PA Code Chapter 303, 29 CFR 1910.1200.

Section B - OSHA Training and Compliance for Hazardous Waste Operations

In accordance with 29 CFR 1910.120 the following Health and Safety Program shall be in effect at this site, whether they be in the investigative or construction phase.

1) Site Work

Below is the generalized sequence of construction activities:

1. Obtain City of Philadelphia approvals;
2. Remove all on-site shrubbery and trees in accordance with the Clean Up Plan;
3. Removal soil and properly dispose in accordance with the Clean Up Plan for site grading purposes, as needed;
4. Modify existing or install new curbs to direct water to the existing stormwater inlets; and,
5. Install concrete, asphalt or soil cap and documented in the development plan

(once the lead impacted soil is capped, the H&S Director will evaluate the need for any changes in level of worker protection documented herein).

Barriers, cones, and/or temporary fencing will be utilized to prevent non-contractor vehicles and pedestrians from accessing the work area. To further prevent unnecessary exposure to potentially-impacted soil, only the vehicles and equipment essential to the cap installation work will be permitted access to the portions of the site where contact with potentially-impacted soil may occur. All vehicles which are in contact with potentially-impacted soil will be required to wash off particulates prior to leaving the property. This decontamination will include at a minimum the tires and wheel wells of the vehicle, but will also include any visible mud/soil from the vehicles.

An Air Monitoring Plan has been developed to monitor potential exposure to airborne lead on days where there is any earth disturbance as a result of the implementation of the Clean Up Plan. The Air Monitoring Plan is discussed in Section 7.4.2.

2) Site Controls

A site control program to prevent the spread of potentially-impacted soil on-site and off-site shall be implemented. Any potentially contaminated soil which is disturbed and/or displaced from the proposed cap areas will be immediately swept up and placed within the area to be capped. All personnel protection equipment will be removed and containerized prior to personnel leaving the site to prevent potential spread of lead-containing soils.

3) Training

All staff who will be involved with excavation and grading work at the site will have received training prior to working. The training will consist of a review of this Health and Safety Plan and the Work Plan. Contractor supervisors and designated workers will also have 40-hr HAZWOPER training, where appropriate for tasks involving potential exposure to lead-impacted soils.

A review of the HASP each day prior to the start of work will be completed, including the basic concepts of time, distance, contamination control and avoidance, and how to properly handle potentially-contaminated soil.

4) Engineering Controls, Work Practices, PPE

Staff shall be made familiar with and have an understanding of the Engineering Controls, Safe Work Practices, Standard Operation Procedures, and personal protective equipment selection and use, to minimize or reduce personal exposure to permissible levels. The training required to achieve these objectives is included in the HASP. Training requirements shall be reviewed whenever site operations change significantly.

5) Monitoring

Site monitoring will consist of a visual inspection to verify that impacted soil is not being tracked from disturbed soil work areas and minimal dust is generated during cap installation activities. The Air Monitoring Plan is discussed in Section 7.4.2.

6) Information

RT personnel, contractors and subcontractors and workers on certain tasks in disturbed soil work areas shall be informed as to the nature of the hazards present at the work site. Contractors and subcontractors will be responsible to supply their employees with the proper personal protective equipment.

7) Decontamination

All vehicles leaving the cap work location and which may have come in contact with potentially-impacted soil will be inspected and wheels will be sprayed as needed so that there will be no visible dust tracking. Wash down will be onto tarps with raised perimeter edges and all water will be collected and removed to a licensed facility.

8) Emergency Response

A plan to deal with emergencies at this site has been developed and incorporated into the site Health and Safety Plan (HASP). The HASP Plan includes all local emergency phone numbers (Police, Fire, Emergency Response, Hospital), safety meetings and plan modification procedures.

A copy of the HASP will be given to all contractors and subcontractors. Those contractors and subcontractors will be responsible for their employee's compliance with the HASP when the employees are assigned to excavation and/or intrusive activities; these personnel will sign off that they have read and understand the HASP.

Contractors and subcontractors will be responsible for their employees' training. By receiving the HASP and supplying workers to RT for work site activities, each of the contractors and subcontractors acknowledge and certify that their personnel are trained and equipped in compliance with all federal, state and local statutes regarding such activities.

II. SAFETY RULES AND POLICY STATEMENT

Safe work habits prevent serious injuries that are painful and costly. Keep your mind on the job. Lack of attention is a major cause of accidents; do your part in preventing them by learning, observing and practicing these safety rules and regulations.

1) Report all accidents, injuries and unsafe or unsanitary conditions and practices to your supervisor. Contractor supervisors must insure that all injuries are reported immediately, and in turn report them to the Health and Safety (H&S) Director.

2) Whenever working with impacted material, the proper procedures outlined at the site by the H & S Director, or specified in the Health and Safety Plan, must be followed.

3) Wash hands and clean thoroughly under fingernails before handling food or drink

when working with impacted material.

4) Do not drink water from any source that has not been designated as "Potable Water".

5) Dress safely for the job, otherwise you may be in danger. Do not wear loose clothing. Long-sleeved shirts and long pants are required.

6) Watches and bracelets shall not be worn around moving machinery. It is urged that rings be removed to prevent serious injury. Medallions and necklaces must be worn inside clothing.

7) All employees are held responsible for the cleanliness of their work areas and are expected to cooperate in maintaining the orderliness of sites and work areas. No food is allowed in the immediate work areas.

8) Safety hard hats shall be worn when the extent of the hazard warrants their use. Hard hats areas are identified to employees by respective contractor supervisors.

9) To protect the site workers from lead exposure at all times when work is in progress, all individuals who work in the field must wear a minimum of long-sleeved shirts and pants. Additionally, when according to the H & S Director, conditions warrant the use of a dust filtering respirator, all individuals who work in the field must wear a dust filtering respirator.

10) All individuals who work in the field must wear safety shoes (steel-toed boots) at all times when work is in progress.

11) No employee may enter a confined space or trench greater than four feet deep, unless proper engineering controls are implemented (i.e. shoring), without a Confined Space work permit. Permits must be in writing and may be issued only by the H & S Director or Director's designee(s). Confined spaces include tanks, pits, manholes, catch basins, piping tunnels, and deep holes. Confined space can be devoid of oxygen and entry without proper precaution can result in death.

Entering deep trenches which are not properly shored or supported can result in serious injury or death due to collapse of trench walls. Work permits issued for confined space and trench entry shall contain pre-entry test methods and inspection criteria, as well as safe work practices, during the entry.

12) Always use pedestrian walkways when available. Watch out for moving vehicles. Pedestrians have the right-of-way. Individuals moving heavy equipment shall be given the right-of-way and adequate clearance to insure personnel safety in the event of possible mishap.

13) Only trained and authorized employees shall be permitted to operate any power vehicle. Passengers may not ride on vehicles unless proper seating is provided.

14) Only qualified employees are permitted to repair, enter or operate electrical equipment of any kind.

15) Safeguards must be in place before starting equipment. Never remove a guard except for necessary repairs.

16) No employee is permitted to operate any piece of machinery or equipment unless authorized by the supervisor of the department.

17) Use tools and equipment properly and only for the job they were made to perform. Never use broken or dangerously worn tools or equipment.

18) Before using ladders or scaffolding, make sure they are in safe condition and firmly in place. Ladders must be equipped with safety shoes and must be of nonconductive construction. Both hands should be free to go up and down. Use of buckets, pouches, rope, etc. is required for moving materials to the work location on the ladder or scaffold.

19) All employees are required to observe regulations pertaining to smoking.

20) Welding and burning must be done with proper supervision and fire precautions.

No welding or burning may be performed without a written Hot Work permit for areas restricting these activities as designated by the H & S Director.

The safety of every employee is responsibility of all supervisors. Workers are required to report health and safety concerns promptly to their supervisor.

It is the responsibility of every employee, contractor and subcontractor to follow safe practices, including the use of protective equipment as designated. Adherence to established safe work practices is a condition of employment, and unsafe conduct can be a cause for discipline or dismissal.

Productivity should never be at the expense of personal safety, but instead should result from safe performance.

All employees regardless of level have the responsibility to be aware of health and safety hazards. All injuries are required to be reported to each employee's supervisor.

III. Site Control Program

Odor & Gas Control

No odor or gas controls are anticipated to be required; however, if odor or gas is discovered, the cap work area should be evacuated and the Health and Safety Director or Director's designee(s) should be immediately notified.

Rodent, Insect, Fire, and Litter Controls

Rodent, insect, fire, and litter are not anticipated to be of issue during the cap installation activities. If warranted, rodent, insect, fire, and litter controls may be considered based on field observations. Riverwards will follow City requirements related to Rodent/Pest control prior to and during construction activities.

IV. POTENTIAL HAZARDS

A. Chemical Hazards:

Site soils are known to be contaminated with lead as a result of historic industrial operations at the site.

B. Physical Hazards:

The cap installation activities pose a physical hazard, and also a slip, trip and fall hazard. The use of heavy equipment poses a physical hazard to workers in the work area. The limited visibility of the equipment operator should be taken into account by all workers near the work area. Potential noise hazards exist in the work area due to the use of heavy equipment during cap installation activities.

3. Biological Hazards:

At the time of the preparation of the Health and Safety Plan, no biological hazards had/have been identified. If biological hazards are identified prior or during the excavation activities, the hazard must be identified in this Health and Safety Plan and each employee working under this Health and Safety Plan must be informed of the hazard.

V. HAZARD ANALYSIS

1. Chemical Hazards – Lead-containing soils

1. Routes of Exposure

Ingestion - from smoking, eating or drinking without washing
Inhalation - if high airborne levels (dust) are generated

2. Hazard Elimination

Personnel Protection Equipment will be primary protection. Workers shall be prepared to begin work with Level D protection including:

Hard hats,
Long sleeves,
Coveralls (disposable Tyvek suites),
Gloves (disposable),
Steel tipped safety shoes,
Hearing protection,
Dust filtering respirator (dry conditions, as needed based on Air Monitoring

Plan).

2. Physical Hazards - Slip, Trip and Fall

1. Routes of Exposure

Slip, trip and fall due to the cap installation work and the topography of the Site. Miscellaneous debris and construction equipment may be present around work areas and cause and/or add to any slip, trip and fall hazards.

2. Hazard Elimination

All personnel involved with cap installation work shall wear steel tipped safety shoes with sufficient treads and hard hats.

Workers shall be aware of heavy equipment used for cap installation.

3. Physical Hazard - Weather Conditions

1. Routes of Exposure

Working in weather conditions for extended periods

2. Hazard Elimination

All personnel will dress appropriately for work in various weather conditions.

All personnel to be aware of indications of weather hazards (i.e. a sunburn or frostbite)

VI. LEVEL OF PROTECTION

1. Cap Installation

Hard hats
Long sleeves
Coveralls (disposable Tyvek suites)
Gloves (disposable)
Steel tipped safety shoes
Hearing protection

Dust filtering respirator (as needed, according to the H & S Director)

VII. EMERGENCY CONTACTS

1. Emergency Information:

Dial 911 to report all emergencies

LOCAL HOSPITAL NAME AND ADDRESS:

Temple University Hospital- Episcopal Campus
100 E. Lehigh Avenue
Philadelphia, PA 19125
(215) 707-1200

7.4.2 Air Monitoring Plan

An air monitoring program will be used to monitor potential exposure to lead on days where there is any earth disturbance as a result of the implementation of this Clean Up Plan. The air monitoring program sampling and analysis must be administered at the Site by trained, experience technicians. Offsite analysis will be performed by an accredited laboratory.

At a minimum, perimeter dust should not exceed 100 micrograms per cubic meter ($\mu g/m^3$), measured on a time-averaged 8-hour basis. Methods which can be used to minimize dust include, but are not limited to:

- Water spray. If used, any run-off water will be collected and managed as construction water;
- Dust suppression materials;
- Expedient restoration of excavations;
- Covering of material, and/or
- Cessation of work.

Work Area- Perimeter Dust Monitoring

A windsock will be used to establish wind direction during the workday. Appropriate instrumentation will be placed in two upwind, two in the vicinity of the work areas that day, and

two downwind locations around the perimeter of the worksite based on daily wind-direction measurements. On days where there is any earth disturbance as a result of the implementation of this Clean Up Plan, samples will be collected continuously at each of monitoring points, and at the end of the day, samples will be submitted to a Pennsylvania-certified laboratory for total dust and lead analysis. Samples will be analyzed on an expedited turnaround (i.e., results next morning).

Additionally, the air monitoring technician will collect dust measurements in and around the work areas during construction activities where lead impacted soil is managed. These dust measurements will be collected through us of a Thermo Scientific PDR 1500 unit (or equivalent) which will provide real time dust measurements. These dust measurements will be recorded each date and evaluated by Riverwards Group personnel to determine if there are potential changes in operations which need to be implemented. The dust measurements from the handheld meter will be available onsite with Riverwards Group personnel and will be provided to the ORCA Environmental Committee on a weekly basis.

Records for each monitoring station shall include, but not necessarily limited to: location, date, time, individual and time-averaged concentrations, and prevailing wind direction. Dust monitoring data will be supplied electronically to the City of Philadelphia Air Management Services (if required as part of the Dust Permit). Further, Riverwards Group will provide air monitoring records to the ORCA Environmental Committee on a weekly basis. Should a concern be identified, the results will be provided to ORCA within 24 hours of identification.

Air monitoring results will be evaluated throughout the project and appropriate adjustments will be made to work activities when needed. Additionally, should lead emissions be identified, which would constitute an off-site release, monitoring results will be provided to the Department at and to the City of Philadelphia Air Management Services.

7.4.3 Erosion and Sedimentation Control

Riverwards Group will implement an Erosion and Sedimentation (E&S) Control Plan for the development activities at the site (see Appendix G). The E&S Plan will be submitted to the City of Philadelphia Water Department prior to mobilization for onsite construction activities. The E&S Plan will need to be approved by the City of Philadelphia Water Department. As related to

the known lead impacted soil at the site, Riverwards has included enhanced E&S controls to address concerns of ORCA as well as items which are anticipated to be necessary for completion of the construction activities. Enhanced E&S best management practices to be used by Riverwards Group include the following:

- Site construction fencing will be equipment with dust fabric a minimum of 5' in height to prevent dust migration from the work areas.
- A rock construction entrance equipped with a wheel wash will be implemented to prevent soil tracking from the site.
- Vehicle speed will be reduced onsite to prevent dust generated from construction activities.
- Soil movement will be completed in a manner to prevent dust generation. Soils will be wetted and/or a dust suppressant used to minimize dust potential.
- Dust suppressant will be applied to areas of the site where removal work has been completed each day to minimize the potential for dust generation during non-working hours. These areas will be inspected and dust suppressant re-applied as necessary.
- Stockpiles will be wetted and/or covered. Dust suppressant will be used as necessary for stockpiled soils.
- Construction roads will be wetted to minimize dust generation during construction activities.
- Loaded trucks leaving the site with lead impacted soil will be sprayed with dust suppressant and/or wetted and covered to prevent dust generation during travel off-site.

7.4.4 Construction Activities

According to Harman Deutsh Ohler Architecture Site drawings which are found in Appendix C, the lot to be redeveloped consists of 37,863 square feet (0.87 acres) and is currently unoccupied and undeveloped. The site is proposed for redevelopment to include a five-story building covering the majority of the property. The first floor will be used for parking/support areas and the upper floors will be used for residential purposes. The first-floor parking elevation grade will be similar to existing grades at Almond Street. Green roof areas will be implemented as well as an onsite lined stormwater basin (a rain garden).

Development construction activities at the site will involve site grading to remove a portion of the

lead impacted soil for off-site disposal to facilitate construction grades at the site. It is anticipated that approximately 20,000 cubic yards of soil will be removed to establish site grades for development.

This volume includes excavation to a depth of approximately 14 inches below the current grade of the Almond Street sidewalk. It is noted that no basements are planned to minimize the extent of soil excavation necessary to establish the development grades. Excavated soil to establish construction grade, stormwater management facility, and for footers and/or utilities at the site will be managed at a permitted off-site disposal facility. Remaining lead impacted soil will be capped in place as discussed herein.

Following excavation activities, Riverwards Group will install warning fabric (orange geotextile material) on top of contaminated soil prior to installation of site features. For the stormwater basin and rain garden, the liner below the rain garden is considered an engineering control to preclude direct contact with lead impacted soil. The warning fabric will be installed below the rain garden liner to cover the top of the contaminated soil. All landscaped area will be capped with orange woven geotextile fabric demarcation barrier and at least 2-feet certified clean fill. The remaining areas of the site will be capped with impervious concrete and/or asphalt surfaces (minimum of 5 inches in thickness) to establish the remaining engineering controls for pathway elimination.

As indicated above, Riverwards Group will implement Erosion and Sediment Control (E&S) features to prevent impacted soil exposures off-site. The E&S controls will include a construction entrance with wheel washing facility for trucks which enter the Site that are used for transportation and disposal of the impacted soil. Additionally, best management practices will be implemented during construction to prevent wheel contact with the impacted soil while trucks are onsite through routine trucks over currently capped areas and limiting the truck traffic on any exposed lead impacted soils. Any construction equipment used on the site will be decontaminated of impacted soil prior to being moved from the Site. Construction equipment and truck speed during construction activities will be reduced to prevent the generation of dust during the work. Wind-screening fabric will be used at the perimeter of the Site to preclude visible dust emission from the work area from being spread off of the Site. The E&S plan will include the use of dust suppressants to control dust emissions from the Site. Prior to trucks leaving the Site, the soil in the bed of the truck will be wetted (and/or sprayed with dust suppressant) and the truck tarp will be placed over the material. Routine inspections will be completed during construction activities

such that dust is adequately controlled to prevent exposure to contaminated soil.

Further information related to air monitoring and erosion and sedimentation controls is presented herein.

7.4.5 Engineering Controls

To demonstrate attainment of the residential site specific standard via pathway elimination, Riverwards Group will establish the engineering control for the site. The engineering control will include the use of the concrete, asphalt and a minimum of two feet of clean fill in landscaped areas. Further, a liner will be established below the rain garden stormwater management facility as part of the pathway elimination controls proposed.

As discussed with ORCA, Riverwards Group will also complete soil capping in the vegetated areas of the sidewalk. These areas will include removal and disposal of existing soil, placement of a warning layer and bring the area to grade with a minimum of two feet of clean fill to establish the soil cap.

7.4.6 Institutional Controls

To demonstrate attainment of the residential site specific standard via pathway elimination, Riverwards Group will establish an environmental covenant for the site upon completion of the development project. The environmental covenant is discussed below.

7.4.7 Environmental Covenant

Upon completion of the construction project, submittal and approval of the Final Act 2 Report, Riverwards Groups will prepare an submit an environmental covenant to the Department for review. The environmental covenant will document the updated cap configuration at the site to includes (concrete, asphalt, and/or soil caps). Activity and use limitations will be similar to the existing environmental covenant and are summarized below:

- Soil Use Limitations - All landscaped portions of the Property have been capped with an orange woven geotextile fabric demarcation barrier and at

least 2-feet of certified clean fill or 5 inches of concrete/asphalt. All impervious surfaces (i.e. asphalt pavement, concrete, building foundation and slab, etc.) are also considered a cap at the Property. No excavation of soil or impervious surfaces is permitted at the Property without prior notification to the Grantor and Department. Any person disturbing soil for purposes of completing subsurface work at the Property must handle soil in accordance with federal, state, and local regulations, protect the community from exposure to contaminated soils, and restore the cap upon completion of the work.

- Groundwater Use Limitations - Groundwater underlying the Property shall not be used for drinking or recreational purposes.

7.4.8 Post Remediation Care Plan

Post-Remediation Care Plan - Because the Property is using institutional and engineering controls to maintain a cap, the following actions will be completed to ensure that the selected attainment standards remain protective to human health and ecology:

- The then-current owner of the Property, and its tenants, agents, employees and other persons under its control will inspect the cap on the Property annually to confirm that the cap remains in good condition and will make any necessary repairs as needed to maintain the cap. Any repair needs identified must be implemented within 30 days of the inspection.

8.0 RISK ASSESSMENT/PATHWAY ELIMINATION

8.1 EXPOSURE PATHWAYS

8.1.1 On-site

The sources of on-site exposure are soil impacted with lead. The lead in soil is considered because it exceeds Statewide Health Standards for residential direct contact. Exposure pathways include direct contact (ingestion) and inhalation of dust for onsite workers during construction activities. Following completion of the capping project, the exposure pathways will be eliminated. Appropriate health and safety protocols discussed herein will be implemented for worker protection.

8.1.2 Off-site

The sources of off-site exposure are groundwater in the downgradient area potentially impacted by lead. Potential off-site receptors are workers and residents. Receptors would potentially be exposed to the lead through ingestion of groundwater. As documented previously, the groundwater impacts were determined not to be of concern to offsite receptors. There are no planned changes in the remedy related to groundwater. As such, this pathway has already been addressed.

Further, off-site exposure pathways for lead impacted soil include direct contact (ingestion) and inhalation of dust for residents and/or workers of nearby properties in the form of dust and/or sedimentation from construction activities including but not limited to removal of soil from the site to achieve development grades and other subgrade utility installation. As discussed in the Clean Up Plan, appropriate measure will be implemented to eliminate this exposure pathway during construction.

8.2 POTENTIAL RECEPTORS

As discussed in the Clean Up Plan, appropriate measures will be implemented to eliminate potential receptor exposure pathways during construction. Potential receptors during construction include site workers onsite and workers and residents off-site.

8.2.1 On-site

Because the site will be redeveloped for residential use, the potential receptors population

includes construction workers and residents, adults, and children. Protocols to be implemented during the construction phase of the work to eliminate potential exposure pathways. Upon completion of the soil capping phase of construction, exposure pathways will be eliminated through engineering and institutional controls. Further information related to protocols to be implemented are discussed in the Clean Up Plan.

8.2.2 Off-site

Based on the use of off-site areas immediately in the vicinity of the proposed project, the potential receptors population includes workers and residents, adults, and children. Protocols to be implemented during the construction phase of the work to eliminate potential exposure pathways. Upon completion of the soil capping phase of construction, exposure pathways will be eliminated through engineering and institutional controls. Further information related to protocols to be implemented are discussed in the Clean Up Plan.

8.3 COMPLETE PATHWAYS

The site and surrounding properties are designated for a mixed use of industrial, commercial, and residential structures. A majority of the properties have been developed with a mix of industrial/commercial buildings which are interspersed with residential row housing. Re-development has been taking place in the area through rezoning of industrial buildings and replaced with new construction consisting of both residential and commercial applications. All properties in this section of the city are serviced by the Philadelphia Water Department. There are no potable or industrial wells within ½-mile of the subject property as previously documented in the prior Act 2 Report.

8.3.1 On-Site

Currently the site is vacant, fenced and un-used; therefore, current exposures on the site are likely to be minimal and transient. There is no groundwater use at the site. Future exposures to soil will be eliminated through capping. The majority of the site would be covered with hard surfaces (concrete/asphalt) that would eliminate exposure to the impacted soils. Upon completion of these engineering controls, there will be no complete exposure pathways on the site.

8.3.2 Off-Site

Because there is no potable use of groundwater within one mile of the site, and particularly

because there is no groundwater use of any kind in the downgradient area, there are no complete exposure pathways to lead impacted by groundwater potentially migrating off-site. Upon completion of the redevelopment, there will be no completed exposure pathways off-site because the lead impacted soil has been capped and the exposure pathway eliminated.

9.0 PUBLIC INVOLVEMENT PLAN

Upon submittal of the NIR to the City of Philadelphia, the Health Department requested a public involvement plan be prepared by letter dated January 11, 2022. At that time, Riverwards Group was working with the Olde Richmond Civic Association (ORCA) related to overall development strategies for the site. RT developed the public involvement plan to be incorporated into the work already in process between ORCA and Riverwards Group. The plan included the following:

- Providing a Preliminary Plan for Soil Management to ORCA. This was submitted to ORCA on May 22, 2022. The plan is included in Appendix F. The plan documents the proposed change in the remedy from a soil cap to a cap, after development, will include concrete asphalt and 2' clean fill soil cap areas. It describes erosion and sedimentation controls planned to be implemented as well as air monitoring protocols to be used. The capping work would be documented in a Final Act 2 Report.
- Two of the public meetings were held on June 2, 2022 and August 23, 2022. The focus of the meeting was to present the redevelopment project to ORCA and to obtain feedback on the overall development plan related to zoning issues and environmental issues. ORCA provided notice to the public of the meetings. Further information from these meetings is discussed below.
- Following these meetings, ORCA provided a letter of support for the development to the City Zoning Board (Appendix I). ORCA formed an Environmental Committee in accordance with the letter of support. Two additional meetings were held with the Olde Richmond Civic Association Environmental Committee on January 10, 2023 and February 16, 2023. Further information from these meetings is discussed below.
- The RIR/CP comments have been presented in this Remedial Investigation Report/Clean Up Plan and Riverwards Group has incorporated and addressed ORCA's concern as part of our Clean Up Plan. A copy of this RIR/CP will be provided to ORCA for posting on their website.

9.1 ORCA COMMENTS JUNE 2, 2022 AND AUGUST 23, 2023

Riverwards Group representatives provided an opening presentation of the development to ORCA community members. Following the presentation, community members were allowed to ask questions to which Riverwards Group responded. Many of the community concerns were related to architectural considerations, including but not limited to, building height, the number of

units, the number of low cost units, building materials to be used, parking. Additionally, community questions related to environmental conditions and plans for soil management were asked. Many members of ORCA shared experiences with a nearby site and dust issues as well as memories of the work completed by prior developers at this site. The following summarizes the questions and how Riverwards Group has responded with this RIR/CP.

- How can the community trust the developer to implement work safely for the public?
    - Riverwards Group documented work on past projects and commitments to the community. Riverwards committed to be transparent for all aspects of the work to be completed included environmental work. Riverwards Group goal is to be part of the ORCA community with shared concerns.
- How will the community know if there are lead exposures to the public? How will that be communicated to the public?
    - RT explained that during the work air monitoring will be completed to during working hours onsite. Real time dust monitoring using handheld device will be used to monitor dust and laboratory analysis will be used for monitoring lead. The air monitoring will be developed further as part of the Clean Up Plan. RT discussed that data can be shared with ORCA and the mechanism can be developed as we move through the process.
- Can I use my air conditioner? Can I keep my windows or doors open?
    - Yes to both questions. Work will be implemented in a manner to preclude dust off the property boundary.
- Why can't all the toxic material be removed?
    - Due to the amount of material necessary to remove to achieve a "Clean Site", the overall project cost benefit analysis shows that the project is not viable if all impacted material was removed.
- How will air monitoring data be shared with community?
    - RT discussed that data can be shared with ORCA and the mechanism can be developed as we move through the process.
- Will dust be monitored and will alarms be used?
    - Alarm systems are not planned to be used to monitor dust. Handheld dust measurements will be collected throughout the workday and reported to the project superintendent at the end of each workday. As indicated, above, RT discussed

that data can be shared with ORCA and the mechanism can be developed as we move through the process.

- Can a Community Benefits Agreement be implemented to hold Riverwards Group accountable to the commitments in the clean up plan?
    - Yes. Riverwards Group would work with ORCA to establish the Community Benefits Agreement.
- Does DEP oversee work?
    - PA DEP is involved with the review and approval of work to be implemented and work completed. PA DEP, at their discretion, can provide direct oversight of remedial projects, but that is not typical for all projects.
- How long will the remedial work take?
    - Riverwards Group indicated that a schedule has not been finalized at this point, but anticipate that remedial work for removal of soil could tank 90 days and capping work would be completed after removal. The overall project construction activities are expected to be 20 months from the start of sitework.
- Will the sidewalk landscape areas along Almond Street be remediated?
    - Yes, these areas will be part of the remediation and have a minimum of 2' of soil cap upon completion of the project.

9.2 ORCA ENVIRONMENTAL COMMITTEE COMMENTS JANUARY 10, 2023 and FEBRUARY 16, 2023

Environmental Committee meetings were held with a subset of the ORCA community with the focus on more specific environmental concerns. The following summarizes the questions and how Riverwards Group has responded with this RIR/CP.

- Any updates to the remedial schedule?
    - Approximately 4 months are likely necessary to remove soil and cap site. But this is an estimate only and subject to change based on whether and/or other conditions which may be outside the control of Riverwards Group.
- How will dust be controlled?
    - Vehicle speeds on site will be minimized to prevent dust kickup during work. Trucks will be loaded in a manner to minimize dust generation potential. Trucks will be wetted and/or sprayed with a dust lock (or equivalent) compound and covered to minimize dust generation prior to leaving the site. Riverwards will

implement an erosion control plan which will include a rock construction entrance and wheel wash station.

- How will toxic soil be kept off of Almond Street and surrounding streets?
    - Riverwards will implement an erosion control plan which will include a rock construction entrance and wheel wash station. Riverwards will complete inspections as required by the erosion control plan and/or at the direction of the City. Any soil from the project construction activities will be removed by Riverwards.
- What are the planned work hours?
    - Work hours will be in accordance with the City requirements; M-F 7 am to 5 pm, Saturday 8 am to 5 pm.
- How will truck traffic move? Will trucks be on Almond Street?
    - The project entrance is planned to be on Almond Street. Riverwards is working on agreements with adjoining shopping center owner for potential use of internal roads to be used in lieu of Almond Street. Riverwards cannot guarantee that the shopping center roads are a viable option at this point.
- How often will results be communicated to ORCA?
    - Environmental Committee Board will be the point of contact for providing information to ORCA from Riverwards Group. It was agreed that Riverwards Group will provide data to the Environmental Committee Board by-weekly, unless there are unusual circumstances and/or elevated dust or lead results are observed.
- Will a City dust permit be required?
    - Yes, a City Dust Permit for construction will be required.
- Will Riverwards clean dust from windows and cars?
    - Riverwards will evaluate and make case by case determinations if necessary.
- How will Rodent/Pest Control be managed?
    - Riverwards will follow City requirements related to Rodent/Pest control prior to and during construction activities.

Detailed information on erosion and sediment control and air monitoring are discussed further in the Clean Up Plan.

10.0 CONCLUSIONS

RT Environmental Services, Inc. (RT) has prepared this Remedial Investigation Report – Clean up Report (RIR/CP) for a portion of the former Anzon Site property which is located at 2507 Almond Street in Philadelphia, Pennsylvania. The purpose of this document is to summarize prior investigations and remediation activities completed at this property along with a request for a change in the remedial standards previously attained (non-residential site specific standard via pathway elimination) to attain a residential site specific standard via pathway elimination. This RIR/CP includes available Site historical information, historical investigation and remedial activities, recent Site investigations, along with proposed remedial actions designed to demonstrate attainment of a Site-Specific Standards (SSS) for residential use.

Prior to this report the entire former Anzon site located at 2545 Aramingo Avenue completed the Act 2 Process and received a Release of Liability using a Site-Specific Standard for Non-Residential, that included the entire property of approximately 10 acres. The former remedial activities at the site included breakup of slabs and on-site regrading. At the end of site redevelopment, all historic building materials and impacted soil were appropriately capped as documented in the Final Act 2 Report from 2003.

Much of the historical information and descriptive information presented here is summarized from a draft Phase II Environmental Site Assessment (ESA) report prepared by Integrated Technical Services, Inc/Clean Earth, Inc. (ITS) (2001), and a Final Act 2 prepared by RT (2003) and approved by the PADEP. The ITS report was transmitted to the Pennsylvania Department of Environmental Protection (PADEP) by RT for review on April 24, 2002, and RT's previous Act 2 Final Report was approved on November 23, 2003.

As identified in the Final Report, this portion of the property attained a site specific standard through implementation of institutional (environmental covenant) and engineering controls (soil cap). In accordance with a Consent Order and Agreement (COA) dated November 1, 2017, entered into between the Owner of the property and PA Department of Environmental Protection (PADEP), a 2.3 foot clean fill cap was placed on areas of the site which were used to consolidate excavated soil generated from cap maintenance activities from other areas of the former Anzon property. The work completed under the COA by the Owner involved excavation of lead impacted soils at various locations throughout the former Anzon site and consolidation of the excavated

material on the 2507 Almond Street site. Following the consolidation activities, the 2507 Almond Street site was capped with 2.3 feet of clean fill in accordance with the COA. An Environmental Covenant was filed for the site documenting the work completed as part of the COA. The Owner submitted an Engineering Completion Report on April 4, 2019, which was subsequently approved by the PADEP. Following the work under the COA, the Environmental Covenant was finalized.

The current redevelopment plan for the Site will include upgrading the soil cap to impervious concrete, asphalt, (the planned apartment building) and a minimum of 2 foot soil caps (landscaped areas). The residential site specific standard via pathway elimination will be attained following project redevelopment. The Clean Up Plan provided herein documents how the redevelopment will be implemented, including soil management and air monitoring during the construction activities. An Environmental Covenant will be prepared and implemented for the Site which will include a Post Remediation Care Plan.

Upon submittal of the NIR for the 2507 Almond Street Site, the City of Philadelphia requested a public involvement plan be implemented. The developer, Riverwards Group, provided a Preliminary Soil Management Plan to the Olde Richmond Civic Association and there have been four public meetings since June of 2022. The public involvement plan questions and comments are also presented herein.

Based on the planned redevelopment, Riverwards Group will demonstrate attainment of the residential site specific standard via pathway elimination for the Site upon completion of the redevelopment.

11.0 REFERENCES

Integrated Technical Services, Inc./Clean Earth, Inc. (ITS), 2001, Draft Phase II Environmental Assessment Report, Former Anzon Lead Facility, Aramingo Avenue, Philadelphia, Pennsylvania: dated August 21, 2002.

RT Environmental Services, Inc. Act 2 Final Report Former Anzon Site 2545 Aramingo Avenue, Philadelphia, Pennsylvania: dated November 2003.

RT Environmental Services, Inc. Engineer Certification Report 2545, 2501, 2520, 2540, 260 Aramingo Avenue, 2507 Almond Street Philadelphia, PA; February 21, 2019.

Environmental Covenant Dated July 8, 2019 and recorded with the City of Philadelphia on September 26, 2019.

Excerpts of the above Reports are included in Appendix D.

NJ-PA, United States Geological Survey (USGS) 7.5-minute series topographic quadrangle map (2013)

12.0 CONTACTS

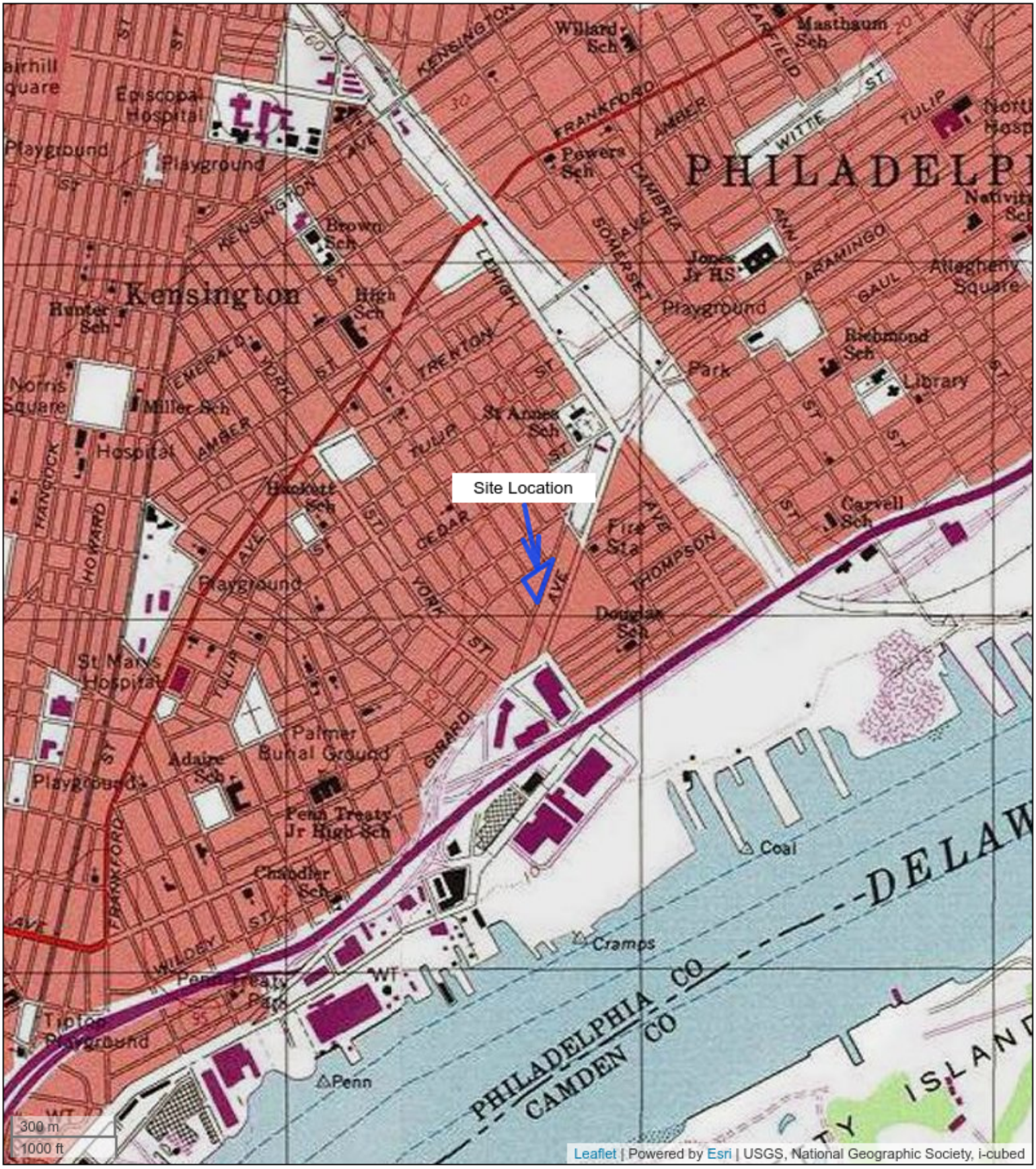
Owner: Mr. Todd Pilgrim
Port Richmond Development VIII, L.P.
1845 Walnut Street, 25th Floor
Philadelphia, PA 19013
pilgrimt@comcast.net

Developer: Mr. Lawrence McKnight
Riverwards Group
3020 Richmond Street
Philadelphia, PA 19134
lmcknight@riverwardsgroup.com

Consultant:

Walter H. Hungarter, III, P.E.
RT Environmental Services, Inc.
215 West Church Road
King of Prussia, PA 19406
Whungarter@rtenv.com

FIGURES



Site Location Map

2507 Almond Street
Philadelphia, PA
RT Project No. 70137-23

Geological Map

3/24/2023

Dikes

Dikes

Bedrock Contacts

Solid - identity certain, location accurate

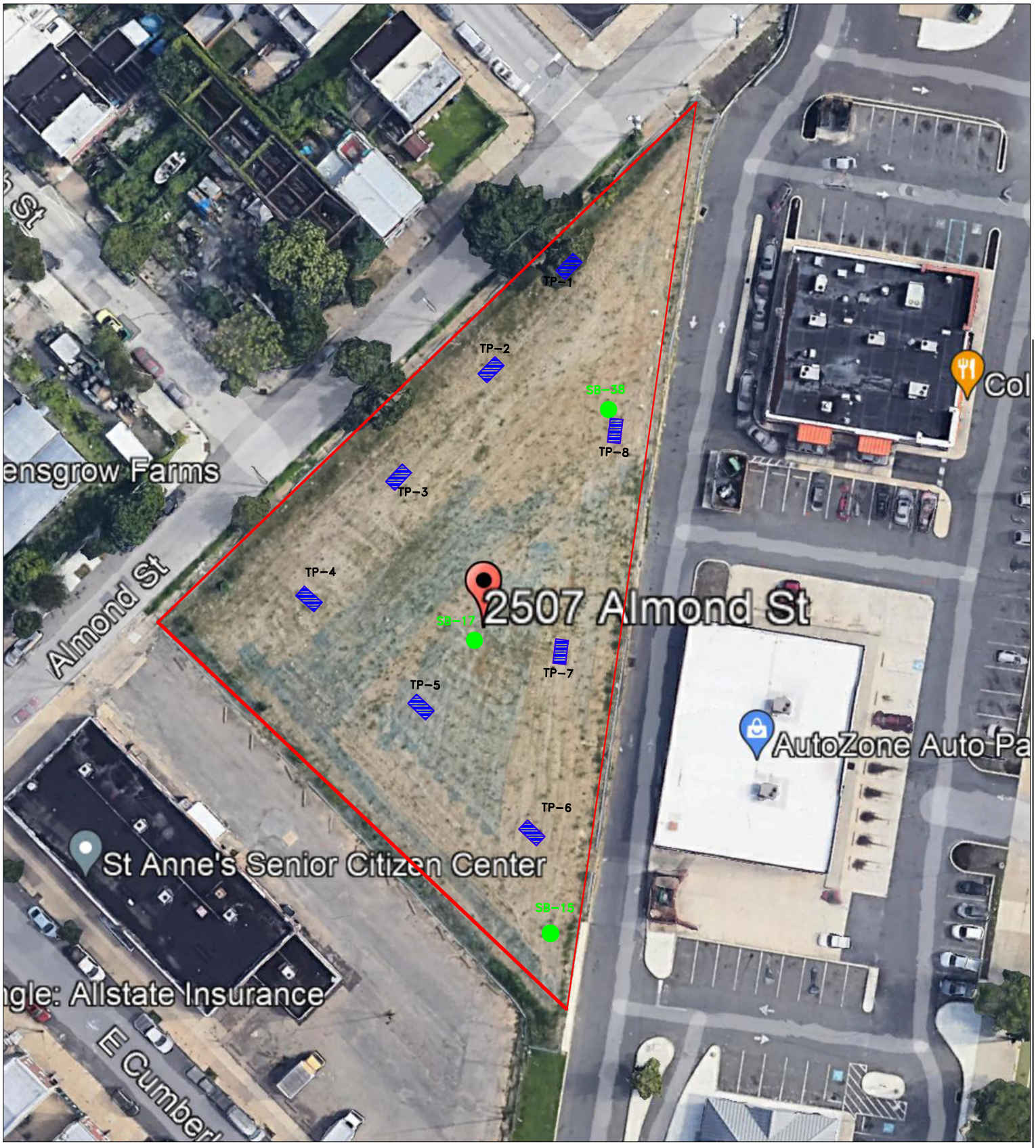
Dashed - identity certain, location approximate

Queried and dashed - identity or existence questionable, location approximate

1:116,612

0 0.75 1.5 3 mi

0 1.25 2.5 5 km



Site Boundary

Test Pit Location

Soil Boring Location

0 50 100'

RT Environmental Services, Inc.
215 West Church Road
King of Prussia, PA 19406

Figure 3
SAMPLE LOCATION MAP
2507 Almond Street
Philadelphia, PA

Prepared For:
Riverwards Group
Mr. Lawrence McKnight
3020 Richmond Street
Philadelphia, PA

CHARGE	AUTOCAD FILE	ENGINEER	DESIGNER	DRAFTSPERSON
70137-23				BB

SCALE	DRAWING NUMBER	REVISION
As Shown	y:\rt projects\70100 series\70137-23\figure 1.dwg	1

DATE 3/23/23

TABLE

TABLE 1
SOIL SAMPLES
2507 ALMOND STREET, PHILADELPHIA
LOT 8
RT PROJECT # 70137-23

Analyte	Residential Direct Contact Numeric Values	Residential Soil to Groundwater Numeric Values	Units	TP-1-1.5'	TP-1-6'	TP-2-1.5'	TP-2-7'	TP-3-1'	TP-3-7'
				460-100121-1	460-100121-2	460-100121-3	460-100121-4	460-100121-5	460-100121-6
				8/24/2015	8/24/2015	8/24/2015	8/24/2015	8/24/2015	8/24/2015
Lead	500	450	mg/Kg	1580	715	8880	1110	728	820

Analyte	Residential Direct Contact Numeric Values	Residential Soil to Groundwater Numeric Values	Units	TP-4-1.5'	TP-4-2'	TP-4-7'	TP-5-1'	TP-5-8'	TP-6-1'
				460-100121-7	460-100121-8	460-100121-9	460-100121-10	460-100121-11	460-100121-12
				8/24/2015	8/24/2015	8/24/2015	8/24/2015	8/24/2015	8/24/2015
Lead	500	450	mg/Kg	1490	964	78.6	3580	10.5	1490

Analyte	Residential Direct Contact Numeric Values	Residential Soil to Groundwater Numeric Values	Units	TP-6-5'	TP-7-1'	TP-7-8'	TP-8-1'	TP-8-8'
				460-100121-13	460-100121-15	460-100121-16	460-100121-17	460-100121-18
				8/24/2015	8/24/2015	8/24/2015	8/24/2015	8/24/2015
Lead	500	450	mg/Kg	2050	11500	14.0	2100	30.3

Analyte	Residential Direct Contact Numeric Values	Residential Soil to Groundwater Numeric Values	Units	SB-15 (1.5-2')	SB-38A (1.5-2')	SB-38B (3.5-4')	SB-17 (1-1.5')
				2/28/2001	4/23/2001	4/23/2001	2/28/2001
Lead	500	450	mg/Kg	280	1,400	3,200	590

Highlighted Values = Detection over the lowest standard

*Total Chromium was analyzed - numeric value shown is for hexavalent chromium

APPENDICES

APPENDIX A
ANALYTICAL REPORTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

TestAmerica Job ID: 460-100121-1
Client Project/Site: Almond Street, Port Richmond

For:
RT Environmental Services, Inc.
215 West Church Road
Suite 300
King of Prussia, Pennsylvania 19406

Attn: Craig Herr

Jill Miller

Authorized for release by:
9/1/2015 5:08:09 PM

Jill Miller, Project Manager II
(732)549-3900
jill.miller@testamericainc.com

Table of Contents

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Job ID: 460-100121-1

Laboratory: TestAmerica Edison

Narrative

Job Narrative
460-100121-1

Comments
No additional comments.

Receipt
The samples were received on 8/24/2015 4:58 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.3º C.

Receipt Exceptions
Per client request and confirmation, depths were added to the login.

The COC has TP-4-1.5' listed and the container is labeled as TP-4-1' with a time collected of 10:40 on the COC and 11:00 on the label. The client confirmed to use what is listed on the COC.
The COC has TP-4-7' time collected as 10:45 and the label has 11:02. The client confirmed to use what is listed on the COC.
The COC has TP-4-2' time collected as 10:41 and the label has 10:43. The client confirmed to use what is listed on the COC.
For TP-7 on the COC the client confirmed the sample should be identified by the ID listed on the container label of TP-7-1'.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: TP-1-1.5'

Date Collected: 08/24/15 08:45
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-1

Matrix: Solid
Percent Solids: 94.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.13	J	0.35	0.0085	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Acenaphthylene	0.015	J	0.35	0.0090	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Anthracene	0.26	J	0.35	0.033	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Benzo[a]anthracene	0.57		0.035	0.029	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Benzo[a]pyrene	0.47		0.035	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Benzo[b]fluoranthene	0.61		0.035	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Benzo[g,h,i]perylene	0.23	J	0.35	0.020	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Benzo[k]fluoranthene	0.25		0.035	0.015	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Chrysene	0.58		0.35	0.0095	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Dibenz(a,h)anthracene	0.094		0.035	0.018	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Fluoranthene	1.3		0.35	0.010	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Fluorene	0.10	J	0.35	0.0076	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Indeno[1,2,3-cd]pyrene	0.27		0.035	0.023	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Naphthalene	0.049	J	0.35	0.0089	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Phenanthrene	1.2		0.35	0.0093	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1
Pyrene	1.1		0.35	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*27 - 84*	*08/26/15 23:37*	*08/30/15 14:37*	*1*
Nitrobenzene-d5 (Surr)	*53*		*28 - 92*	*08/26/15 23:37*	*08/30/15 14:37*	*1*
Terphenyl-d14 (Surr)	*79*		*16 - 114*	*08/26/15 23:37*	*08/30/15 14:37*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.37	U	2.1	0.37	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Arsenic	9.1		3.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Barium	135		42.0	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Cadmium	0.44	U	0.84	0.44	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Chromium	22.3		2.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Lead	1580		2.1	0.82	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Selenium	1.4	U	4.2	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4
Vanadium	49.8		10.5	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:36	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.0		0.036	0.025	mg/Kg	☼	08/27/15 04:31	08/27/15 08:55	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.6		1.0	1.0	%			08/26/15 14:38	1
Percent Solids	94.4		1.0	1.0	%			08/26/15 14:38	1

Client Sample ID: TP-1-6'

Date Collected: 08/24/15 08:47
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-2

Matrix: Solid
Percent Solids: 81.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.096	J	0.41	0.0099	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Acenaphthylene	0.032	J	0.41	0.010	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1

Client Sample ID: TP-1-6'

Date Collected: 08/24/15 08:47
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-2

Matrix: Solid
Percent Solids: 81.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	0.28	J	0.41	0.039	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Benzo[a]anthracene	0.82		0.041	0.034	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Benzo[a]pyrene	0.71		0.041	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Benzo[b]fluoranthene	0.91		0.041	0.016	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Benzo[g,h,i]perylene	0.38	J	0.41	0.023	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Benzo[k]fluoranthene	0.35		0.041	0.018	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Chrysene	0.84		0.41	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Dibenz(a,h)anthracene	0.14		0.041	0.021	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Fluoranthene	1.8		0.41	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Fluorene	0.11	J	0.41	0.0089	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Indeno[1,2,3-cd]pyrene	0.44		0.041	0.027	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Naphthalene	0.052	J	0.41	0.010	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Phenanthrene	1.3		0.41	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1
Pyrene	1.5		0.41	0.018	mg/Kg	☼	08/26/15 23:37	08/29/15 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*27 - 84*	*08/26/15 23:37*	*08/29/15 19:29*	*1*
Nitrobenzene-d5 (Surr)	*55*		*28 - 92*	*08/26/15 23:37*	*08/29/15 19:29*	*1*
Terphenyl-d14 (Surr)	*78*		*16 - 114*	*08/26/15 23:37*	*08/29/15 19:29*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.39	U	2.2	0.39	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Arsenic	8.9		3.3	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Barium	173		44.5	1.6	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Cadmium	0.94		0.89	0.46	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Chromium	19.2		2.2	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Lead	715		2.2	0.87	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Selenium	1.5	U	4.4	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4
Vanadium	24.0		11.1	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:40	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.68		0.019	0.013	mg/Kg	☼	08/27/15 04:31	08/27/15 08:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.0		1.0	1.0	%			08/26/15 14:38	1
Percent Solids	81.0		1.0	1.0	%			08/26/15 14:38	1

Client Sample ID: TP-2-1.5'

Date Collected: 08/24/15 09:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-3

Matrix: Solid
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.19	J	0.36	0.0087	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Acenaphthylene	0.11	J	0.36	0.0092	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Anthracene	0.57		0.36	0.034	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Benzo[a]anthracene	1.8		0.036	0.030	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Benzo[a]pyrene	1.7		0.036	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1

Client Sample ID: TP-2-1.5'

Date Collected: 08/24/15 09:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-3

Matrix: Solid
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	2.0		0.036	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Benzo[g,h,i]perylene	1.0		0.36	0.021	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Benzo[k]fluoranthene	0.79		0.036	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Chrysene	1.9		0.36	0.0098	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Dibenz(a,h)anthracene	0.32		0.036	0.019	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Fluoranthene	3.9		0.36	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Fluorene	0.17	J	0.36	0.0078	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Indeno[1,2,3-cd]pyrene	1.1		0.036	0.024	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Naphthalene	0.088	J	0.36	0.0091	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Phenanthrene	2.5		0.36	0.0096	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1
Pyrene	2.9		0.36	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 84*	*08/26/15 23:37*	*08/30/15 16:44*	*1*
Nitrobenzene-d5 (Surr)	*61*		*28 - 92*	*08/26/15 23:37*	*08/30/15 16:44*	*1*
Terphenyl-d14 (Surr)	*78*		*16 - 114*	*08/26/15 23:37*	*08/30/15 16:44*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.37	U	2.1	0.37	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Arsenic	13.4		3.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Barium	398		41.4	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Cadmium	1.3		0.83	0.43	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Chromium	37.4		2.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Lead	8880		10.4	4.1	mg/Kg	☼	08/27/15 07:28	08/27/15 23:55	20
Selenium	1.4	U	4.1	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4
Vanadium	24.3		10.4	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:44	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.86		0.018	0.013	mg/Kg	☼	08/27/15 04:31	08/27/15 09:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.0		1.0	1.0	%			08/26/15 14:38	1
Percent Solids	92.0		1.0	1.0	%			08/26/15 14:38	1

Client Sample ID: TP-2-7'

Date Collected: 08/24/15 09:42
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-4

Matrix: Solid
Percent Solids: 80.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.98		0.82	0.020	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Acenaphthylene	0.10	J	0.82	0.021	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Anthracene	2.2		0.82	0.078	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Benzo[a]anthracene	3.1		0.082	0.069	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Benzo[a]pyrene	2.2		0.082	0.025	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Benzo[b]fluoranthene	2.7		0.082	0.032	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Benzo[g,h,i]perylene	0.93		0.82	0.047	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Benzo[k]fluoranthene	1.1		0.082	0.036	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2

Client Sample ID: TP-2-7'

Date Collected: 08/24/15 09:42
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-4
Matrix: Solid
Percent Solids: 80.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	3.2		0.82	0.022	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Dibenz(a,h)anthracene	0.41		0.082	0.043	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Fluoranthene	7.0		0.82	0.024	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Fluorene	1.2		0.82	0.018	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Indeno[1,2,3-cd]pyrene	1.1		0.082	0.055	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Naphthalene	0.61	J	0.82	0.021	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Phenanthrene	9.6		0.82	0.022	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2
Pyrene	5.2		0.82	0.037	mg/Kg	☼	08/26/15 23:37	08/31/15 11:22	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*27 - 84*	*08/26/15 23:37*	*08/31/15 11:22*	*2*
Nitrobenzene-d5 (Surr)	*49*		*28 - 92*	*08/26/15 23:37*	*08/31/15 11:22*	*2*
Terphenyl-d14 (Surr)	*69*		*16 - 114*	*08/26/15 23:37*	*08/31/15 11:22*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.86	J	2.4	0.42	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Arsenic	9.9		3.6	1.2	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Barium	343		47.5	1.7	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Cadmium	2.0		0.95	0.50	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Chromium	17.2		2.4	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Lead	1110		2.4	0.93	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Selenium	1.6	U	4.8	1.6	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4
Vanadium	34.0		11.9	1.2	mg/Kg	☼	08/27/15 07:28	08/27/15 19:47	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.8		0.060	0.042	mg/Kg	☼	08/27/15 04:31	08/27/15 09:08	3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.9		1.0	1.0	%			08/26/15 14:38	1
Percent Solids	80.1		1.0	1.0	%			08/26/15 14:38	1

Client Sample ID: TP-3-1'

Date Collected: 08/24/15 10:15
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-5
Matrix: Solid
Percent Solids: 92.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.040	J	0.36	0.0086	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Acenaphthylene	0.0092	U	0.36	0.0092	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Anthracene	0.084	J	0.36	0.034	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Benzo[a]anthracene	0.30		0.036	0.030	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Benzo[a]pyrene	0.26		0.036	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Benzo[b]fluoranthene	0.34		0.036	0.014	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Benzo[g,h,i]perylene	0.16	J	0.36	0.020	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Benzo[k]fluoranthene	0.15		0.036	0.016	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Chrysene	0.31	J	0.36	0.0097	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Dibenz(a,h)anthracene	0.069		0.036	0.019	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Fluoranthene	0.62		0.36	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1

Client Sample ID: TP-3-1'

Date Collected: 08/24/15 10:15
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-5

Matrix: Solid
Percent Solids: 92.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.029	J	0.36	0.0078	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Indeno[1,2,3-cd]pyrene	0.19		0.036	0.024	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Naphthalene	0.013	J	0.36	0.0091	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Phenanthrene	0.47		0.36	0.0095	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1
Pyrene	0.57		0.36	0.016	mg/Kg	☼	08/26/15 23:37	08/29/15 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*27 - 84*	*08/26/15 23:37*	*08/29/15 19:55*	*1*
Nitrobenzene-d5 (Surr)	*67*		*28 - 92*	*08/26/15 23:37*	*08/29/15 19:55*	*1*
Terphenyl-d14 (Surr)	*102*		*16 - 114*	*08/26/15 23:37*	*08/29/15 19:55*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.38	U	2.1	0.38	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Arsenic	10.3		3.2	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Barium	177		42.8	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Cadmium	0.45	U	0.86	0.45	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Chromium	23.2		2.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Lead	728		2.1	0.84	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Selenium	1.5	U	4.3	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4
Vanadium	29.0		10.7	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 19:51	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.7		0.055	0.039	mg/Kg	☼	08/27/15 04:31	08/27/15 09:12	3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.5		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	92.5		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-3-7'

Date Collected: 08/24/15 10:17
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-6

Matrix: Solid
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.085	J	0.44	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Acenaphthylene	0.039	J	0.44	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Anthracene	0.25	J	0.44	0.042	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Benzo[a]anthracene	0.93		0.044	0.037	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Benzo[a]pyrene	0.89		0.044	0.013	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Benzo[b]fluoranthene	1.2		0.044	0.017	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Benzo[g,h,i]perylene	0.59		0.44	0.025	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Benzo[k]fluoranthene	0.42		0.044	0.019	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Chrysene	1.0		0.44	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Dibenz(a,h)anthracene	0.21		0.044	0.023	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Fluoranthene	1.8		0.44	0.013	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Fluorene	0.089	J	0.44	0.0096	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Indeno[1,2,3-cd]pyrene	0.64		0.044	0.029	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Naphthalene	0.065	J	0.44	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1

Client Sample ID: TP-3-7'

Lab Sample ID: 460-100121-6
Date Collected: 08/24/15 10:17
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	1.2		0.44	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1
Pyrene	1.6		0.44	0.020	mg/Kg	☼	08/26/15 23:37	08/29/15 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*27 - 84*	*08/26/15 23:37*	*08/29/15 20:20*	*1*
Nitrobenzene-d5 (Surr)	*64*		*28 - 92*	*08/26/15 23:37*	*08/29/15 20:20*	*1*
Terphenyl-d14 (Surr)	*93*		*16 - 114*	*08/26/15 23:37*	*08/29/15 20:20*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0	J	2.5	0.45	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Arsenic	11.3		3.8	1.2	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Barium	167		50.5	1.8	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Cadmium	1.2		1.0	0.53	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Chromium	21.4		2.5	1.2	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Lead	820		2.5	0.99	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Selenium	1.7	U	5.1	1.7	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4
Vanadium	26.3		12.6	1.3	mg/Kg	☼	08/27/15 07:28	08/27/15 19:55	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.6		0.044	0.031	mg/Kg	☼	08/27/15 04:31	08/27/15 09:19	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25.3		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	74.7		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-4-1.5'

Lab Sample ID: 460-100121-7
Date Collected: 08/24/15 10:40
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 91.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.89		0.72	0.017	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Acenaphthylene	0.15	J	0.72	0.019	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Anthracene	2.0		0.72	0.069	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Benzo[a]anthracene	5.4		0.072	0.060	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Benzo[a]pyrene	4.8		0.072	0.022	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Benzo[b]fluoranthene	6.1		0.072	0.028	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Benzo[g,h,i]perylene	2.7		0.72	0.041	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Benzo[k]fluoranthene	2.5		0.072	0.031	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Chrysene	6.0		0.72	0.020	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Dibenz(a,h)anthracene	0.89		0.072	0.038	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Fluoranthene	12		0.72	0.021	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Fluorene	0.81		0.72	0.016	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Indeno[1,2,3-cd]pyrene	2.9		0.072	0.048	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Naphthalene	0.73		0.72	0.018	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Phenanthrene	11		0.72	0.019	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2
Pyrene	10		0.72	0.033	mg/Kg	☼	08/26/15 23:37	08/31/15 15:20	2

Client Sample ID: TP-4-1.5'

Date Collected: 08/24/15 10:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-7

Matrix: Solid
Percent Solids: 91.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		27 - 84	08/26/15 23:37	08/31/15 15:20	2
Nitrobenzene-d5 (Surr)	60		28 - 92	08/26/15 23:37	08/31/15 15:20	2
Terphenyl-d14 (Surr)	85		16 - 114	08/26/15 23:37	08/31/15 15:20	2

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.46	J	2.1	0.37	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Arsenic	11.5		3.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Barium	307		41.7	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Cadmium	0.85		0.83	0.43	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Chromium	26.0		2.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Lead	1490		2.1	0.82	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Selenium	1.4	U	4.2	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4
Vanadium	20.8		10.4	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:10	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	4.6		0.17	0.12	mg/Kg	☼	08/27/15 04:31	08/27/15 09:22	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.6		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	91.4		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-4-2'

Date Collected: 08/24/15 10:41
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-8

Matrix: Solid
Percent Solids: 87.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	13	D	9.5	0.23	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Acenaphthylene	1.8	J D	9.5	0.24	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Anthracene	23	D	9.5	0.90	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Benzo[a]anthracene	35	D	0.95	0.79	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Benzo[a]pyrene	26	D	0.95	0.29	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Benzo[b]fluoranthene	34	D	0.95	0.37	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Benzo[g,h,i]perylene	16	D	9.5	0.55	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Benzo[k]fluoranthene	14	D	0.95	0.41	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Chrysene	39	D	9.5	0.26	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Dibenz(a,h)anthracene	4.2	D	0.95	0.49	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Fluoranthene	110	D	9.5	0.28	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Fluorene	13	D	9.5	0.21	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Indeno[1,2,3-cd]pyrene	17	D	0.95	0.63	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Naphthalene	13	D	9.5	0.24	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Phenanthrene	120	D	9.5	0.25	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25
Pyrene	79	D	9.5	0.43	mg/Kg	☼	08/26/15 23:37	08/31/15 15:46	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58	D	27 - 84	08/26/15 23:37	08/31/15 15:46	25
Nitrobenzene-d5 (Surr)	47	D	28 - 92	08/26/15 23:37	08/31/15 15:46	25
Terphenyl-d14 (Surr)	83	D	16 - 114	08/26/15 23:37	08/31/15 15:46	25

Client Sample ID: TP-4-2'

Lab Sample ID: 460-100121-8
Date Collected: 08/24/15 10:41
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 87.0

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.41	U	2.3	0.41	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Arsenic	**39.7**		3.4	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Barium	**412**		46.0	1.6	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Cadmium	**4.8**		0.92	0.48	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Chromium	**17.9**		2.3	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Lead	**964**		2.3	0.90	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Selenium	1.6	U	4.6	1.6	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4
Vanadium	**38.0**		11.5	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 20:14	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.68**		0.019	0.014	mg/Kg	☼	08/27/15 04:31	08/27/15 09:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.0**		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	**87.0**		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-5-1'

Lab Sample ID: 460-100121-10
Date Collected: 08/24/15 12:10
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 94.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.060**	**J**	0.35	0.0084	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Acenaphthylene	**0.079**	**J**	0.35	0.0090	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Anthracene	**0.21**	**J**	0.35	0.033	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Benzo[a]anthracene	**0.79**		0.035	0.029	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Benzo[a]pyrene	**0.80**		0.035	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Benzo[b]fluoranthene	**1.0**		0.035	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Benzo[g,h,i]perylene	**0.45**		0.35	0.020	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Benzo[k]fluoranthene	**0.38**		0.035	0.015	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Chrysene	**0.92**		0.35	0.0095	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Dibenz(a,h)anthracene	**0.15**		0.035	0.018	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Fluoranthene	**1.9**		0.35	0.010	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Fluorene	**0.061**	**J**	0.35	0.0076	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Indeno[1,2,3-cd]pyrene	**0.52**		0.035	0.023	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Naphthalene	**0.032**	**J**	0.35	0.0089	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Phenanthrene	**0.98**		0.35	0.0093	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1
Pyrene	**1.1**		0.35	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*27 - 84*	*08/26/15 23:37*	*08/30/15 17:35*	*1*
Nitrobenzene-d5 (Surr)	*60*		*28 - 92*	*08/26/15 23:37*	*08/30/15 17:35*	*1*
Terphenyl-d14 (Surr)	*69*		*16 - 114*	*08/26/15 23:37*	*08/30/15 17:35*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.35	U	2.0	0.35	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4
Arsenic	**13.4**		3.0	0.99	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4
Barium	**314**		40.2	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4

Client Sample ID: TP-5-1'

Date Collected: 08/24/15 12:10
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-10

Matrix: Solid
Percent Solids: 94.8

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.61**	**J**	0.80	0.42	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4
Chromium	**32.2**		2.0	0.97	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4
Lead	**3580**		5.0	2.0	mg/Kg	☼	08/27/15 07:28	08/27/15 23:59	10
Selenium	1.4	U	4.0	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4
Vanadium	**40.7**		10.0	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:18	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.29**		0.016	0.011	mg/Kg	☼	08/27/15 04:31	08/27/15 09:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**5.2**		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	**94.8**		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-5-8'

Date Collected: 08/24/15 12:11
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-11

Matrix: Solid
Percent Solids: 79.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.010	U	0.42	0.010	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Acenaphthylene	0.011	U	0.42	0.011	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Anthracene	0.040	U	0.42	0.040	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Benzo[a]anthracene	0.035	U	0.042	0.035	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Benzo[a]pyrene	0.013	U	0.042	0.013	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Benzo[b]fluoranthene	0.016	U	0.042	0.016	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Benzo[g,h,i]perylene	0.024	U	0.42	0.024	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Benzo[k]fluoranthene	0.018	U	0.042	0.018	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Chrysene	0.011	U	0.42	0.011	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Dibenz(a,h)anthracene	0.022	U	0.042	0.022	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Fluoranthene	0.012	U	0.42	0.012	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Fluorene	0.0091	U	0.42	0.0091	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Indeno[1,2,3-cd]pyrene	0.028	U	0.042	0.028	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Naphthalene	0.011	U F1	0.42	0.011	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Phenanthrene	0.011	U	0.42	0.011	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1
Pyrene	0.019	U	0.42	0.019	mg/Kg	☼	08/26/15 23:37	08/28/15 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 84*	*08/26/15 23:37*	*08/28/15 14:59*	*1*
Nitrobenzene-d5 (Surr)	*64*		*28 - 92*	*08/26/15 23:37*	*08/28/15 14:59*	*1*
Terphenyl-d14 (Surr)	*87*		*16 - 114*	*08/26/15 23:37*	*08/28/15 14:59*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.38	U	2.1	0.38	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Arsenic	**4.4**		3.2	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Barium	**64.2**		42.8	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Cadmium	0.45	U	0.86	0.45	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Chromium	**14.4**		2.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Lead	**10.5**		2.1	0.84	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4

Client Sample ID: TP-5-8'

Lab Sample ID: 460-100121-11
Date Collected: 08/24/15 12:11
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 79.2

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	1.5	U	4.3	1.5	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4
Vanadium	**18.9**		10.7	1.1	mg/Kg	☼	08/27/15 07:28	08/27/15 20:22	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.040**		0.021	0.015	mg/Kg	☼	08/27/15 04:31	08/27/15 09:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**20.8**		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	**79.2**		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-6-1'

Lab Sample ID: 460-100121-12
Date Collected: 08/24/15 12:45
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 93.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.85**		0.70	0.017	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Acenaphthylene	**0.13**	**J**	0.70	0.018	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Anthracene	**2.2**		0.70	0.067	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Benzo[a]anthracene	**3.6**		0.070	0.059	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Benzo[a]pyrene	**2.8**		0.070	0.021	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Benzo[b]fluoranthene	**3.6**		0.070	0.028	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Benzo[g,h,i]perylene	**1.4**		0.70	0.041	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Benzo[k]fluoranthene	**1.3**		0.070	0.031	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Chrysene	**3.5**		0.70	0.019	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Dibenz(a,h)anthracene	**0.56**		0.070	0.037	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Fluoranthene	**7.3**		0.70	0.021	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Fluorene	**1.1**		0.70	0.015	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Indeno[1,2,3-cd]pyrene	**1.6**		0.070	0.047	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Naphthalene	**0.44**	**J**	0.70	0.018	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Phenanthrene	**8.1**		0.70	0.019	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2
Pyrene	**5.7**		0.70	0.032	mg/Kg	☼	08/26/15 23:37	08/31/15 16:11	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 84*	*08/26/15 23:37*	*08/31/15 16:11*	*2*
Nitrobenzene-d5 (Surr)	*56*		*28 - 92*	*08/26/15 23:37*	*08/31/15 16:11*	*2*
Terphenyl-d14 (Surr)	*86*		*16 - 114*	*08/26/15 23:37*	*08/31/15 16:11*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.36	U	2.0	0.36	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Arsenic	**11.4**		3.0	0.99	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Barium	**198**		40.4	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Cadmium	**0.85**		0.81	0.42	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Chromium	**21.0**		2.0	0.98	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Lead	**1490**		2.0	0.79	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Selenium	1.4	U	4.0	1.4	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4
Vanadium	**20.5**		10.1	1.0	mg/Kg	☼	08/27/15 07:28	08/27/15 20:25	4

Client Sample ID: TP-6-1'

Lab Sample ID: 460-100121-12
Date Collected: 08/24/15 12:45
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 93.5

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.1		0.033	0.023	mg/Kg	☼	08/27/15 04:31	08/27/15 09:36	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.5		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	93.5		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-6-5'

Lab Sample ID: 460-100121-13
Date Collected: 08/24/15 12:48
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 91.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.12	J	0.36	0.0087	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Acenaphthylene	0.061	J	0.36	0.0093	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Anthracene	0.32	J	0.36	0.034	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Benzo[a]anthracene	0.90		0.036	0.030	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Benzo[a]pyrene	0.83		0.036	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Benzo[b]fluoranthene	1.0		0.036	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Benzo[g,h,i]perylene	0.43		0.36	0.021	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Benzo[k]fluoranthene	0.41		0.036	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Chrysene	1.0		0.36	0.0098	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Dibenz(a,h)anthracene	0.15		0.036	0.019	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Fluoranthene	2.0		0.36	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Fluorene	0.12	J	0.36	0.0079	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Indeno[1,2,3-cd]pyrene	0.49		0.036	0.024	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Naphthalene	0.086	J	0.36	0.0092	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Phenanthrene	1.4		0.36	0.0096	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1
Pyrene	1.3		0.36	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*27 - 84*	*08/26/15 23:37*	*08/30/15 18:00*	*1*
Nitrobenzene-d5 (Surr)	*65*		*28 - 92*	*08/26/15 23:37*	*08/30/15 18:00*	*1*
Terphenyl-d14 (Surr)	*78*		*16 - 114*	*08/26/15 23:37*	*08/30/15 18:00*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.44	J	2.1	0.37	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Arsenic	11.5		3.1	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Barium	245		41.7	1.5	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Cadmium	0.74	J	0.83	0.43	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Chromium	25.9	F1	2.1	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Lead	2050		2.1	0.82	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Selenium	1.4	U	4.2	1.4	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4
Vanadium	36.5		10.4	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 20:40	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.6		0.052	0.036	mg/Kg	☼	08/27/15 04:31	08/27/15 09:41	3

Client Sample ID: TP-6-5'

Lab Sample ID: 460-100121-13
Date Collected: 08/24/15 12:48
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 91.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.6		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	91.4		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-7-1'

Lab Sample ID: 460-100121-15
Date Collected: 08/24/15 13:22
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 93.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.056	J	0.35	0.0085	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Acenaphthylene	0.040	J	0.35	0.0091	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Anthracene	0.17	J	0.35	0.034	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Benzo[a]anthracene	0.71		0.035	0.029	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Benzo[a]pyrene	0.72		0.035	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Benzo[b]fluoranthene	0.95		0.035	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Benzo[g,h,i]perylene	0.53		0.35	0.020	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Benzo[k]fluoranthene	0.39		0.035	0.015	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Chrysene	0.85		0.35	0.0096	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Dibenz(a,h)anthracene	0.17		0.035	0.018	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Fluoranthene	1.4		0.35	0.010	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Fluorene	0.050	J	0.35	0.0077	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Indeno[1,2,3-cd]pyrene	0.56		0.035	0.024	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Naphthalene	0.024	J	0.35	0.0090	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Phenanthrene	0.83		0.35	0.0094	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1
Pyrene	1.2		0.35	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 84*	*08/26/15 23:37*	*08/30/15 15:53*	*1*
Nitrobenzene-d5 (Surr)	*59*		*28 - 92*	*08/26/15 23:37*	*08/30/15 15:53*	*1*
Terphenyl-d14 (Surr)	*88*		*16 - 114*	*08/26/15 23:37*	*08/30/15 15:53*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.36	U	2.0	0.36	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Arsenic	11.4		3.1	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Barium	434		40.8	1.5	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Cadmium	0.95		0.82	0.43	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Chromium	41.7		2.0	0.99	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Lead	11500		25.5	10.0	mg/Kg	☼	08/27/15 07:33	08/28/15 16:34	50
Selenium	1.4	U	4.1	1.4	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4
Vanadium	23.7		10.2	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 21:06	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.41		0.018	0.012	mg/Kg	☼	08/27/15 04:31	08/27/15 09:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	93.4		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-7-8'

Date Collected: 08/24/15 13:24
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-16
Matrix: Solid
Percent Solids: 77.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.010	U	0.43	0.010	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Acenaphthylene	0.011	U	0.43	0.011	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Anthracene	0.041	U	0.43	0.041	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Benzo[a]anthracene	0.036	U	0.043	0.036	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Benzo[a]pyrene	0.013	U	0.043	0.013	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Benzo[b]fluoranthene	0.017	U	0.043	0.017	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Benzo[g,h,i]perylene	0.025	U	0.43	0.025	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Benzo[k]fluoranthene	0.019	U	0.043	0.019	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Chrysene	0.012	U	0.43	0.012	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Dibenz(a,h)anthracene	0.022	U	0.043	0.022	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Fluoranthene	0.013	U	0.43	0.013	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Fluorene	0.0093	U	0.43	0.0093	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Indeno[1,2,3-cd]pyrene	0.028	U	0.043	0.028	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Naphthalene	0.011	U	0.43	0.011	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Phenanthrene	0.011	U	0.43	0.011	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1
Pyrene	0.019	U	0.43	0.019	mg/Kg	☼	08/31/15 14:28	09/01/15 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*27 - 84*	*08/31/15 14:28*	*09/01/15 11:06*	*1*
Nitrobenzene-d5 (Surr)	*72*		*28 - 92*	*08/31/15 14:28*	*09/01/15 11:06*	*1*
Terphenyl-d14 (Surr)	*95*		*16 - 114*	*08/31/15 14:28*	*09/01/15 11:06*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.39	U	2.2	0.39	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Arsenic	**3.8**		3.3	1.1	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Barium	**66.0**		43.9	1.6	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Cadmium	0.46	U	0.88	0.46	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Chromium	**12.3**		2.2	1.1	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Lead	**14.0**		2.2	0.86	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Selenium	1.5	U	4.4	1.5	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4
Vanadium	**14.2**		11.0	1.1	mg/Kg	☼	08/27/15 07:33	08/27/15 21:09	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.031**		0.022	0.016	mg/Kg	☼	08/27/15 04:31	08/27/15 09:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22.8**		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	**77.2**		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-8-1'

Date Collected: 08/24/15 14:00
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-17
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.049**	**J**	0.35	0.0084	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Acenaphthylene	**0.039**	**J**	0.35	0.0090	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Anthracene	**0.15**	**J**	0.35	0.033	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1

Client Sample ID: TP-8-1'

Date Collected: 08/24/15 14:00
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-17

Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.56		0.035	0.029	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Benzo[a]pyrene	0.55		0.035	0.011	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Benzo[b]fluoranthene	0.67		0.035	0.014	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Benzo[g,h,i]perylene	0.41		0.35	0.020	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Benzo[k]fluoranthene	0.29		0.035	0.015	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Chrysene	0.61		0.35	0.0095	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Dibenz(a,h)anthracene	0.13		0.035	0.018	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Fluoranthene	1.1		0.35	0.010	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Fluorene	0.049	J	0.35	0.0076	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Indeno[1,2,3-cd]pyrene	0.42		0.035	0.023	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Naphthalene	0.087	J	0.35	0.0089	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Phenanthrene	0.68		0.35	0.0093	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1
Pyrene	0.85		0.35	0.016	mg/Kg	☼	08/26/15 23:37	08/30/15 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*27 - 84*	*08/26/15 23:37*	*08/30/15 16:18*	*1*
Nitrobenzene-d5 (Surr)	*63*		*28 - 92*	*08/26/15 23:37*	*08/30/15 16:18*	*1*
Terphenyl-d14 (Surr)	*85*		*16 - 114*	*08/26/15 23:37*	*08/30/15 16:18*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.37	U	2.1	0.37	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Arsenic	7.9		3.1	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Barium	134		41.9	1.5	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Cadmium	0.67	J	0.84	0.44	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Chromium	21.8		2.1	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Lead	2100		2.1	0.82	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Selenium	1.4	U	4.2	1.4	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4
Vanadium	21.1		10.5	1.0	mg/Kg	☼	08/27/15 07:33	08/27/15 21:13	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.41		0.017	0.012	mg/Kg	☼	08/27/15 04:31	08/27/15 09:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.5		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	94.5		1.0	1.0	%			08/26/15 16:06	1

Client Sample ID: TP-8-8'

Date Collected: 08/24/15 14:02
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-18

Matrix: Solid
Percent Solids: 81.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.0098	U	0.40	0.0098	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Acenaphthylene	0.010	U	0.40	0.010	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Anthracene	0.038	U	0.40	0.038	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Benzo[a]anthracene	0.034	U	0.040	0.034	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Benzo[a]pyrene	0.041		0.040	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Benzo[b]fluoranthene	0.042		0.040	0.016	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1

Client Sample ID: TP-8-8'
Date Collected: 08/24/15 14:02
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-18
Matrix: Solid
Percent Solids: 81.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	0.023	U	0.40	0.023	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Benzo[k]fluoranthene	**0.026**	**J**	0.040	0.018	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Chrysene	**0.045**	**J**	0.40	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Dibenz(a,h)anthracene	0.021	U	0.040	0.021	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Fluoranthene	**0.070**	**J**	0.40	0.012	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Fluorene	0.0088	U	0.40	0.0088	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Indeno[1,2,3-cd]pyrene	0.027	U	0.040	0.027	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Naphthalene	0.010	U	0.40	0.010	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Phenanthrene	**0.038**	**J**	0.40	0.011	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1
Pyrene	**0.057**	**J**	0.40	0.018	mg/Kg	☼	08/26/15 23:37	08/29/15 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 84*	*08/26/15 23:37*	*08/29/15 00:16*	*1*
Nitrobenzene-d5 (Surr)	*65*		*28 - 92*	*08/26/15 23:37*	*08/29/15 00:16*	*1*
Terphenyl-d14 (Surr)	*87*		*16 - 114*	*08/26/15 23:37*	*08/29/15 00:16*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.42	U	2.4	0.42	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Arsenic	**6.9**		3.6	1.2	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Barium	**49.3**		47.6	1.7	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Cadmium	0.50	U	0.95	0.50	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Chromium	**21.8**		2.4	1.2	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Lead	**30.3**		2.4	0.93	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Selenium	1.6	U	4.8	1.6	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4
Vanadium	**29.7**		11.9	1.2	mg/Kg	☼	08/27/15 07:33	08/27/15 21:17	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.052**		0.019	0.013	mg/Kg	☼	08/27/15 04:31	08/27/15 09:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**18.4**		1.0	1.0	%			08/26/15 16:06	1
Percent Solids	**81.6**		1.0	1.0	%			08/26/15 16:06	1

Lab Chronicle

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Client Sample ID: TP-1-1.5'
Date Collected: 08/24/15 08:45
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319004	08/26/15 14:38	CJA	TAL EDI

Client Sample ID: TP-1-1.5'
Date Collected: 08/24/15 08:45
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-1
Matrix: Solid
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 14:37	CAZ	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 19:36	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		2	319247	08/27/15 08:55	TJS	TAL EDI

Client Sample ID: TP-1-6'
Date Collected: 08/24/15 08:47
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319004	08/26/15 14:38	CJA	TAL EDI

Client Sample ID: TP-1-6'
Date Collected: 08/24/15 08:47
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-2
Matrix: Solid
Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319639	08/29/15 19:29	HJK	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 19:40	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 08:57	TJS	TAL EDI

Client Sample ID: TP-2-1.5'
Date Collected: 08/24/15 09:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319004	08/26/15 14:38	CJA	TAL EDI

Client Sample ID: TP-2-1.5'

Lab Sample ID: 460-100121-3
Date Collected: 08/24/15 09:40
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 16:44	CAZ	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 19:44	CDC	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		20	319261	08/27/15 23:55	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:03	TJS	TAL EDI

Client Sample ID: TP-2-7'

Lab Sample ID: 460-100121-4
Date Collected: 08/24/15 09:42
Matrix: Solid
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319004	08/26/15 14:38	CJA	TAL EDI

Client Sample ID: TP-2-7'

Lab Sample ID: 460-100121-4
Date Collected: 08/24/15 09:42
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		2	319832	08/31/15 11:22	CAZ	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 19:47	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		3	319247	08/27/15 09:08	TJS	TAL EDI

Client Sample ID: TP-3-1'

Lab Sample ID: 460-100121-5
Date Collected: 08/24/15 10:15
Matrix: Solid
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-3-1'

Lab Sample ID: 460-100121-5
Date Collected: 08/24/15 10:15
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319639	08/29/15 19:55	HJK	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI

Lab Chronicle

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Client Sample ID: TP-3-1'
Date Collected: 08/24/15 10:15
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-5
Matrix: Solid
Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		4	319261	08/27/15 19:51	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		3	319247	08/27/15 09:12	TJS	TAL EDI

Client Sample ID: TP-3-7'
Date Collected: 08/24/15 10:17
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-3-7'
Date Collected: 08/24/15 10:17
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-6
Matrix: Solid
Percent Solids: 74.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319639	08/29/15 20:20	HJK	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 19:55	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		2	319247	08/27/15 09:19	TJS	TAL EDI

Client Sample ID: TP-4-1.5'
Date Collected: 08/24/15 10:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-4-1.5'
Date Collected: 08/24/15 10:40
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-7
Matrix: Solid
Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		2	319964	08/31/15 15:20	AAS	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:10	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		10	319247	08/27/15 09:22	TJS	TAL EDI

Lab Chronicle

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Client Sample ID: TP-4-2'
Date Collected: 08/24/15 10:41
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-4-2'
Date Collected: 08/24/15 10:41
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-8
Matrix: Solid
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546	DL		319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D	DL	25	319964	08/31/15 15:46	AAS	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:14	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:28	TJS	TAL EDI

Client Sample ID: TP-5-1'
Date Collected: 08/24/15 12:10
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-5-1'
Date Collected: 08/24/15 12:10
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-10
Matrix: Solid
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 17:35	CAZ	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:18	CDC	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		10	319261	08/27/15 23:59	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:30	TJS	TAL EDI

Client Sample ID: TP-5-8'
Date Collected: 08/24/15 12:11
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-5-8' — **Lab Sample ID: 460-100121-11**
Date Collected: 08/24/15 12:11 — **Matrix: Solid**
Date Received: 08/24/15 16:58 — **Percent Solids: 79.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319391	08/28/15 14:59	AAS	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:22	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:32	TJS	TAL EDI

Client Sample ID: TP-6-1' — **Lab Sample ID: 460-100121-12**
Date Collected: 08/24/15 12:45 — **Matrix: Solid**
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-6-1' — **Lab Sample ID: 460-100121-12**
Date Collected: 08/24/15 12:45 — **Matrix: Solid**
Date Received: 08/24/15 16:58 — **Percent Solids: 93.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		2	319964	08/31/15 16:11	AAS	TAL EDI
Total/NA	Prep	3050B			319160	08/27/15 07:28	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:25	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		2	319247	08/27/15 09:36	TJS	TAL EDI

Client Sample ID: TP-6-5' — **Lab Sample ID: 460-100121-13**
Date Collected: 08/24/15 12:48 — **Matrix: Solid**
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-6-5' — **Lab Sample ID: 460-100121-13**
Date Collected: 08/24/15 12:48 — **Matrix: Solid**
Date Received: 08/24/15 16:58 — **Percent Solids: 91.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 18:00	CAZ	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 20:40	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI

Lab Chronicle

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Client Sample ID: TP-6-5'

Lab Sample ID: 460-100121-13
Date Collected: 08/24/15 12:48
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7471B		3	319247	08/27/15 09:41	TJS	TAL EDI

Client Sample ID: TP-7-1'

Lab Sample ID: 460-100121-15
Date Collected: 08/24/15 13:22
Matrix: Solid
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-7-1'

Lab Sample ID: 460-100121-15
Date Collected: 08/24/15 13:22
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 15:53	CAZ	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		50	319528	08/28/15 16:34	YZH	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 21:06	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:47	TJS	TAL EDI

Client Sample ID: TP-7-8'

Lab Sample ID: 460-100121-16
Date Collected: 08/24/15 13:24
Matrix: Solid
Date Received: 08/24/15 16:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-7-8'

Lab Sample ID: 460-100121-16
Date Collected: 08/24/15 13:24
Matrix: Solid
Date Received: 08/24/15 16:58
Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319981	08/31/15 14:28	FHW	TAL EDI
Total/NA	Analysis	8270D		1	320052	09/01/15 11:06	CAZ	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 21:09	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:49	TJS	TAL EDI

Lab Chronicle

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Client Sample ID: TP-8-1'
Date Collected: 08/24/15 14:00
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-8-1'
Date Collected: 08/24/15 14:00
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-17
Matrix: Solid
Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319758	08/30/15 16:18	CAZ	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 21:13	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:52	TJS	TAL EDI

Client Sample ID: TP-8-8'
Date Collected: 08/24/15 14:02
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	319018	08/26/15 16:06	CJA	TAL EDI

Client Sample ID: TP-8-8'
Date Collected: 08/24/15 14:02
Date Received: 08/24/15 16:58

Lab Sample ID: 460-100121-18
Matrix: Solid
Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			319102	08/26/15 23:37	JMS	TAL EDI
Total/NA	Analysis	8270D		1	319540	08/29/15 00:16	WXC	TAL EDI
Total/NA	Prep	3050B			319162	08/27/15 07:33	MDC	TAL EDI
Total/NA	Analysis	6010C		4	319261	08/27/15 21:17	CDC	TAL EDI
Total/NA	Prep	7471B			319128	08/27/15 04:31	TJS	TAL EDI
Total/NA	Analysis	7471B		1	319247	08/27/15 09:54	TJS	TAL EDI

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Certification Summary

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Laboratory: TestAmerica Edison

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-16
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-15
New Jersey	NELAP	2	12028	06-30-15 *
New York	NELAP	2	11452	03-31-16
Pennsylvania	NELAP	3	68-00522	02-28-16
Rhode Island	State Program	1	LAO00132	12-30-15
USDA	Federal		NJCA-003-08	04-04-17

* Certification renewal pending - certification considered valid.

Method Summary

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL EDI
6010C	Metals (ICP)	SW846	TAL EDI
7471B	Mercury (CVAA)	SW846	TAL EDI
Moisture	Percent Moisture	EPA	TAL EDI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: RT Environmental Services, Inc.
Project/Site: Almond Street, Port Richmond

TestAmerica Job ID: 460-100121-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-100121-1	TP-1-1.5'	Solid	08/24/15 08:45	08/24/15 16:58
460-100121-2	TP-1-6'	Solid	08/24/15 08:47	08/24/15 16:58
460-100121-3	TP-2-1.5'	Solid	08/24/15 09:40	08/24/15 16:58
460-100121-4	TP-2-7'	Solid	08/24/15 09:42	08/24/15 16:58
460-100121-5	TP-3-1'	Solid	08/24/15 10:15	08/24/15 16:58
460-100121-6	TP-3-7'	Solid	08/24/15 10:17	08/24/15 16:58
460-100121-7	TP-4-1.5'	Solid	08/24/15 10:40	08/24/15 16:58
460-100121-8	TP-4-2'	Solid	08/24/15 10:41	08/24/15 16:58
460-100121-10	TP-5-1'	Solid	08/24/15 12:10	08/24/15 16:58
460-100121-11	TP-5-8'	Solid	08/24/15 12:11	08/24/15 16:58
460-100121-12	TP-6-1'	Solid	08/24/15 12:45	08/24/15 16:58
460-100121-13	TP-6-5'	Solid	08/24/15 12:48	08/24/15 16:58
460-100121-15	TP-7-1'	Solid	08/24/15 13:22	08/24/15 16:58
460-100121-16	TP-7-8'	Solid	08/24/15 13:24	08/24/15 16:58
460-100121-17	TP-8-1'	Solid	08/24/15 14:00	08/24/15 16:58
460-100121-18	TP-8-8'	Solid	08/24/15 14:02	08/24/15 16:58

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

9.9"/10.3° KOP-1 rec. directly from field on ice. OK 8/24/15

9/1/2015

Name (for report and invoice) Andrew Holly Craig Horr	Samplers Name (Printed) Andrew Holly	Site/Project Identification Almond Street, Fort Richmond
Company RT ENV	P. O. # 70137-11	State (Location of site): NJ: ☐ NY: ☐ Other: PA
Address 215 W Church Rd	Analysis Turnaround Time: Standard ☒	Regulatory Program:
City KOP State PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone Fax		Job No: 100121

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	Total RCRA Metals	Total Vanadium	PAH's	Sample Numbers
TP-1-1.5'	8/24	8:45	Soil	1	X	X	X	
TP-1-6'		8:47			X	X	X	
TP-2-1.5'		9:40			X	X	X	
TP-2-7'		9:42			X	X	X	
TP-3-1		10:15			X	X	X	
TP-3-7		10:17			X	X	X	
TP-4-1.5		10:40			X	X	X	
TP-4-2		10:41			X	X	X	
TP-4-7' (Hold)		10:45						
TP-5-1		12:10			X	X	X	

460-100121 Chain of Custody

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____ Soil: Water:

Special Instructions Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Andrew Holly	RT ENV	8/24/15 1658	1)	TA
2)	TA KOP	8/25/15 1000	2)	TA KOP 8/25/15 1538
3)	TA KOP	8/25/15 2005	3)	TA
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0814)

Massachusetts (M-NJ312), North Carolina (No. 578)

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

9.9°c | 10.3°c KOP-1 rec. directly from field on ice. JK 8/24/15

Page 2 of 2

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Andrew Holly Craig Howr	Andrew Holly	Almond Street, Port Richmond
Company: RT ENV	P. O. #: 70137-11	State (Location of site): NJ: ☐ NY: ☐ Other: PA
		Regulatory Program:

Address	215 W Church Rd
City	KOP
State	PA
Phone	
Fax	

Analysis Turnaround Time
Standard ☒
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐ ______

LAB USE ONLY
Project No:
Job No: 100121
Sample Numbers

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	Total RCRA Metals	Total Cyanide	PAHs									Sample Numbers
TP-5	8/24	12:11	Soil	1	X	X	X									
TP-6	↓	12:45	↓	↓	X	X	X									
TP-6-5	↓	12:48	↓	↓	X	X	X									
TP-6-8 (Hold)	↓	12:47	↓	↓												
TP-7	↓	13:22	↓	↓	X	X	X									
TP-7	↓	13:24	↓	↓	X	X	X									
TP-8	↓	14:00	↓	↓	X	X	X									
TP-8	↓	14:07	↓	↓	X	X	X									

Preservation Used: (1 = ICE), 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other ______, 7 = Other ______

Soil:
Water:

Special Instructions ______ Water Metals Filtered (Yes/No)? ______

Relinquished by	Company	Date / Time	Received by	Company
Andrew Holly	RT ENV	8/24/15 1658	1) [signature]	TA
2) Julie Gilmore	TAKOP	8/25/15 1000	2) [signature]	TA Edison 8/25/15 1538
3) [signature]	TAKOP	8/26/15 1720	3) [signature]	TA
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

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TestAmerica Edison
Receipt Temperature and pH Log

Page ___ of ___

Job Number: 100121

Number of Coolers: 1 IR Gun #: 101

Cooler Temperatures

Cooler #1:	°C	°C	Cooler #4:	°C	°C	Cooler #7:	°C	°C
Cooler #2:	°C	°C	Cooler #5:	°C	°C	Cooler #8:	°C	°C
Cooler #3:	°C	°C	Cooler #6:	°C	°C	Cooler #9:	°C	°C

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or OAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s). adjusted: _____

Preservative Name/Conc.: _____ Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____ Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.

Initials: JEJ Date: 8/25/15

Login Sample Receipt Checklist

Client: RT Environmental Services, Inc.

Job Number: 460-100121-1

Login Number: 100121
List Number: 1
Creator: Gilmore, Julie L

List Source: TestAmerica Edison

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Rec. from the field on ice
Cooler Temperature is acceptable.	True	IR KOP#1 10.3
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX B
FIELD ACTIVITY LOGS

SCS GRB, CH, MS, File

RT ENVIRONMENTAL SERVICES, INC.
FIELD ACTIVITY LOG

Client: Port Richmond Redevelop		**Project #:** 70137-11		**Initials:** MS	
Job Location: Philadelphia, PA		**Date:** 9/22/15		**Weather:** 60° Cloudy	
Site Address: 2507 Almond Street					
Equipment: XRF					
Equipment Calibration: Model:					
PID: Gas/Lot#:		**Gas ppm=**		**Instrument ppm=**	
H & S: Hospital Name:					
Location:			**Number:**		
Police:			**Number:**		
Explosive Atmosphere/Conditions:			**Yes**	**No**	
Utility Clearance		**Client Approval:**			
Serial #		**(On-Site Utilities)**		**Name**	**Date/Time**
Drums on Site:	**No**	**Yes**	**Soil Pile:**	**No**	**Yes/Size**

FIELD ACTIVITY: Test Pit Sampling

7:30 - RT (CH & MS) onsite. Test pit sample locations are marked out.
8:00 - J&J Environmental onsite w/ backhoe, CH offsite
8:30 - Test Pit 18 begins
- Top soil - 0-0.5 ft bgs - dark brown, loose soils
- Fill material observed from 1-4.5 ft bgs
- Silty-clay brown orange in color at 5-5.5 ft bgs

9:15 - Test Pit 17 begins
- Surfacial soil, dark brown, loose, ~ 2,500 ppm Pb
- Fill material from 2 ft till 6+; glass, brick, etc.
- tar-like material observed in soil, some odors at 5-6 ft bgs

10:00 - Test Pit 9 begins
- Surface soils are dark brown, loose, some rocks ~ 3,400 ppm Pb
- Fill material from 2 - 5 ft bgs - 3,400 ppm Pb at 2-2.5 ft bgs
- light brown clay layer at 5 ft ~ 150 ppm Pb

10:30 - TP-12 begins
- Surface soils similar to TP-9 ~ 2,500 ppm Pb ; 3,500 ppm Pb at 1-1.5 ft
- Fill material from 1 to 7+ ft bgs ~ 900 ppm Pb at 7 ft
- Clay layer not observed in this test pit

Comments:

Signature: _____ **Page** 1 **of** 15

RT ENVIRONMENTAL SERVICES, INC.
FIELD ACTIVITY LOG

Client: Port Richmond Redevelop	**Project #:** 70137-11	**Initials:** MS
Job Location: Philadelphia, PA	**Date:** 9/22/15	**Weather:** 60° Cloudy

Site Address: 2507 Almond Street

Equipment: XRF

Equipment Calibration: Model:

PID: Gas/Lot#: **Gas ppm=** **Instrument ppm=**

H & S: Hospital Name:

Location: **Number:**

Police: **Number:**

Explosive Atmosphere/Conditions: **Yes** **No**

Utility Clearance **Client Approval:**

Serial # **(On-Site Utilities)** **Name** **Date/Time**

Drums on Site: **No** **Yes** **Soil Pile:** **No** **Yes/Size**

FIELD ACTIVITY:

11:25 - TP-10 begins
- dark brown, loose, surface soils 0-0.5
- Fill material from 1-1.5 until approx. 4.5 ft bgs ~4,500 ppm Pb at 1-1.5 ft
- Clay layer, light brown, at approx. 4.5-5 ft bgs ~200 ppm Pb

11:50 - TP-13 begins
- Surface soils are loose, rocky, dark brown ~2,000 ppm Pb
- Fill material from 1.5 ft to 4.5 ft bgs (5,000 ppm at 2.5, 1,400 ppm at 4.5)
- olive-colored clay layer at 4.5-5 ft bgs

12:25 TP-11 begins
- surface soils are dark, loose, very rocky ~2,500 ppm Pb
- Fill material from 1 to 4 ft bgs
- Clay layer at 4.5 ft bgs

1:00 TP-14 begins
- concrete slab encountered at approx. 2 ft bgs. TP is backfilled after attempts to dig around slab are unsuccessful.

1:20 TP-15 begins
- Some clay in surface soils ~100 ppm Pb
- dark brown soils / concrete-rich fill at 1-1.5 ft bgs ~2,500 ppm Pb
- black clay layer at ~3.5 ft bgs ~3,000 ppm Pb

1:50 TP-16 begins
- surface soils are dark, loose
- Fill material from 1 to 5 ft bgs (1-1.5 ~3,300 ppm Pb)
- Clay layer both light & dark in color at ~5.5 ft bgs ~500 ppm Pb

Comments:

2:15 - soil is replaced in excavations.

2:45 - J & J Enviro & RT offsite

Signature: [signature]

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Craig Herr	Samplers Name (Printed): Maria Scudder	Site/Project Identification: Almond St Port Richmond
Company: PT Environmental	P. O. #:	State (Location of site): NJ: ☐ NY: ☐ Other: PA
		Regulatory Program:
Address: 215 W Church Rd	Analysis Turnaround Time: Standard ☒	ANALYSIS REQUESTED (ENTER "X: BELOW TO INDICATE REQUEST)
City: King of Prussia State: PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐ ______	LAB USE ONLY Project No: Job No:
Phone: 610-2651510 Fax:		

Sample Identification	Date	Time	Matrix	No. of. Cont.	Lead											Sample Numbers
TP-9 (0-0.5)	11/22	10:00	Soil	1	X											
TP-9 (1-1.5)		10:00			X											
TP-9 (2-2.5)		10:05			X											
TP-9 (3-3.5)		10:10			X											
TP-9 (4-4.5)		10:15														
TP-9 (5.5-6)		10:20														
TP-10 (0-0.5)		11:25														
TP-10 (1-1.5)		11:25			X											
TP-10 (2-2.5)		11:30			X											
TP-10 (3-3.5)		11:35			X											
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH				Soil:												
6 = Other ________, 7 = Other ________				Water:												

Special Instructions Hold All

Water Metals Filtered (Yes/No)? ________

Relinquished by	Company	Date / Time	Received by	Company
[illegible signature]	PT Enviro	11/21/15 | 1706	1) [illegible signature]	TA
2)		|	2)	
3)		|	3)	
4)		|	4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page ____ of ____

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Craig Herr	Maria Scudder	Almond St
Company: RT Environmental	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other: PA
		Regulatory Program:
Address: 215 W Church Rd	Analysis Turnaround Time: Standard ☑	
City: King of Prussia State: PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 610 265 1510 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	Lead										LAB USE ONLY Sample Numbers
TP-10 (4.5-5)	9/22	11:35	SO	1	X										
TP-11 (0-0.5)		12:24													
TP-11 (1-1.5)		12:25			X										
TP-11 (2-2.5)		12:30			X										
TP-11 (3-3.5)		12:35			X										
TP-11 (4-4.5)		12:40													
TP-12 (0-0.5)		10:35													
TP-12 (1-1.5)		10:35			X										
TP-12 (2-2.5)		10:45			X										
TP-12 (4-4.5)		10:50													

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:
6 = Other _____, 7 = Other _____ — Water:

Special Instructions Hold All — Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Craig Herr	RT	9/22 | 5:01	1)	TA
Relinquished by 2)	Company	Date / Time |	Received by 2)	Company
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0814)

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CHAIN OF CUSTODY / ANALYSIS REQUEST

Page ____ of ____

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Craig Herr	Maria Sudder	Almond St Port Richmond
Company: RT Environmental	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other: PA
Address: 715 W Church Rd	Analysis Turnaround Time: Standard ☑	Regulatory Program:
City: King of Prussia State: PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY: Project No: / Job No:
Phone: 610 265 1510 Fax:		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.											Sample Numbers
TP-12(3-3.5)	9/22	10:50	So	1	X										
TP-12(6-6.5)		11:00													
TP-13 (0-0.5)		11:55													
TP-13 (1-1.5)		11:55			X										
TP-13 (2-2.5)		12:00			X										
TP-13 (3-3.5)		12:05			X										
TP-13 (4-4.5)		12:10													
TP-13 (5-5.5)		1:00			X										
TP-14 (0-0.5)		1:00			X										
TP-14 (1-1.5)		1:00													
TP-15 (0-0.5)		1:25													

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:

6 = Other _____, 7 = Other _____

Special Instructions Hold All — Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	RT	9/22 | 500	1)	TA
Relinquished by 2)	Company	Date / Time |	Received by 2)	Company
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

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CHAIN OF CUSTODY / ANALYSIS REQUEST

Page ____ of ____

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Craig Herr	Maria Sadder	Almond St, Port Richmond
Company	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other: PA
RT Environmental		Regulatory Program:
Address	Analysis Turnaround Time	
215 W church Rd	Standard ☐	
City / State	Rush Charges Authorized For:	
King of Prussia / PA	2 Week ☐	
Phone / Fax	1 Week ☐	
610 265 1510	Other ☐ _____	

Sample Identification	Date	Time	Matrix	No. of Cont.	Lead										LAB USE ONLY Sample Numbers
TP-15 (1-1.5)	9/22	1:25	SO	1	x	X									
TP-15 (2-2.5)		1:30			x	X									
TP-15 (3-3.5)		1:30			x	X									
TP-15 (4-4.5)		1:35			x										
TP-15 (5.5-6)		1.35			x										
TP-16 (0-0.5)		1:55			x										
TP-16 (1-1.5)		1:55			x	X									
TP-16 (2-2.5)		2:00			x	X									
TP-16 (3-3.5)		2:00			x	X									
TP-16 (4-4.5)		2:05			x										

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:
6 = Other _____, 7 = Other _____

Special Instructions Hold All — Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	RT	9/22 | 5:06	1)	TA
Relinquished by 2)	Company	Date / Time |	Received by 2)	Company
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

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Page ____ of ____

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Craig Herr	Maria Snider	Almond Street
Company: RT Environmental	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other: PA
		Regulatory Program:
Address: 245 W Church Rd	Analysis Turnaround Time: Standard ☒	LAB USE ONLY: Project No:
City: KOP State: PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No:
Phone: 610 765 1510 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	ANALYSIS REQUESTED (ENTER "X: BELOW TO INDICATE REQUEST) Lead	Sample Numbers
TP-16 (5-5.5)	9/22	2:10	So	1	x	
TP-17 (0-0.5)		9:15			x	
TP-17 (1-1.5)		9:20			X	
TP-17 (2-2.5)		9:25			X	
TP-17 (3.5-4)		9:30			X	
TP-17 (4.5-5)		9:35			x	
TP-17 (5.5-6)		9:40			x	
TP-18 (0-0.5)		9:00			x	
TP-18 (1-1.5)		9:05			X	
TP-18 (2-2.5)		9:55			X	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:
6 = Other _____, 7 = Other _____ — Water:

Special Instructions Hold All — Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	RT	9/22 | 5:00	1)	TA
Relinquished by 2)	Company	Date / Time |	Received by 2)	Company
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
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Page ____ of ____

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Craig Herr	Maria Scudder	Almond St. Port Richmond
Company: RT Environmental	P. O. #	State (Location of site): NJ: ☐ NY: ☐ Other: PA
		Regulatory Program:
Address: 215 W Church Rd	Analysis Turnaround Time: Standard ☑	
City: King of Prussia State: PA	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 610 265 1510 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	Lead										LAB USE ONLY Sample Numbers
TP-15(3-3.5)	9/22	9:05	SO	1	X										
TP-15(5-5.5)	9/22	9:10	↓	↓	X										
TP-18 (4-4.5)															

LAB USE ONLY: Project No: ____ Job No: ____

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil: ____ Water: ____

Special Instructions Hold All

Water Metals Filtered (Yes/No)? _____

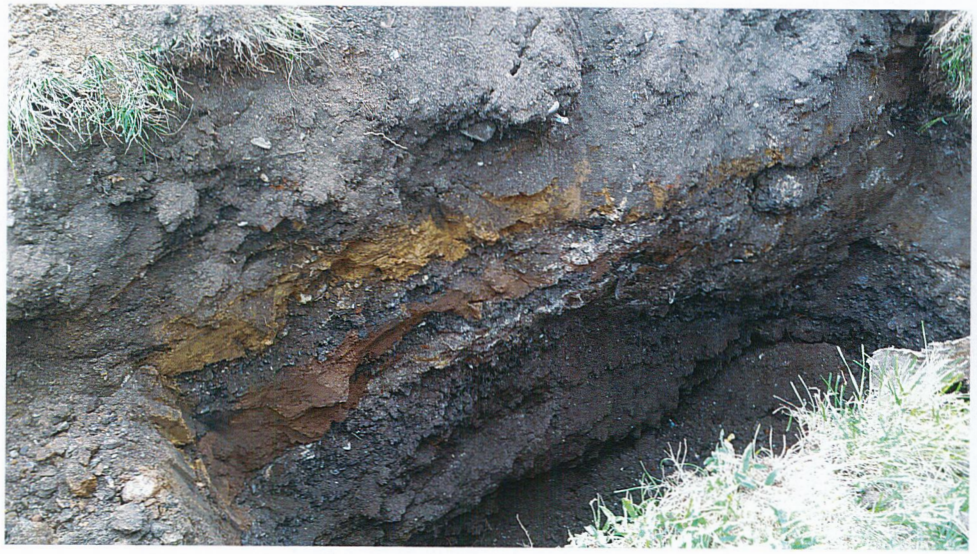
Relinquished by	Company	Date / Time	Received by	Company
1)	RT	9/22 | 5:00	1)	TA
Relinquished by 2)	Company	Date / Time |	Received by 2)	Company
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

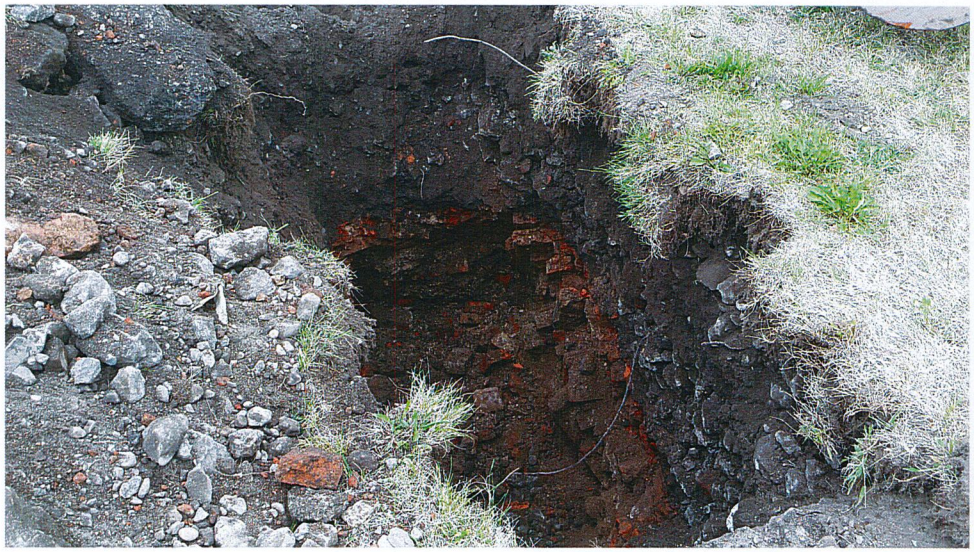
Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0814)


DEERE
310SK

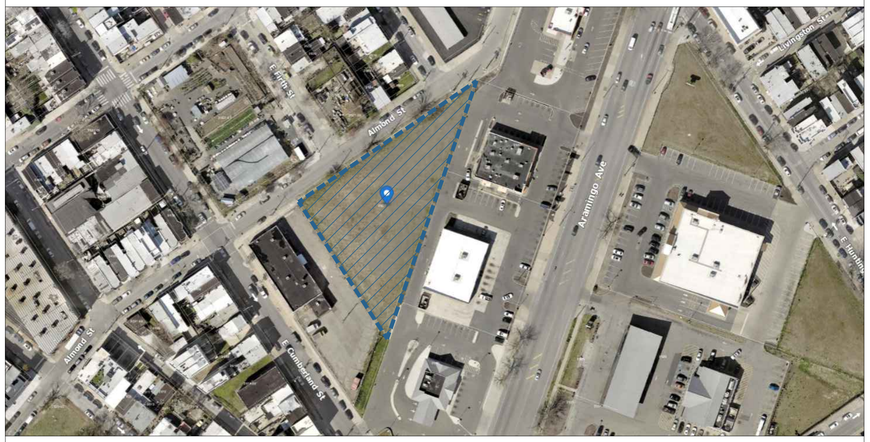

DEERE
310SK



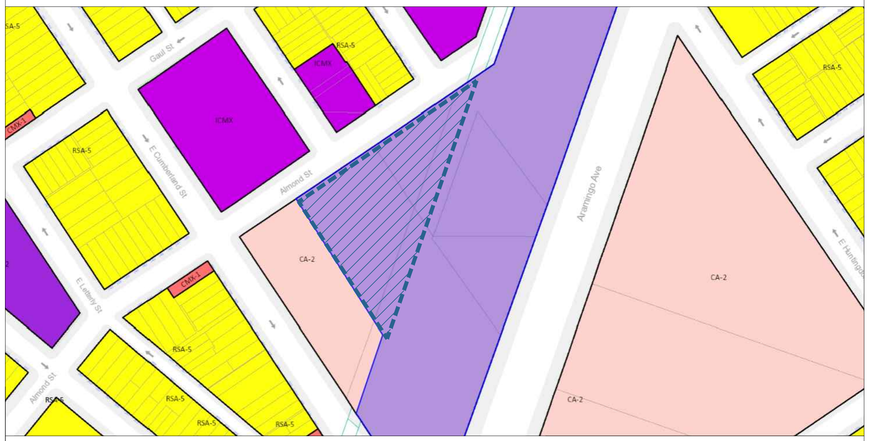


APPENDIX C
PRELIMINARY RE-DEVELOPMENT PLANS

AERIAL MAP



ZONING MAP



REVISION LOG

DATE	DRAWING ISSUED:	NOTES:
DATE	DEED / FEASIBILITY	

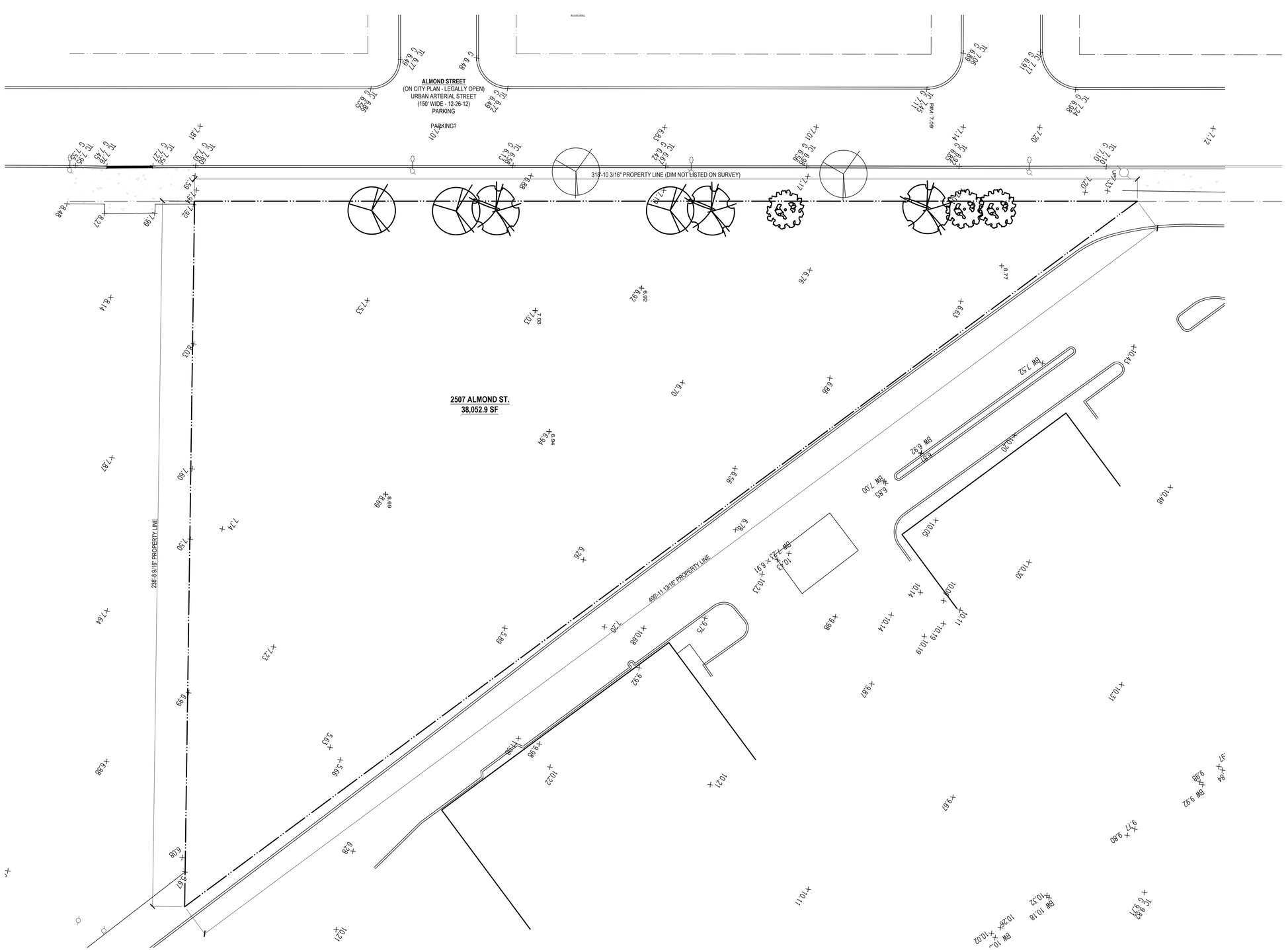
harman deutsch ohler architecture

2507 ALMOND STREET
Philadelphia, PA

#	DATE	ISSUE / REVISION	DRAWN BY:	REVIEWED BY:
1	10.20.2021	DEED INPUT	-	RS
2	11.02.2021	FEASIBILITY STUDY	EQ	RO

CS
COVER SHEET

2507 ALMOND ST
Philadelphia, PA



1 / SP.0 DEED INPUT
1/16" = 1'-0"

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2507 ALMOND STREET
Philadelphia, PA

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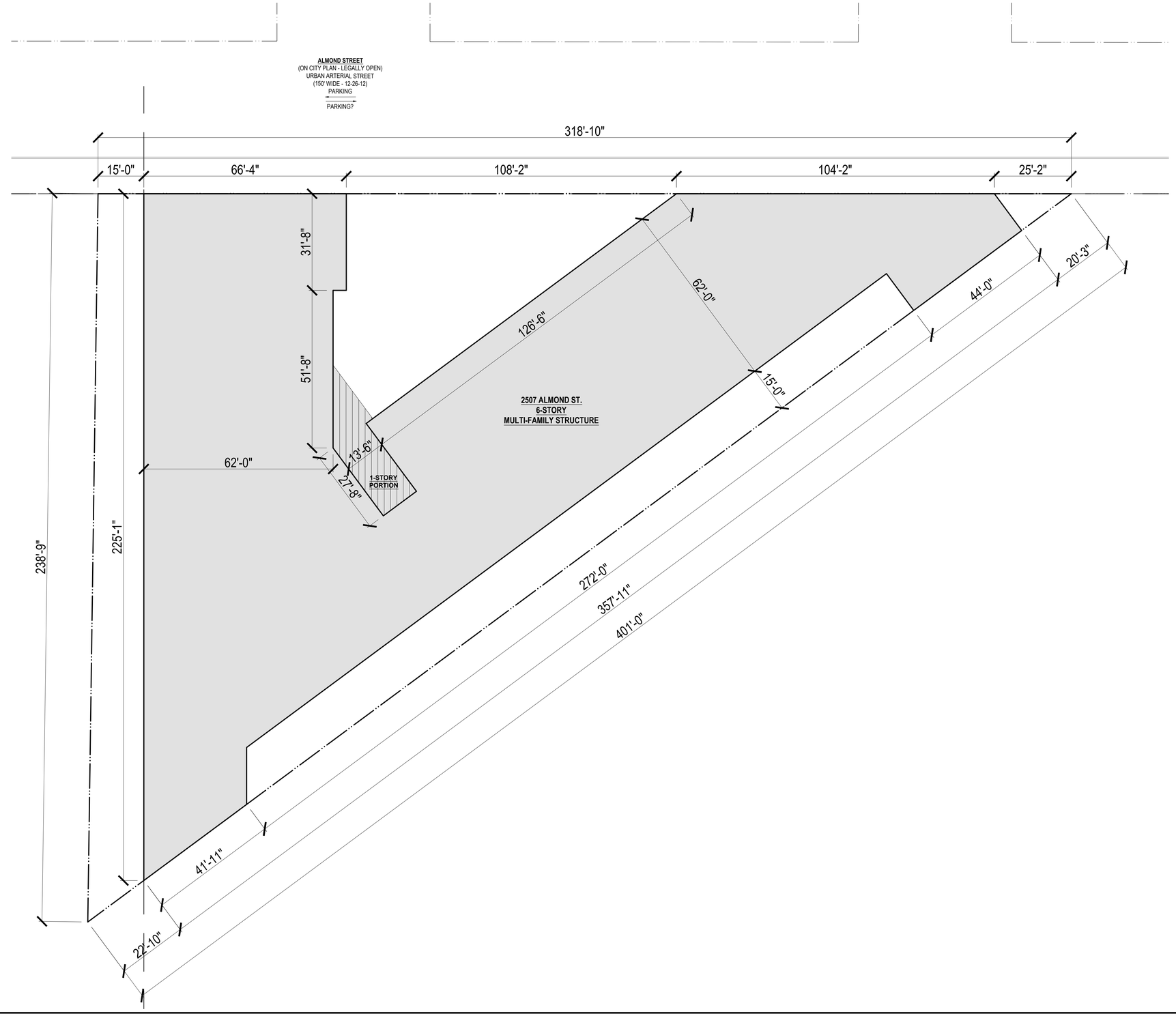
2	11.02.2021	FEASIBILITY STUDY	EQ	RO

SP.0
DEED INPUT

2507 ALMOND ST
Philadelphia, PA



PROJECT SUMMARY: 2507 ALMOND ST.			VARIANCE REQUIRED?
ZONING: CA-2			
OVERLAY DISTRICT: NCA Neighborhood Commercial Area Overlay District - North Delaware Avenue 14-503(8)			
ABUTTING ZONING DISTRICT: CA-2			
ZONING DISTRICT ACROSS STREET: ICMX, RSA-5			
LOT AREA: 38,052.9 SF (.XXX AC)			
USE: RESIDENTIAL			
	ALLOWED	PROPOSED	
DWELLING UNITS	NOT PERMITTED	151	○
DIMENSIONAL STANDARDS			
	REQUIRED / ALLOWED	PROPOSED	
OPEN AREA	0 SF (0%)	12,378.08 SF (32.53%)	
OCCUPIED AREA	38,052.9 SF (100%)	25,674.82 SF (67.47%)	
FRONT YARD SETBACK	NA	0'	
SIDE YARD	NA	15'	
REAR YARD	NA	0'	
HEIGHT	38'	60'	○
PARKING STANDARDS			
	REQUIRED / ALLOWED	PROPOSED	
PARKING STALLS	XX	66	○

1 / SP.1 SITE FEASIBILITY
1/16" = 1'-0"

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2507 ALMOND STREET
Philadelphia, PA

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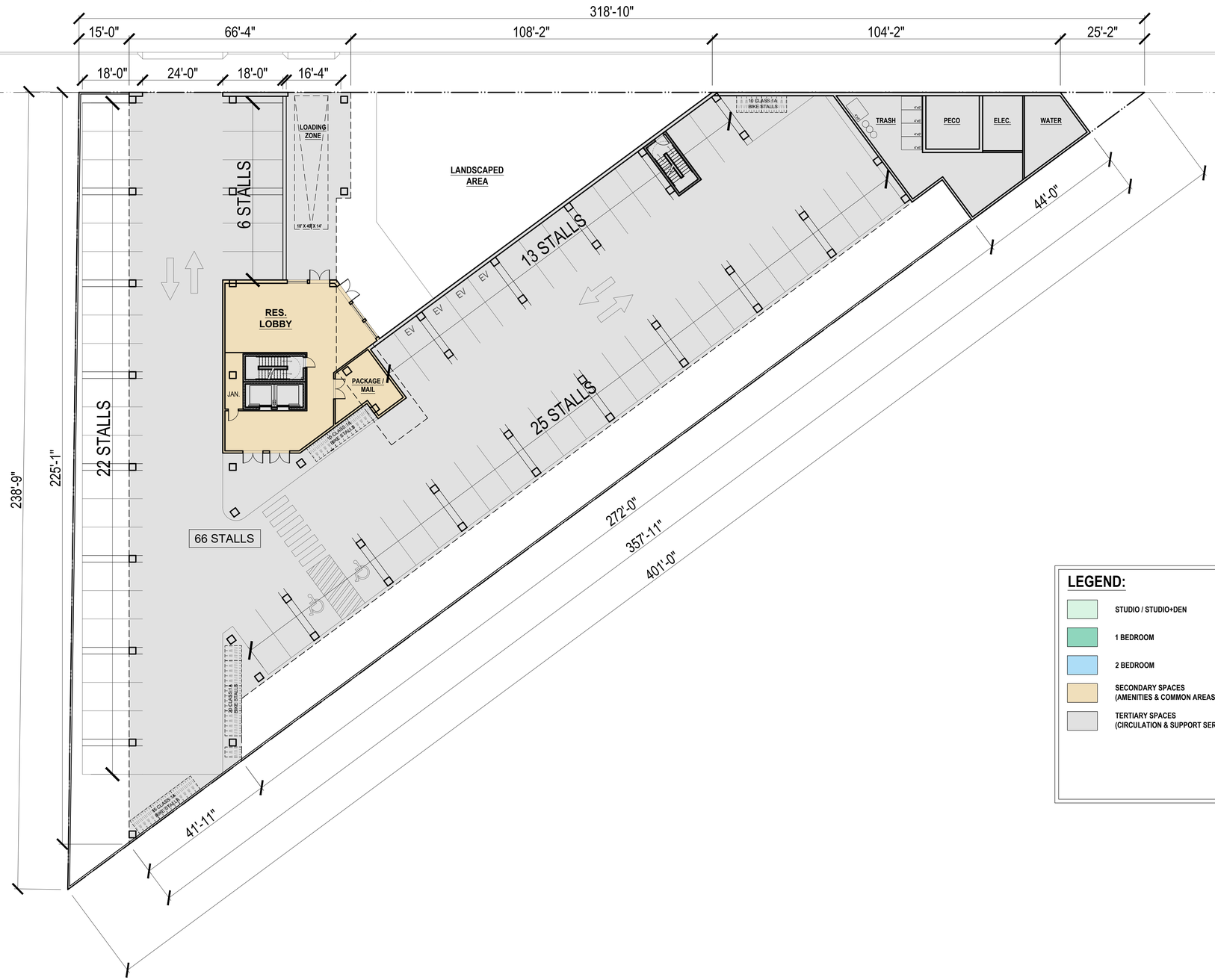
2	11.02.2021	FEASIBILITY STUDY	EQ	RO

SP.1
SITE FEASIBILITY

2507 ALMOND ST
Philadelphia, PA



1 FIRST FLOOR PLAN
SD1.0 1/16" = 1'-0"

LEGEND:

- STUDIO / STUDIO+DEN
- 1 BEDROOM
- 2 BEDROOM
- SECONDARY SPACES (AMENITIES & COMMON AREAS)
- TERTIARY SPACES (CIRCULATION & SUPPORT SERVICES)

PROJECT SUMMARY: BUILDING #1

6 STORY W/ GREEN ROOF (STORM WATER MANAGEMENT)

FIRST FLOOR:	3,969 SF
SECOND FLOOR:	25,125 SF
THIRD FLOOR:	25,125 SF
FOURTH FLOOR:	25,125 SF
FIFTH FLOOR:	25,125 SF
SIXTH FLOOR:	21,726 SF
TOTAL GFA:	**126,195 SF**

TOTAL DWELLING UNITS: 151

FLOOR:	1ST	2ND	3RD	4TH	5TH	6TH	TOTAL	
STUDIO	0	10	10	10	10	9	49	(32%)
1-BEDROOM	0	16	16	16	16	15	79	(53%)
2-BEDROOM	0	5	5	5	5	3	23	(15%)
	0	31	31	31	31	27	**151**	

PARKING STALLS: 66 STALLS
BICYCLE STALLS: 55 STALLS

harman deutsch ohler architecture

2507 ALMOND STREET
Philadelphia, PA

#	DATE	ISSUE / REVISION	DRAWN BY:	REVIEWED BY:
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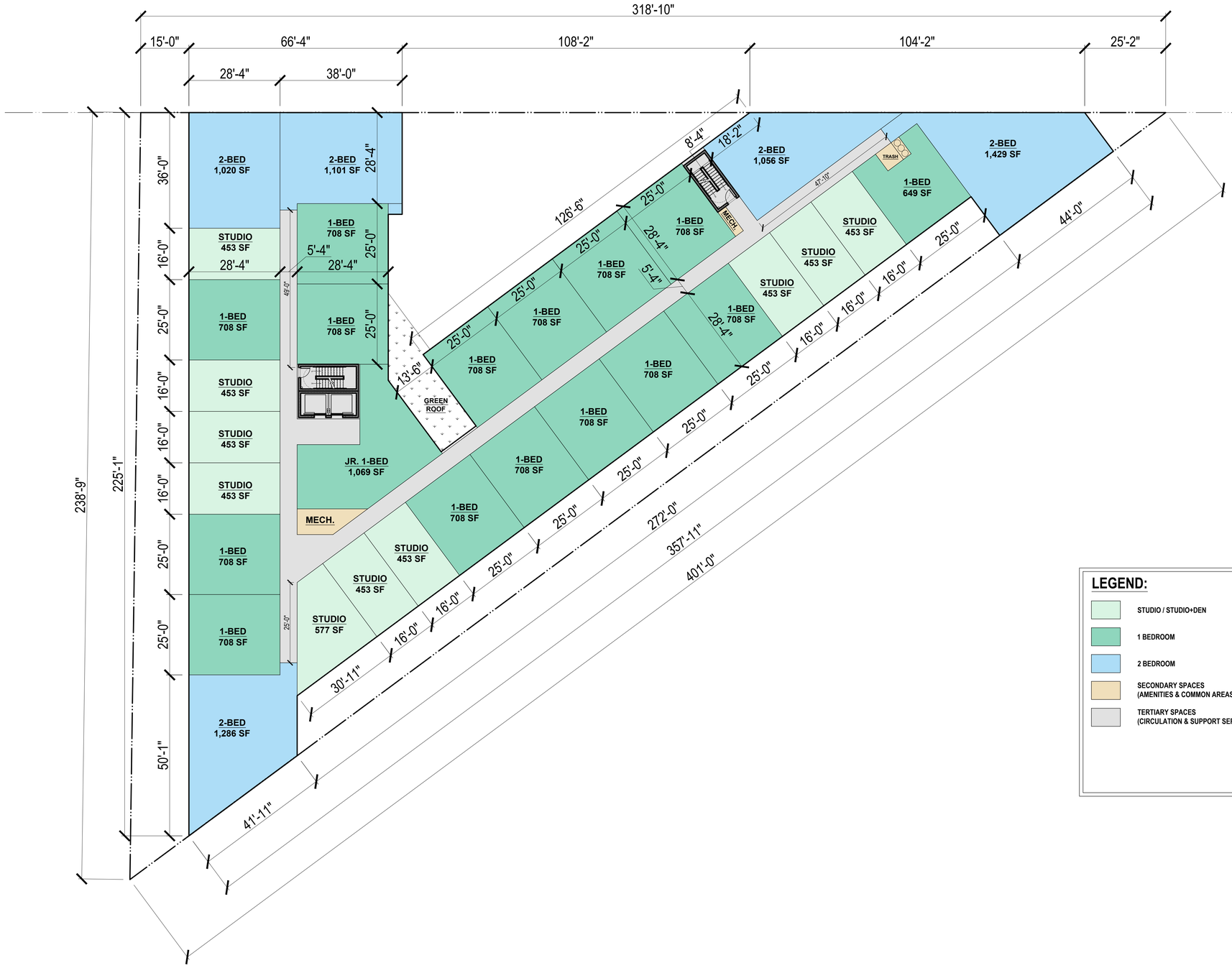
SD1.0
FLOOR PLANS

2507 ALMOND ST
Philadelphia, PA



1 SD1.1 FIRST FLOOR PLAN
1/16" = 1'-0"

LEGEND:

🟩	STUDIO / STUDIO+DEN
🟩	1 BEDROOM
🟦	2 BEDROOM
🟨	SECONDARY SPACES (AMENITIES & COMMON AREAS)
⬜	TERTIARY SPACES (CIRCULATION & SUPPORT SERVICES)

PROJECT SUMMARY: BUILDING #1

6 STORY W/ GREEN ROOF (STORM WATER MANAGEMENT)

FIRST FLOOR:	3,969 SF
SECOND FLOOR:	25,125 SF
THIRD FLOOR:	25,125 SF
FOURTH FLOOR:	25,125 SF
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SIXTH FLOOR:	21,726 SF
TOTAL GFA:	**126,195 SF**

TOTAL DWELLING UNITS: 151

FLOOR:	1ST	2ND	3RD	4TH	5TH	6TH	TOTAL	
STUDIO	0	10	10	10	10	9	49	(32%)
1-BEDROOM	0	16	16	16	16	15	79	(53%)
2-BEDROOM	0	5	5	5	5	3	23	(15%)
	0	31	31	31	31	27	**151**	

PARKING STALLS: 66 STALLS
BICYCLE STALLS: 55 STALLS

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deutsch
ohler
architecture

2507 ALMOND STREET
Philadelphia, PA

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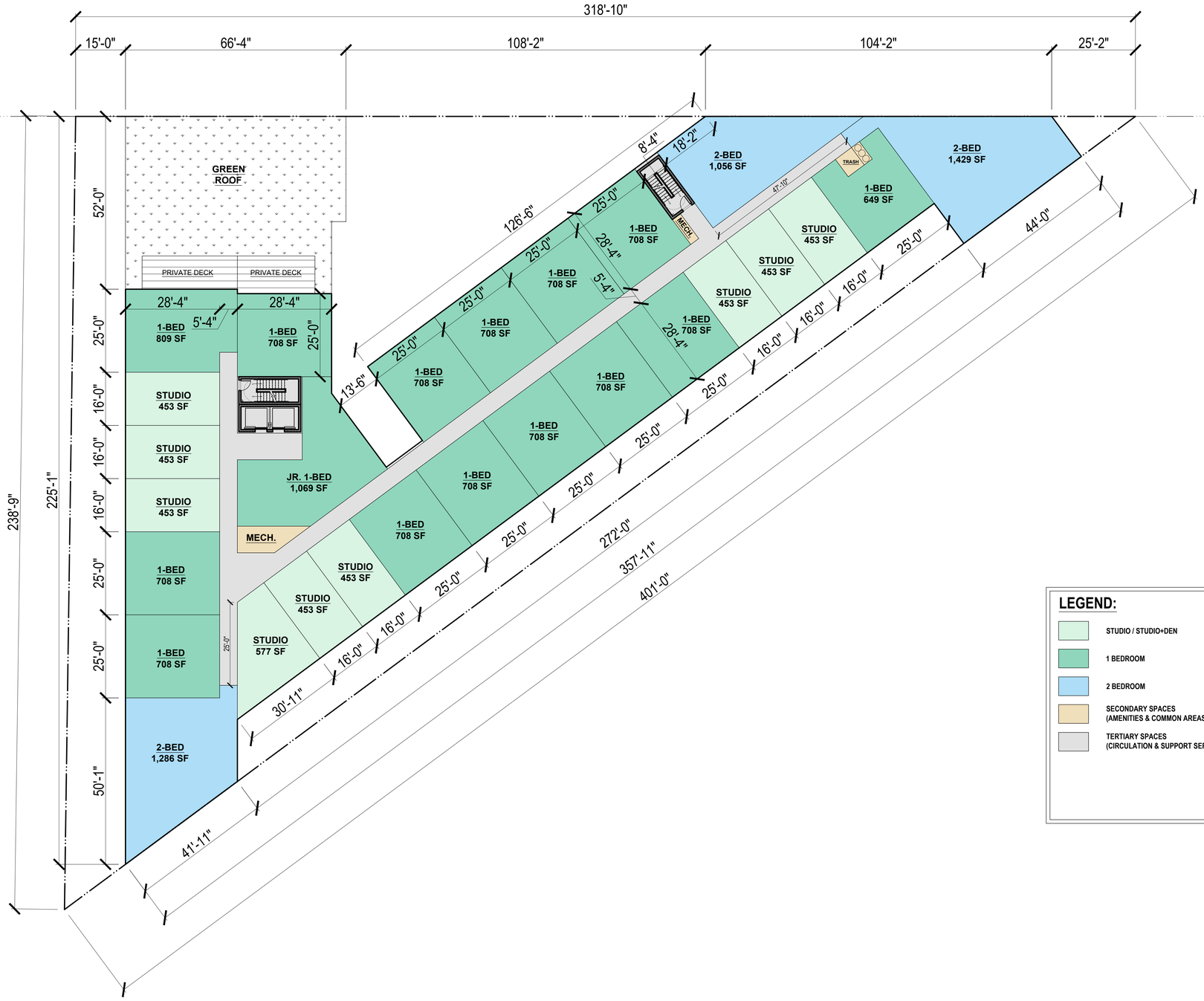
SD1.1
FLOOR PLANS

2507 ALMOND ST
Philadelphia, PA



1 FIRST FLOOR PLAN
SD1.2 1/16" = 1'-0"

LEGEND:

🟩	STUDIO / STUDIO+DEN
🟩	1 BEDROOM
🟦	2 BEDROOM
🟨	SECONDARY SPACES (AMENITIES & COMMON AREAS)
⬜	TERTIARY SPACES (CIRCULATION & SUPPORT SERVICES)

PROJECT SUMMARY: BUILDING #1

6 STORY W/ GREEN ROOF (STORM WATER MANAGEMENT)

FIRST FLOOR:	3,969 SF
SECOND FLOOR:	25,125 SF
THIRD FLOOR:	25,125 SF
FOURTH FLOOR:	25,125 SF
FIFTH FLOOR:	25,125 SF
SIXTH FLOOR:	21,726 SF
TOTAL GFA:	**126,195 SF**

TOTAL DWELLING UNITS: 151

FLOOR:	1ST	2ND	3RD	4TH	5TH	6TH	TOTAL	
STUDIO	0	10	10	10	10	9	49	(32%)
1-BEDROOM	0	16	16	16	16	15	79	(53%)
2-BEDROOM	0	5	5	5	5	3	23	(15%)
	0	31	31	31	31	27	**151**	

PARKING STALLS: 66 STALLS
BICYCLE STALLS: 55 STALLS

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deutsch
ohler
architecture

2507 ALMOND STREET
Philadelphia, PA

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SD1.2
FLOOR PLANS

2507 ALMOND ST
Philadelphia, PA

APPENDIX D
EXCERPTS PRIOR ENVIRONMENTAL REPORTS

RT Environmental Services, Inc.

February 20, 2019

Mr. Ragesh Patel
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

RE: ENGINEER CERTIFICATION REPORT
PORT RICHMOND DEV LP SITE
RT PROJECT 70137-18

Dear Mr. Patel:

We are pleased to enclose the Engineer Certification Report for the cap maintenance completed at the Port Richmond DEV LP site in Philadelphia, which is being submitted in compliance with paragraph 3.d of the November 1, 2017 Consent Order & Agreement.

Four project items which were implemented to ensure proper project implementation include:

- Random pre- and post-shiftwork inspections of the site by a Professional Engineer (these occurred on at least two-thirds of the shifts)

- Random site inspections by the Professional Geologist, and random sampling of material at the receiving site passed residential statewide health standards for total lead.

- Photographic documentation was recorded in the logs to ensure permanent record of the cap thickness measurements on which the certification is based.

- We implemented a comprehensive documentation program of variances, as discussed with the Department, which documents the locations where subsurface utilities or subsurface concrete materials were encountered which caused cap thickness to change. We provide in the report an attachment which has narrative descriptions illustrating the protocols which were followed, along with a photograph of each variance. The resulting variance records will be helpful during any future utility repairs or cap disruption of any type.

We appreciate the assistance of the Department to work on this project. Should you have any questions, do not hesitate to call.

215 West Church Road ■ King of Prussia, PA 19406 ■ (610) 265-1510 ■ Fax: (610) 265-0687
E-Mail RTENV@AOL.COM ■ Web Address http://www.RTENV.COM

Very truly yours

RT ENVIRONMENTAL SERVICES INC.

Gary R Brown (7)

Gary R Brown, PE
President

Craig Herr, PG
Associate

Y:\RT Projects\70100 SERIES\70137-18\7013701813.docx

cc: J. Batoff, N. Rodin, V. Rodin, T. Pilgrim – Port Richmond DEV, LP
W. Auxer – Kaplin Stewart

ENGINEER CERTIFICATION REPORT

2545 ARAMINGO AVENUE
2501 ARAMINGO AVENUE
2520 ARAMINGO AVENUE
2540 ARAMINGO AVENUE
2560 ARAMINGO AVENUE
2507 ALMOND STREET,
PHILADELPHIA, PENNSYLVANIA

PREPARED FOR:

PORT RICHMOND DEV., L.P.
1617 JOHN F. KENNEDY, SUITE 1840
PHILADELPHIA, PENNSYLVANIA 19103

PREPARED BY:

RT ENVIRONMENTAL SERVICES, INC.
215 WEST CHURCH ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406
RT PROJECT # 70137-18

FEBRUARY 21, 2019

GARY R. BROWN, P.E.
PA LIC. # PE-27358-E

RT Environmental Services, Inc.

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

1.0 INTRODUCTION

RT Environmental Services, Inc. (RT) was retained by Port Richmond Dev., L.P., Port Richmond Dev. III, L.P., Port Richmond Dev. V, L.P., Port Richmond Dev. VI, L.P., Port Richmond Dev. VII, L.P. and Port Richmond Dev. VIII, L.P. (collectively "Owner") to implement oversight of cap construction work in landscaped areas on the property known as Port Richmond DEV., formerly known as the Anzon site. This Engineer Certification Report encompasses six lots; 2545 Aramingo Avenue (Rite Aid Site, Lot 1), 2501 Aramingo Avenue (Applebee's Restaurant Site, Lot 3), 2520 Aramingo Ave. (AutoZone Site, Lot 5), 2540 Aramingo Ave. (Dunkin' Donuts, Cold Stone Creamery, Pizza Hut Site, Lot 6), 2560 Aramingo Ave. (Arby's Restaurant, Lot 7), and 2507 Almond St. (undeveloped, Lot 8) in the Port Richmond section of the City of Philadelphia, Pennsylvania ("subject property"). The total area of the 6 lots (the subject property) is 7.22 acres in size.

In compliance with a Consent Order and Agreement entered into by and between the Commonwealth of Pennsylvania, Department of Environmental Protection (hereinafter "the Department" or "PADEP") and Owner on November 1, 2017 ("CO&A"), the Owner elected to cap all landscaped areas with, at least, 2.3 feet of certified clean fill soil; the only exception being those areas where known subsurface utilities or subsurface obstruction was encountered that prohibited the removal of a minimum of 2.3 feet of material.[1] In those areas, concrete cement was installed in accordance with the Engineering Plans submitted to the Department.

This Engineer Completion Report is being submitted in accordance with the CO&A.

[1] Although the CO&A required the soil cap to be 2 feet of certified clean fill, the Owner elected to construct a soil cap with a minimum of 2.3 feet of certified clean fill.

2.0 CAP CONSTRUCTION

After receipt of the final permit on July 5, 2018, the cap construction work began on August 14, 2018, proceeded for 104 working days, and was competed on January 21, 2019. Throughout the report, the reference to the day was made with Day 1 corresponding to August 14, 2018 (the first day of earthwork disturbance) and Day 104 corresponding to January 16, 2019 (last day of earthwork disturbance). This was also done as a preferred way to track the cap construction work as the first half of the project work was performed overnight, with work beginning at either 8 or 9 PM and continuing through the morning hours to between 4 and 6 AM. When the work proceeded to the larger capping areas of the project, work shifted to the daytime hours of approximately 6 or 7 AM (dependent upon sunrise) with work wrapping up between 2 and 3 PM.

Following the removal and relocation of existing materials, the Owner elected to cap all landscaped areas with 2.3 feet of certified clean fill with the only exceptions being small areas where subsurface utilities or structure that prohibited the removal of a minimum of 2.3 feet of material. In these small areas, a concrete cement cap was installed in accordance with the Engineering Plans. These areas, known as variance areas, are described in Section 2.8 of this report.

This Engineer Completion Report documents the completion of the capping project of all landscaped areas. The daily work completed was documented in daily field logs included in Attachment 1, as well as photographic documentation of the daily work provided in Attachment 2. The following subsections describe the work completed on each of the 6 lots.

2.1 2520 Aramingo Avenue (Lot 5)

The capping project started on August 14, 2018 (Day1) on Lot 5, The AutoZone lot. On this lot, there were three landscaped areas; one area to the left and one to right of the main entrance to the lot from Aramingo Avenue, which were linear landscaped areas between the sidewalk and the parking lot, and the third area is a small parking lot are referred to as an “island area”, located on the northwest corner of the building. Figure 1

shows the areas of Lot 5 where a certified clean fill cap was installed.

As the tenant of Lot 5 operated during daytime business hours, the work was performed during the overnight hours. The construction fence, with the windscreen material attached, was set up at the beginning of each shift and removed at the end of each shift. The construction fence was set up around the perimeter of each day's work area. Excavation work was performed in the fenced in area on that day and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

On Day 1, work began on Lot 5 at the southeast corner in a landscaped area along the sidewalk and parking lot. The excavation of the landscaped areas adjacent to the sidewalk on Lot 5 proceeded north along Aramingo Ave for 3 days.

This work included the excavation and removal of at least 2.3 feet of soil, except in those areas where there was a subsurface obstruction encountered within the depth of 2.3 feet as identified in Section 2.8 of this report ("Variance Areas"). Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the narrow island landscaped areas. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade; this was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect the Variance Areas. Figure 3a shows the locations where measurements were made. All measurements indicated a depth of greater than 2.3 feet, except for the Variance Areas. All excavated soil was directly loaded onto a dump truck and transported to Lot 8. At the end of each workday, the soil moved to Lot 8 was covered with poly plastic and the Lot 8 gate was secured.

After at least 2.3 feet of soil was removed (except with respect to the Variance Areas), orange warning fabric was installed in the bottom of the excavation. Then the excavation was backfilled with certified clean fill. As the depth of the excavation was verified during the removal, the placement of clean fill proceeded in lifts and compacted utilizing a vibratory plate machine until the fill material surface matched the existing

grade of the adjacent sidewalk or curb (the reference point for the excavation). To finish these island areas, mulch material was placed on top of the certified clean fill.

The third landscaped area, located to the northwest corner of the Lot 5 building, was excavated on Day 19. This area was excavated, the excavated soil moved to Lot 8, depth measurements were taken until at least 2.3 feet of soil was removed, orange warning fabric was installed, then the area was backfilled with certified clean fill in lifts, and finished with mulch as described above.

The construction of the cap on Lot 5 was completed, verified that at least 2.3 feet of material was removed and replaced with at least 2.3 feet of certified clean fill, except for the Variance Areas.

2.2 2540 Aramingo Avenue (Lot 6)

The capping project on Lot 6 (Dunkin Donuts, Cold Stone Creamery, and Pizza Hut) began on Day 4. On this lot, there were five landscaped areas; two linear landscaped areas between the sidewalk and the parking lot along Aramingo Avenue and three landscaped island areas in the parking lot north of the Lot 6 building. Figure 1 shows the areas of Lot 6 where a certified clean fill cap was installed.

As the Dunkin Donuts tenant operated 24 hours, this work was performed during the overnight hours. The construction fence, with the windscreen material attached, was again set up at the beginning of each shift and removed at the end of each shift. The construction fence was set up around the perimeter of each day's work area. Excavation work was performed in the fenced in area on that day and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

On Day 4, work began on Lot 6 at the southeast corner in a landscaped area (a continuation of the work from Lot 5) along the sidewalk and parking lot. The excavation of the landscaped areas adjacent to the sidewalk on Lot 6 proceeded north along Aramingo Ave for 3 days (Days 4 through 6).

This work included the excavation and removal of at least 2.3 feet of soil, except with respect to the Variance Areas. Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the narrow island landscaped areas. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade. This was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. Figure 3b shows the locations where measurements were made. All measurements indicated a depth of greater than 2.3 feet, except for the Variance Areas. All excavated soil was directly loaded onto a dump truck and transported to Lot 8. At the end of each workday, the soil moved to Lot 8 was covered with poly plastic and the Lot 8 gate was secured.

After at least 2.3 feet of soil was removed (except with respect to the Variance Areas), orange warning fabric was installed in the bottom of the excavation. Then the excavation was backfilled with certified clean fill. As the depth of the excavation was verified during the removal, the placement of clean fill proceeded in lifts and compacted utilizing a vibratory plate machine until the fill material surface matched the existing grade of the adjacent sidewalk or curb (the reference point for the excavation). To finish the island areas, mulch material was placed on top of the certified clean fill.

The three island landscaped areas located north of the Lot 6 building were excavated on Days 17 and 18. These areas were excavated, the excavated soil was moved to Lot 8, depth measurements were taken until at least 2.3 feet of soil was removed (except with respect to the Variance Areas), orange warning fabric was installed, then the area was backfilled with certified clean fill in lifts, and finished with mulch as described above.

The construction of the cap on Lot 6 was completed, verified that at least 2.3 feet of material was removed and replaced with at least 2.3 feet of certified clean fill, except for the Variance Areas.

2.3 2560 Aramingo Avenue (Lot 7)

The capping project on Lot 7 (Arby's Restaurant) began on Day 7. On this lot, there were ten landscaped areas; three linear landscaped areas between the sidewalk and the parking lot along Aramingo Avenue, along Thompson Street and along Moyer Street. There were seven landscaped island areas around the building and drive thru of Lot 7. As there were areas of subsurface electric lines and small islands, four of the landscaped island areas around the building were capped with concrete cement. The narrow strip of landscaped area along Moyer Street was capped with concrete cement. The remaining areas were excavated to at least 2.3 feet and backfilled with certified clean fill, except for the Variance Areas. Figure 1 shows the areas of Lot 7 where a certified clean fill cap or concrete cement cap were installed. The capping work on Lot 7 was completed between Days 7 and 19.

As the tenant of Lot 7 operated during daytime business hours, the work was performed during the overnight hours. The construction fence, with the windscreen material attached, was set up at the beginning of each shift and removed at the end of each shift. The construction fence was set up around the perimeter of each day's work area. Excavation work was performed in the fenced in area on that day and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

On Day 7, work began on Lot 7 at the southeast corner in a landscaped area along the sidewalk and parking lot. The excavation of the landscaped areas adjacent to the sidewalk on Lot 7 proceeded north along Aramingo Ave, then along Huntingdon Street, and then along Moyer Street on Days 7 through 14. On Days 15 through 19, the excavation work was completed in the landscaped areas around the Arby's building.

This work included the excavation and removal of at least 2.3 feet of soil, except with respect to the Variance Areas. Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the island landscaped areas. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface

grade. This was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. Figure 3c and 3d shows the locations where measurements were made. All measurements indicated a depth of greater than 2.3 feet, except for the Variance Areas. All excavated soil was directly loaded onto a dump truck and transported to Lot 8. At the end of each workday, the soil moved to Lot 8 was covered with poly plastic and the Lot 8 gate was secured.

After at least 2.3 feet of soil was removed (except with respect to the Variance Areas), orange warning fabric was installed in the bottom of the excavation. Then the excavation was backfilled with certified clean fill. As the depth of the excavation was verified during the removal, the placement of clean fill proceeded in lifts and compacted utilizing a vibratory plate machine until the fill material surface matched the existing grade of the adjacent sidewalk or curb (the reference point for the excavation). To finish these island areas, mulch material was placed on top of the certified clean fill.

Four of the landscaped areas around the Arby's building and the narrow landscaped area along Moyer Street were prepared for a concrete cap. This included the removal of 8 inches of soil. This soil was transported to Lot 8. Then 3 inches of subbase aggregate was installed, followed by 5 inches of concrete cement. The areas where 2.3 feet of clean fill (except with respect to the Variance Areas) were installed and areas were concrete was installed for Lot 7 are shown on Figure 1.

The construction of the cap on Lot 7 was completed, verified that at least 2.3 feet of material was removed and replaced with at least 2.3 feet of certified clean fill except for the Variance Areas) or capped with concrete cement.

2.4 2545 Aramingo Ave (Lot 1)

The capping project on Lot 1 (Rite Aid) began on Day 20 and was completed on Day 91 (concurrently, work was completed on Lots 3 & 8). On this lot, there were six landscaped areas; one small/linear landscaped area between the sidewalk and the parking lot along Aramingo Avenue, three small landscaped areas along front side of the

Rite Aid building, and two large landscaped areas, one to the side of the Rite Aid building and the second to the rear of the Rite Aid building. As there were areas of subsurface electric lines, two areas of the landscaped areas were capped with concrete cement. These two areas were the northwest corner of the side area where the intersection traffic light control box is present and the second area capped with concrete was the northwest corner the rear area where subsurface electric and natural gas utilities were located. The remaining small landscaped areas were excavated to at least 2.3 feet and backfilled with certified clean fill, except for the Variance Areas. On the two larger areas, to the side and back of the Rite Aid, the perimeter of the areas island were excavated at least 2.3 feet, the excavated material spread out in the interior of each area, the orange warning fabric installed, then at least 2.3 feet of clean fill was placed over the entire area, except for the Variance Areas. Figure 1 shows the areas of Lot 1 where a certified clean fill cap or concrete cement cap were installed. The capping work on Lot 1 was completed between Days 20 and 91.

As the tenant of Lot 1 operated 24 hours, much of the work in the parking lot areas was performed during the overnight hours; the exception was the side and rear landscape area work was performed during the daytime. The construction fence, with the windscreen material attached, was set up at the beginning of each shift and removed at the end of each shift. The construction fence was set up around the perimeter of each day's work area. The exception was a long-term temporary fence was set up around the side and rear landscaped area and removed when the backfilling was completed. Excavation work was performed in the fenced in area on that day and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

The small landscaped areas along the west side of Lot 1 were excavated between Days 20 and 25. This included the area between the sidewalk and parking lot along Aramingo Avenue, two landscaped areas on the northwest and southwest corners of the building, and a small linear area along the drive thru on the south side of the lot. This work included the excavation and removal of at least 2.3 feet of soil, except with respect to the Variance Areas. Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the island landscaped

areas. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade. This was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. Figures 3e, 3f and 3g show the locations where measurements were made. All measurements indicate a depth of greater than 2.3 feet, except for the Variance Areas. All excavated soil was directly loaded onto a dump truck and transported to Lot 8. At the end of each workday, the soil moved to Lot 8 was covered with poly plastic and the Lot 8 gate was secured.

On Day 37, excavation work began the rear landscaped area of Lot 1 during the daytime hours. The perimeter of this area was excavated to at least 2,3 feet deep and 4 feet wide, except for the Variance Areas. The perimeter trench depth measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade. This was typically the immediately adjacent sidewalk or along the perimeter with Lot 2, the reference point was the adjacent land surface. Depth measurements of the perimeter excavation were made every 15 linear feet along the perimeter of the excavation. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. The excavated material was spread out in the interior of the rear area of Lot 1 (not transported to Lot 8). The orange warning fabric was installed in the perimeter trench, then clean fill was placed into the perimeter trench.

Following the completion of the perimeter work on Day 42, the interior of the rear area of Lot 1 was covered with the warning fabric. To verify that at least 2.3 feet of clean fill material was placed in this area, 4-foot wooden stakes were placed in a 30-foot grid pattern after the placement of the warning fabric over the entire area. Once the wooden stakes were set, a mark was made on the wooded stake 2.3 feet from the base of the stake. This mark represented the depth of clean fill to be placed above the warning fabric. Placement of clean fill proceeded from Day 43 through Day 50. A final day of filling was completed on the rear of Lot 1 on Day 60. This area was then covered with straw matting to stabilize the clean fill material.

The northwest corner of the rear area of Lot 1 contained subsurface electrical/natural gas lines traversing this area from Huntington Street to the Rite Aid building. This small area was excavated to a depth of 8 inches. This soil was transported to Lot 8. Then 3 inches of subbase aggregate was installed, followed by 5 inches of concrete cement. The areas where 2.3 feet of clean fill were installed and areas were concrete was installed for Lot 1 are shown on Figure 1.

On Day 57, excavation work began the side landscaped area of Lot 1. The perimeter of this area was excavated to at least 2.3 feet deep and 4 feet wide, except for the Variance Areas. The perimeter trench depth measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade. This was typically the immediately adjacent sidewalk or parking lot curb. Depth measurements of the perimeter excavation were made every 15 linear feet along the perimeter of the excavation. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. The excavated material was spread out in the interior of the side area of Lot 1 (not transported to Lot 8). The orange warning fabric was installed in the perimeter trench, then clean fill was placed into the perimeter trench.

Following the completion of the perimeter work on Day 61, the interior of the side area of Lot 1 was covered with the warning fabric. To verify that at least 2.3 feet of clean fill material was placed in this area, 4-foot wooden stakes were placed in a 30-foot grid pattern after the placement of the warning fabric over the entire area. Once the wooden stakes were set, a mark was made on the wooded stake 2.3 feet from the base of the stake. This mark represented the depth of clean fill to be placed above the warning fabric. Placement of clean fill proceeded from Day 63 through Day 91, though not on consecutive working days. This area was then covered with straw matting to stabilize the clean fill material.

The northwest corner of the side area of Lot 1 contained subsurface electrical lines for the intersection traffic signal at Aramingo Avenue and Huntingdon Street. This small area was excavated to a depth of 8 inches. This soil was transported to Lot 8. Then 3 inches of subbase aggregate was installed, followed by 5 inches of concrete cement.

The areas where 2.3 feet of clean fill were installed (except for the Variance Areas) and areas were concrete was installed for Lot 1 are shown on Figure 1.

The construction of the cap on Lot 1 was completed, verified that at least 2.3 feet of material was removed in the island areas and perimeters of the side and back areas and replaced with at least 2.3 feet of certified clean fill in the island areas or over the entire side and back areas (except for the Variance Areas) or capped with concrete cement.

2.5 2501 Aramingo Ave. (Lot 3)

The capping project on Lot 3 (Applebee's Restaurant) began on Day 26 and was completed on Day 98 (concurrently, work was completed on Lots 1 & 8). On this lot, there were eleven landscaped areas; three linear landscaped areas between the sidewalk and the parking lot along Aramingo Avenue, along Cumberland Street and along Thompson Street. There were eight landscaped island areas around the building and in the parking lot of Lot 3. As there were areas of subsurface electric and natural gas lines at the northeast corner of the Lot 3 building small portions of the landscaped island areas were capped with concrete cement. The remaining landscaped areas were excavated to at least 2 feet and backfilled with certified clean fill. Figure 1 shows the areas of Lot 3 where a certified clean fill cap or concrete cement cap were installed.

As the tenant of Lot 3 operated during daytime business hours, much of the work in the parking lot areas was performed during the overnight hours; the exception was the rear landscape area work that was performed during the daytime. The construction fence, with the windscreen material attached, was set up at the beginning of each shift and removed at the end of each shift. The construction fence was set up around the perimeter of each day's work area. The exception was a long-term temporary fence was set up around the rear landscaped area and removed when the backfilling was completed. Excavation work was performed in the fenced in area on that day and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

On Day 26, work began on Lot 3 at the southeast corner in a landscaped area along the sidewalk and parking lot along. The excavation of the landscaped area adjacent to the sidewalk on Lot 3 proceeded northeast along Thompson Street. On Days 27 through 29 and on Day 31, the excavation of the landscaped area adjacent to the sidewalk on Lot 3 proceeded north along Aramingo Avenue towards the entrance to Lot 3. On Day 30 the two parking lot island landscaped areas were excavated. The landscaped area along Cumberland Street was excavated on Days 32 and 33, and the landscaped area north of the entrance to Lot 3 was excavated on Days 34 and 35. The island landscaped areas west of the Lot 3 building were excavated on Day 36. The landscaped area behind the Lot 3 building was excavated between Days 51 through 56 and Days 62 and 73. On Days 75 and 76, the landscaped areas immediately adjacent to the building were excavated.

This work included the excavation and removal of at least 2.3 feet of soil, except with respect to the Variance Areas. Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the island landscaped areas. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade. This was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. Figures 3h and 3i show the locations where measurements were made. All measurements indicated a depth of greater than 2.3 feet, except for the Variance Areas. All excavated soil was directly loaded onto a dump truck and transported to Lot 8. At the end of each workday, the soil moved to Lot 8 was covered with poly plastic and the Lot 8 gate was secured.

After at least 2.3 feet of soil was removed (except for the Variance Areas), orange warning fabric was installed in the bottom of the excavation. Then the excavation was backfilled with certified clean fill. As the depth of the excavation was verified during the removal, the placement of clean fill proceeded in lifts and compacted utilizing a vibratory plate machine until the fill material surface matched the existing grade of the adjacent sidewalk or curb (the reference point for the excavation). To finish these island areas, mulch material was placed on top of the certified clean fill.

On Day 51, excavation work began the back landscaped area of Lot 3. This excavation work proceeded through Day 56 and Days 62 and 73. This work included the excavation and removal of at least 2.3 feet of soil, except for the Variance Areas. Excavated soil was transported to Lot 8. Depth measurements of the excavations were made every 15 linear feet along the perimeter of the landscaped area. Measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade; this was typically the immediately adjacent sidewalk or curb. The depth of the excavation continued until at least 2.3 feet of soil was removed, except with respect to the Variance Areas. As this area was larger than the island areas, after the excavation and removal of at least 2.3 feet of soil (except for the Variance Areas), 4-foot wooden stakes were placed in a 30-foot grid pattern after the placement of the warning fabric over the entire area. Once the wooden stakes were set, a mark was made on the wooded stake 2.3 feet from the base of the stake. This mark represented the depth of clean fill to be placed above the warning fabric. Placement of clean fill proceeded on sporadic work days between 72 and 98. This area was then covered with straw matting to stabilize the clean fill material.

Along the northeast corner of the Lot 3 building, a small portion of the landscaped island area was capped with concrete cement as subsurface electrical and natural gas lines were present in the subsurface. This area was prepared for a concrete cap. This included the removal of 8 inches of soil. This soil was transported to Lot 8. Then 3 inches of subbase aggregate was installed, followed by 5 inches of concrete cement. The areas where 2.3 feet of clean fill were installed (except for the Variance Areas) and areas were concrete was installed for Lot 3 are shown on Figure 1.

The construction of the cap on Lot 3 was completed, verified that at least 2.3 feet of material was removed and replaced with at least 2.3 feet of certified clean fill (except for the Variance Areas) or capped with concrete cement.

2.6 2507 Almond Street (Lot 8)

The capping project on Lot 8 began on Day 64 and was completed on Day 104

(concurrently, work was completed on Lots 1 & 3). This lot was an open landscaped area (no buildings present). Throughout the work at the property, much of the excavated soil from the small island areas on the other lots was transported to Lot 8 and covered with poly plastic at the end of each workday. At the completion of the perimeter trenching on Lot 8, the material that accumulated on Lot 8 was graded and the remnants of the poly plastic that was used throughout the project to cover the material remained. On Lot 8, the perimeter was excavated at least two feet, the excavated material spread out in the interior of the lot, the orange warning fabric installed, then at least two feet of clean fill was placed over the entire area. Figure 1 shows the areas of Lot 1 where a certified clean fill cap was installed.

Work on Lot 8 was performed during the daytime hours. As this lot already had a permanent fence, windscreen material was installed onto the permanent fence. At times, a construction fence, with the windscreen material attached, was set up along the east side of Lot 8 when it was necessary to trench along the curb and the permanent fence was removed along this side of the lot only. The construction fence was removed when the backfilling was completed. Excavation work was performed within the fenced in area on Lot 8 and air monitoring was performed on each day that there was earth disturbance. Further discussion of the air monitoring program that was completed is presented in Section 3.0 of this report.

On Day 64, excavation work began on Lot 1 during the daytime hours. The perimeter of this area was excavated to at least 2.3 feet deep and 4 feet wide. The perimeter trench depth measurements were made from the bottom of the excavation up to a fixed reference point that represents the pre-excavation surface grade; this was typically the immediately adjacent sidewalk, curb or along the southern perimeter, the reference point was the adjacent parking lot surface. Depth measurements of the perimeter excavation were made every 15 linear feet along the perimeter of the excavation. The depth of the excavation continued until at least 2.3 feet of soil was removed. Figure 3j shows the locations where measurements were made. The excavated material was spread out in the interior of the lot. The orange warning fabric was installed in the perimeter trench, and then clean fill was placed into the perimeter trench.

Following the completion of the perimeter work on Day 70, the interior of the lot was covered with the warning fabric. To verify that at least 2.3 feet of clean fill material was placed in this area, 4-foot wooden stakes were placed in a 30-foot grid pattern after the placement of the warning fabric over the entire area. Once the wooden stakes were set, a mark was made on the wooded stake 2.3 feet from the base of the stake. This mark represented the depth of clean fill to be placed above the warning fabric. Placement of clean fill proceeded sporadically from Day 71 through Day 104. This area was then covered with straw matting to stabilize the clean fill material. The area where 2.3 feet of clean fill were installed on Lot 8 is shown on Figure 1.

The construction of the cap on Lot 8 was completed, verified that at least 2.3 feet of material was removed along the perimeter and replaced with at least 2.3 feet of certified clean fill was placed over the entire lot.

2.7 Final Vegetative Cover

Until weather conditions and temperatures are appropriate for the placement of grass seed and seed germination to provide permanent vegetative cover over the entire area of Lot 8, the side and back of Lot 1 and the back of Lot 3, the placement of the straw matting material provides stabilization. Permanent vegetative cover is a requirement of the construction NPDES permit. The Philadelphia Water Department (PWD) was contacted and PWD agreed that the seeds can be deferred until proper ambient temperatures are reached to promote grass growth in properly vegetate the landscaped areas. The email communication with PWD is included in Attachment 9.

Grass seed will be applied to the open landscaped areas in the spring of 2019. The areas where a mulch cover was placed in the landscaped area will remain mulched. In the future, the Owner may elect to plant landscape plants/shrubs without disturbing the soil below the depth of the installed orange warning fabric material. This may occur mainly around the buildings on Lot 1, 3 and 7 and the linear landscape areas adjacent to sidewalks of Lot 1, 3, 5, 6 and 7.

2.8 Variances

While implementing this plan, subsurface conditions were encountered that necessitated variances from the approved work plan for this project. The variances included subsurface features such as existing concrete slab was encountered prior to completing the removal to a depth of 2 feet when competent concrete slab/footer was encountered. Another instance of the variance was when a high-risk utility, subsurface electrical or natural gas utility lines was encountered or the high-risk utility might be encountered. In either instance, the variance was inspected by the project Professional Engineer, who decided how to manage the variance, the variance was noted in the field log and a variance form was prepared.

RT informed the Department verbally and in writing after the first subsurface encounter. RT also submitted a written procedure to the Department as to how variances would be handled in the field. The Owner and the Department signed off on this written procedure. The written procedure signed by Owner and the Department is in Attachment 4.

When a subsurface feature was encountered where the excavation was completed less than 2 feet below ground surface, all soil above and around the subsurface feature was removed to greater than 2.3 feet in depth, the orange warning fabric installed around the subsurface feature, then certified clean fills was placed on top to a depth to restore this area to the existing grade. In several instances, the variance area was capped with concrete rather than clean fill material.

Throughout the entire project, 18 subgrade features, typically concrete foundations associated with existing business signs or old building foundations were not previously removed. There were an additional 5 variances associated with active high-risk utilities. All variances are noted in the RT field logs included in Attachment 1, and on the variance forms included in Attachment 3. The locations of the variances are shown on the variance form and on Figure 2.

2.9 Certified Clean Fill

In implementing the placement of the soil cap on the Property, certified clean fill was utilized throughout for soil capping. The exception to this was where localized areas where concrete cement cap was installed in the previously landscaped areas. These areas are shown on Figure 1.

Sources for the clean fill utilized for this project were the JF Huebner and Son facility and D'Angelo Brothers, Inc. Both sources had soil which was previously confirmed to attain the Management of Fill Policy limits and the Form FP-001 Certification of Clean Fill was provided for each of the sources. When a delivery of clean fill was made to the site, an accompanying trip ticket was provided documenting the date, and the source of the clean fill for every load. Trip tickets were incorporated into the daily field logs for the project (field logs are included in Attachment 1).

The certification of the JF Huebner & Son site was performed by RT a few weeks prior to the startup of this Project. Throughout the project, RT performed sporadic inspections at the JF Huebner and Son site to confirm that the clean fill that was received at the Port Richmond DEV site was from the pile identified by Huebner as containing clean fill. RT tested the material in the pile at 11000 Roosevelt Boulevard, Philadelphia and except for one portion of the pile at 11000 Roosevelt Boulevard, no test results had values which exceeded a clean fill limit. During the site inspections and weekly phone calls to the JF Huebner and Son site manager, Fran Bollentino, it was confirmed that no soil from section 5 of pile 14 of the JF Huebner and Son material was received at the Port Richmond DEV project. A copy of the FP-001 and RT's inspection report is included in Attachment 5.

The second source of clean fill material utilized at this project was from a previously tested pile from D'Angelo Brothers, Inc. site. This pile of material was also pre-certified as clean fill material on August 9, 2017. Furthermore, D'Angelo Brothers, Inc. provided a letter indicating that the clean fill received at the Port Richmond DEV project meets certified clean fill, no soil was added to the pile since August 2017 certification and that the clean fill material at their facility 3700 S. 26th St. was not disturbed or added to in

any manner since that certification. A copy of the FP-001 and D'Angelo Brothers, Inc. letter are provided in Attachment 5.

Over and above the requirements of the CO&A, grab samples of the clean fill received at the Port Richmond DEV site were collected by RT. Samples of the clean fill material was typically collected once per week. Over the course of the project, 20 grab soil samples were analyzed for total lead. A grab sample was collected randomly from clean fill received at the property. The locations of the verification samples are shown on Figure 2 and represent a generalized location where clean fill was used to backfill a given area on the day the sample was collected.

Total lead analysis was used as an indicator parameter as it was considered the constituent of concern for this site and confirmation was completed to ascertain that the material placed at the site for capping attains the clean fill limit for lead. The verification lead results are presented in Table 2 and show that all total lead concentrations are less in the clean fill limits. Laboratory analytical reports for the samples are presented in Attachment 6.

2.10 Decontamination

During the implementation of the capping plan, decontamination of work equipment was monitored and implemented as appropriate when construction equipment was moved from one work area to the next work area and prior to removing construction equipment from the site. Furthermore, throughout the work days, there only needed to be a small percentage of days where a tire washdown area was needed. This was mainly performed when soil was being removed from a lot or clean fill was received on Lot 8 and staged on Lot 8. When trucks were leaving Lot 8, on select days, a tire washdown procedure was implemented. The tracking of clean fill was controlled by manually sweeping areas wet washing and/or utilizing a mechanical sweeper attached to a skip steer machine. Overall, the tracking of soil from the site was visually inspected daily and the Professional Engineer finds that dust was well controlled.

Personal decontamination procedures were evaluated on a daily basis by each

employer. This evaluation was documented on a personal protective equipment form; one form was prepared for each day by the respective employer; one form was prepared by JF Huebner and Sons and a separate form was prepared by RT Environmental Services, Inc. These forms are incorporated into the daily field logs, which are included in Attachment 1.

3.0 AIR MONITORING PROGRAM

On all days when there was soil disturbance, an air monitoring program was implemented. This program included a determination of the wind direction, air sample collection and laboratory analysis of the air samples for total dust and lead for six locations.

The wind direction was determined by several different methods throughout the project; the use of a weather station, which provided a continuous measurement of wind velocity and direction, direct observations of wind direction of nearby objects (flags) and using real time weather applications (Accuweather).

Based on the wind direction at the start of the day, the RT field technician would set up two sample locations in the upwind perimeter direction, two sample locations in the perimeter downwind direction and two sample locations in an off-site downwind direction. As there was an incident involving theft of air monitoring equipment during the overnight work, a variance request was made to the Department to modify work plans for off-site monitoring to be performed utilizing a handheld total particulate meter (a Thermo Scientific PDR-1500 unit). RT's variance letter signed by Owner and the Department is included in Attachment 8. Off-site downwind samples were collected from Day 1 through Day 40. From Day 41 through Day 104, off-site, downwind air monitoring was performed utilizing the handheld total particulate meter.

After the air monitoring equipment was set up for the workday, samples were collected continuously over an 8-hour duration. The air sample cartridges were delivered each day to EMSL Analytical, Inc. in Cinnaminson, New Jersey. Samples were analyzed for total particulate by method 9-500 and total lead by method 9-7082.

The air samples were assigned a specific designation; first by address, then location, and finally the date – an example is 2507-UW1-8/14/18. The sample location designation was the street address numbers for the sample location; in the example, this is 2507 Almond Street (Lot 8). The second identifier is either UW-1 or UW-2 for upwind perimeter location 1 or 2, DW-1 or DW-2 for downwind perimeter locations 1 or 2, and the off-site samples designated is either OS-1 or OS-2. Finally, the sample date was used to indicate the sample collection date (for the overnight work, the date designation used references the date the sample collection started).

Nearly all results were found to be non-detect for total dust and total lead. When there was a detection, such as occurred on Day 82, the air sample with the one detection was found at an upwind perimeter sample location. On Day 82, only clean fill material was being placed on Lot 1 and there was no disturbance of the site soils. As this detection was from an upwind perimeter sample location and the work that day was only placing clean fill, this detection was concluded to not be associated with the work at the site and therefore was of no further concern.

Of the 486 air samples analyzed for total dust, 19 samples contained measurable concentrations of total dust, but all concentrations were less than 100 µg/m^3. There was one exception where total dust was detected at 120 µg/m^3 on Day 86. On this day, total dust was detected in all 4 samples and also on this day a white particulate matter was visually observed in the air coming onto the site from the upwind direction.

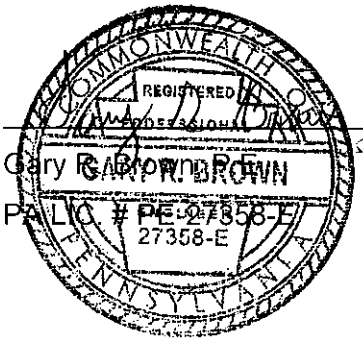
This particulate matter was also observed settling on vehicles at the site throughout the day. Cap work on this day was performed on Lot 1, but only included placement of clean fill. There were no detections of total lead in the air samples on this day. As such, the site operations were not the source of the white particulate material, and therefore were considered by the Professional Engineer to be of no further concern.

All analytical results are presented in Table 2. The air sampling locations are included in the RT field logs for each day (field logs are included in Attachment 1) and the laboratory analytical reports are provided in Attachment 7.

4.0 CERTIFICATION

The capping project was completed in compliance with the CO&A and approved variances. The appropriate time extensions for completed the project was requested and approved by the Department. A draft Environmental Covenant is being submitted to the Department under separate cover and concurrently with this Engineer Completion Report.

Gary R. Brown, P.E. certifies that as the Professional Engineer in charge of this capping project that the project was completed in accordance with the approved Work Plan and as per approved variances as documented in this Engineering Certification Report.



Gary R. Brown, P.E.
PA LIC. # PE-27358-E

2/20/19
Date

FIGURE 1

CAPPING PLAN

2507 ALMOND STREET
Philadelphia, PA 19125
Ward #31 OPA# 885810700

2501 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882086300

2520 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248000

2540 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248020

2545 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882086500

2560 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248030

CAPPING LEGEND

This area included: 1) excavation of at least 2.3' of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric, 4) placement of at least 2.3' of clean fill and 5) stabilization with either a straw matting or mulch material

This area included: 1) excavation of at least 8" of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric and 4) installation of at least 3" of subbase aggregate and at least 5" of concrete cement material

This area included: 1) installation of warning fabric, 2) placement of at least 2.3' of clean fill and 3) stabilization with a straw matting material.

Based on a plan prepared by Rugiero Plante Land Design titled Port Richmond Composite Site Plan dated August 29, 2018.

GARY R. BROWN, P.E.
PA LIC. # 27358-E

DATE: 2/20/19

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY R. BROWN
27358-E

PREPARED BY:
RT ENVIRONMENTAL SERVICES, INC.
215 W. CHURCH RD.
KING OF PRUSSIA, PA 19406

FIGURE 1
CAPPING PLAN

FORMER ANZON SITE
PORT RICHMOND DEV., LC

CHARGE	AUTOCAD FILE	ENGINEER	DESIGNER	DRAFTSPERSON
70137-18		GRB		VL
SCALE 1" = 50'	DRAWING NUMBER Y:\RT Projects\70100 SERIES\70137-18\Drawings\RT Figures.dwg			REVISION 2
DATE 2/6/19				

FIGURE 2

VARIANCE & CLEAN FILL SAMPLE LOCATION MAP

2507 ALMOND STREET
Philadelphia, PA 19125
Ward #31 OPA# 885810700

2501 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882086300

2520 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248000

2540 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248020

2545 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882086500

2560 ARAMINGO AVENUE
Philadelphia, PA 19125
Ward #31 OPA# 882248030

CAPPING LEGEND WITH VARIANCE AND SAMPLE LOCATIONS

This area included: 1) excavation of at least 2.3' of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric, 4) placement of at least 2.3' of clean fill and 5) stabilization with either a straw matting or mulch material

This area included: 1) excavation of at least 8" of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric and 4) installation of at least 3" of subbase aggregate and at least 5" of concrete cement material

This area included: 1) installation of warning fabric, 2) placement of at least 2.3' of clean fill and 3) stabilization with a straw matting material.

Variance Location

Clean Fill Sample Location (Cap Zone)

Excavation/Cap Thickness Verification Measurement Location

Based on a plan prepared by Rugiero Plante Land Design titled Port Richmond Composite Site Plan dated August 29, 2018.

GARY R. BROWN, P.E.
PA LIC. # 27358-E

DATE:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY R. BROWN
ENGINEER
27358-E

PREPARED BY:
RT ENVIRONMENTAL SERVICES, INC.
215 W. CHURCH RD.
KING OF PRUSSIA, PA 19406

FIGURE 2
VARIANCE & CLEAN FILL SAMPLE LOCATION MAP

FORMER ANZON SITE
PORT RICHMOND DEV., LC

CHARGE	AUTOCAD FILE	ENGINEER	DESIGNER	DRAFTSPERSON
70137-18		GRB		VL
SCALE 1" = 50'	DRAWING NUMBER Y:\RT Projects\70100 SERIES\70137-18\Drawings\RT Figures.dwg			REVISION 2
DATE 2/6/19				

ORIGINAL

ACT 2 FINAL REPORT
VOLUME 1 OF 2

FORMER ANZON SITE
2545 ARAMINGO AVENUE
PHILADELPHIA, PENNSYLVANIA

PREPARED FOR:

PORT RICHMOND DEV., LP
C/O THE RODIN GROUP
1616 WALNUT STREET, 24TH FLOOR
PHILADELPHIA, PENNSYLVANIA 19103

RT PROJECT # 70137-04

PREPARED BY:

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215 WEST CHURCH ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

NOVEMBER, 2003

ORIGINAL

RT Environmental Services, Inc.

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TABLES

FIGURES

ATTACHMENTS

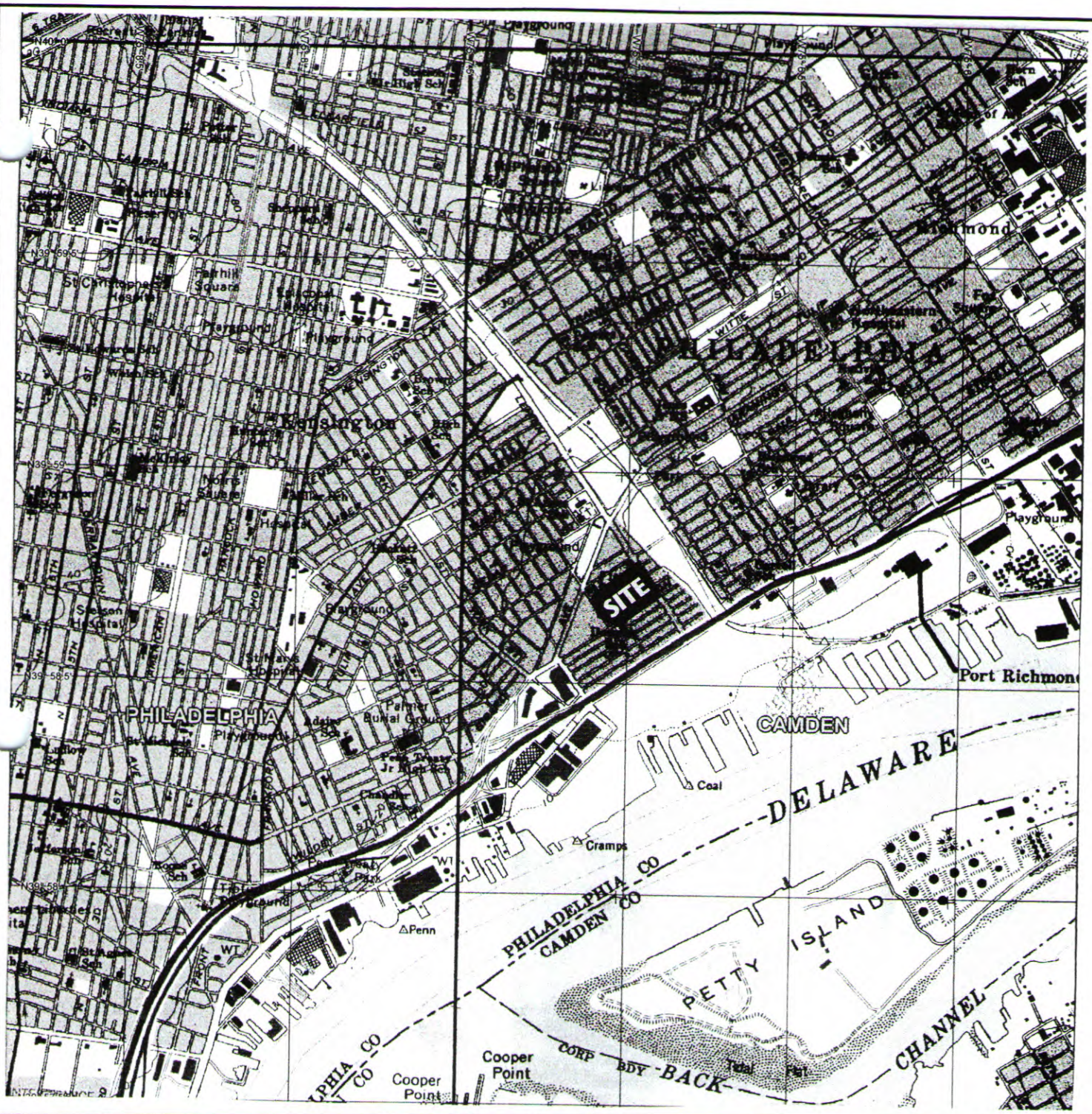
1.0 EXECUTIVE SUMMARY

This Act 2 Final Report pertains to the former Anzon property (site) located at 2545 Aramingo Avenue in Philadelphia, Pennsylvania (Figure 1). This final report is being submitted in support of a request for Release of Liability using Site Specific Standards according to Pennsylvania's Land Recycling Program (Act 2). This report documents the results of assessment and attainment work that was conducted on site by RT during the time period from April of 2002 through October of 2003.

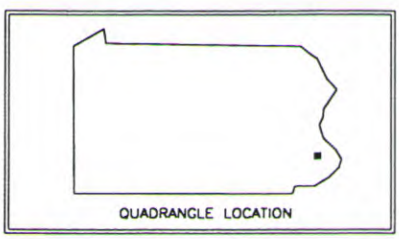
Much of the historical and descriptive information presented here is summarized from a Phase II Environmental Site Assessment (ESA) report prepared by ITS (2001) and a Combined Remedial Investigation Report, Risk Assessment, and Cleanup Plan (RIR) prepared by RT in June of 2002. The RIR was approved by the Pennsylvania Department of Environmental Protection (PADEP) on January 27, 2003.

The site has an area of approximately 10 acres. The majority of the site is currently covered by asphalt parking areas, concrete slab floors or foundations, or masonry debris. Sparse grass and soil cover the surface of the Vacant Lot. The east side is currently occupied by an Eckerd retail store and pharmacy, and is under further development. Future plans include an Applebee's restaurant and a WAWA convenience store. The site is generally flat with irregular surfaces (related to demolished structures) and is at an elevation ranging between 8 to 20 feet above mean sea level. Land in the vicinity of the site slopes gently to the south-southeast, toward the Delaware River.

Historical site information indicates that the earliest operations on the site (1849) consisted of the merchandising, importing, and the sale of white lead and red lead (for use in paint manufacturing). At that time, Aramingo Avenue was a canal. In addition to white lead and red lead operations, the facility of the East Side was also a major producer of linseed oil, acetic acid, orange mineral, and "all sorts of colors" around the 1900s. Aramingo Canal was filled (with undefined material) in 1900 and was thereafter called Aramingo Avenue. Historically, the site produced lead oxides used in part to supply needs for solder and batteries during the two world wars. Paint was produced at the site from the early 1900's to



SOURCE: USGS 7.5 MINUTE TOPGRAPHIC QUADRANGLE
CAMDEN, NJ–PA



RT Environmental Services, Inc.
215 West Church Road
King of Prussia, PA. 19406

FIGURE 1
SITE LOCATION MAP

Prepared For:
PORT RICHMOND DEV., L.P.
1616 WALNUT STREET
PHILADELPHIA, PA 19103

CHARGE	4091–07	AUTOCAD FILE	ENGINEER	DESIGNER	DRAFTSPERSON
SCALE	1"=14,4000	DRAWING NUMBER			REVISION
DATE	10/23/03	site location block			

1978. The site produced lead stabilizers used in the PVC wire and cable industry in the 1990s. This process included melting and oxidizing lead ingots (on the West Side), then blending/reacting with other chemicals to form intermediate and final products (on the East Side). The site also produced zinc stearate, which was used as an additive in rubber products, in the 1900s.

ITS completed a Phase II Investigation at the subject property in April and May of 2001. This involved the drilling, logging, and sampling of 43 soil borings (SB-1 through SB-43), and the laboratory analyses of 60 soil samples for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and Target Analyte List (TAL) metals. Relatively few VOC's and several PAH's were detected in the soils. Lead was found to be ubiquitous on the site, and other metals, such as antimony, arsenic, thallium, and vanadium were variously detected throughout the site. The site will be capped with pavement, buildings, or at least 1 foot of clean fill. A vapor barrier has been installed and is shown on attachment 3. Therefore, all pathways concerning soils at the site will be eliminated, thus demonstrating attainment of the site-specific standard.

In order to characterize groundwater at the site, ITS installed and sampled twelve (12) monitoring wells at the subject site in April/May of 2002. RT followed up with a groundwater assessment included the installation of 2 additional wells (MW-13 and MW-14), and a second round of sampling. To further characterize groundwater at the site and in order to pursue a release of liability under Act 2 guidelines, RT completed eight (8) sampling events, including ITS' April/May 2002 sampling event. Several constituents were detected above statewide health standards in the groundwater. However, groundwater concentrations were found to remain consistent with historical concentrations.

RT completed fate and transport modeling, and a pathway elimination/risk assessment analysis in order to determine whether contaminants at the site have the potential to impact off-site receptors. RT also conducted a groundwater use determination survey in order to identify any uses of groundwater within the vicinity of the subject site. The results of this modeling and assessment indicated no sensitive groundwater receptors, no surface water receptors, and no air pathways that would be impacted by the contaminants on site.

RT, therefore, concludes that analytical sampling has demonstrated attainment of the specified standards for all compounds identified in groundwater and soil at the subject site. RT hereby requests the liability protection afforded under Act 2 be given to the signatories listed in Section 12.0 of this report.

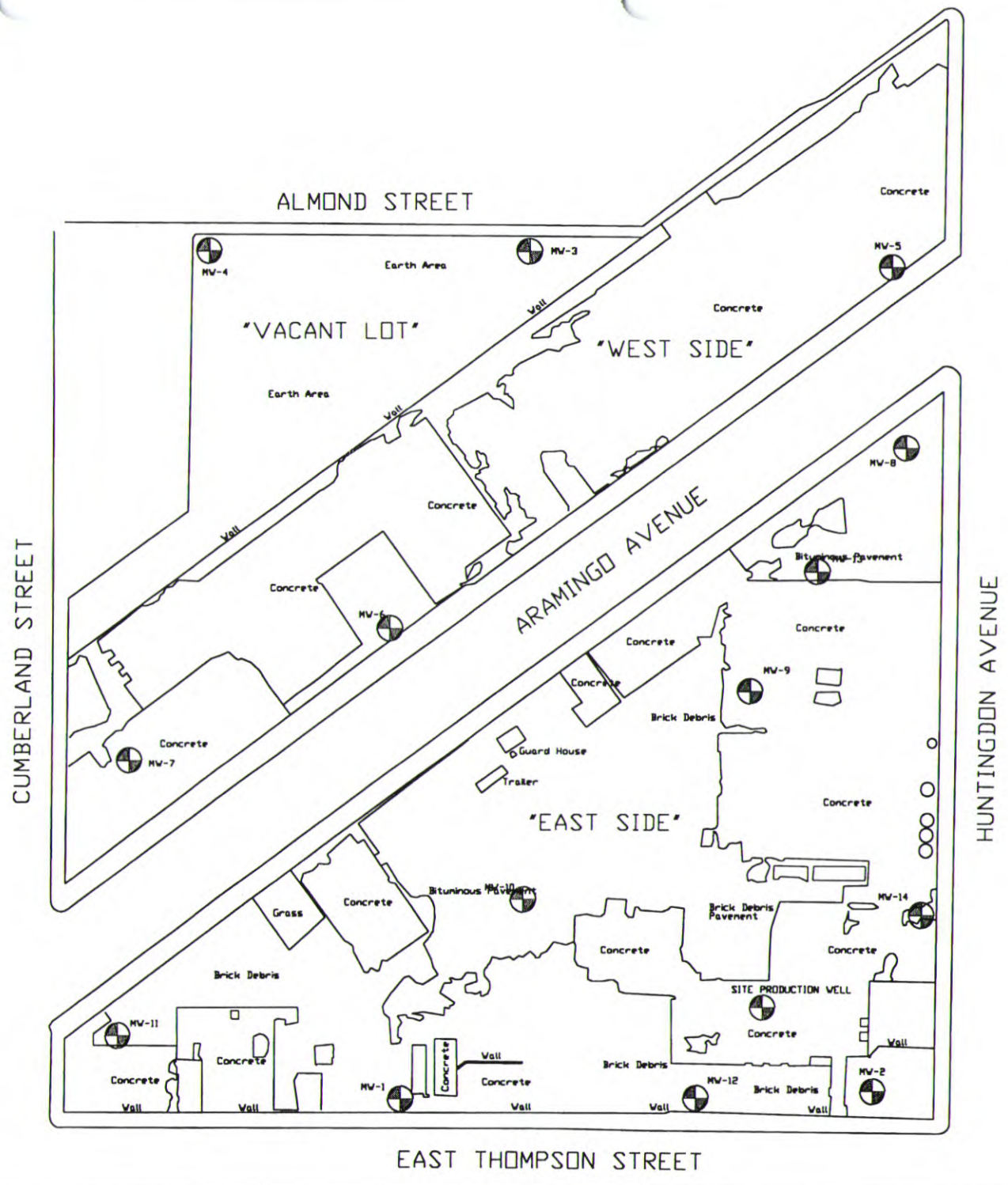
2.0 SITE DESCRIPTION

2.1 CURRENT SITE CONDITIONS

The site has an area of approximately 10 acres. The majority of the site is currently covered by asphalt parking areas, concrete slab floors or foundations, or masonry debris. Sparse grass and soil cover the surface of the Vacant Lot. The east side is currently occupied by an Eckerd retail store and pharmacy, and is under further development. Future plans include an Applebee's restaurant and a WAWA convenience store. The site is generally flat with irregular surfaces (related to demolished structures) and is at an elevation ranging between 8 to 20 feet above mean sea level. Land in the vicinity of the site slopes gently to the south-southeast, toward the Delaware River.

The site comprises three main portions (Figure 2), designated as the "East Side", the "West Side", and the "Vacant Lot" (the site is roughly bisected by Aramingo Avenue, thus the East and West Side designations), as follows:

- The East Side is the area located to the east of Aramingo Avenue (generally shaped like a triangle);
- The West Side is the area (generally rectangular shaped) located immediately to the west of Aramingo Avenue;
- The Vacant Lot is an odd shaped parcel south of, but contiguous with the West Side.


ALMOND STREET
EAST THOMPSON STREET
CUMBERLAND STREET
HUNTINGDON AVENUE
ARAMINGO AVENUE
"VACANT LOT"
"WEST SIDE"
"EAST SIDE"
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-14
Earth Area
Concrete
Wall
Bituminous Pavement
Brick Debris
Brick Debris Pavement
Grass
Guard House
Trailer
SITE PRODUCTION WELL
N
LEGEND
Monitoring Well Locations
NOTES:
BASED ON THE SITE SURVEY PERFORMED BY MILLENNIUM SURVEYING AND MAPPING DATED 5/8/2001
RT ENVIRONMENTAL SERVICES, INC.
215 W. CHURCH RD.
KING OF PRUSSIA, PA 19406
PORT RICHMOND DEV. LP
1616 WALNUT STREET
PHILADELPHIA, PA 19103
FIGURE 2
FORMER ANZON FACILITY
SITE PLAN
AUTOCAD FILE ANZON SITE
DRAFTSPERSON KAG
SCALE 1"=60'
DRAWING NUMBER 70137-01
REVISION
DATE 5/20/02

2.2 SITE HISTORY

2.2.1 East Side

Historical site information indicates that the earliest operations on the site (1849) consisted of the merchandising, importing, and the sale of white lead and red lead (for use in paint manufacturing). At that time, Aramingo Avenue was a canal. In addition to white lead and red lead operations, the facility of the East Side was also a major producer of linseed oil, acetic acid, orange mineral, and "all sorts of colors" around the 1900s. Aramingo Canal was filled (with undefined material) in 1900 and was thereafter called Aramingo Avenue. Historically, the site produced lead oxides used in part to supply needs for solder and batteries during the two world wars. Paint was produced at the site from the early 1900's to 1978. The site produced lead stabilizers used in the PVC wire and cable industry in the 1990s. This process included melting and oxidizing lead ingots (on the West Side), then blending/reacting with other chemicals to form intermediate and final products (on the East Side). The site also produced zinc stearate, which was used as an additive in rubber products, in the 1900s.

The original buildings on the East Side had "dirt" or "clay" floors. Between 1919 and 1930, the majority of the buildings used in the modern operations had been constructed. These buildings or parking areas covered the majority of the East Side during operations. Certain buildings and structures were removed, modified, or constructed between 1930 and 1990's. One building currently exists on the East Side site, by the main gate, and is currently used as a guardhouse.

2.2.2 West Side

The West Side was initially developed in the 1870's, as a brick and tile works. At that time, buildings covered the majority of the southern and West Side. This facility manufactured firebrick, tile, stoneware, white ware, and chemical apparatuses. During the initial operation period, the north end of the West Side was an open lot. Approximately 1900, a railroad spur was extended to the center of the West Side. The northern portion of the West Side

was developed as the Old Iron Yard in the early 1900s.

Between 1908 and 1919, the brick and tile works buildings were demolished, and lead operations spread from the East Side to the West Side. The West Side buildings were demolished in the 1900s.

2.2.3 Vacant Lot

The Vacant Lot was used for firebrick storage and residential dwellings in the 1870's. This tract of land remained residential until the 1930's, when the residential dwellings were razed and the Vacant Lot was used for miscellaneous storage. By 1951, an administrative building and parking lot were constructed on the southwest corner. The open portion of the Vacant Lot was used for miscellaneous storage of goods until site operations were ceased in the 1900's.

2.3 PHYSICAL SITE CHARACTERISTICS

2.3.1 Topography

The site is located near the contact of the Atlantic Coastal Plain and the Piedmont Physiographic Province. It is characterized by flat upper terraces cut with shallow valleys. Dendritic stream drainage patterns are common.

2.3.2 Geology

The site is located near the geologic contact between Quaternary age Trenton Gravel unconsolidated sediments and the Cambrian age Wissahickon Schist bedrock, near the contact between the Coastal Plain and Piedmont Physiographic Provinces. The Quaternary age Trenton Gravel Formation is described as a gravelly sand interstratified with silt and clay lenses (ITS, 2001).

Based upon lithologies encountered during ITS's soil and groundwater assessment (ITS, 2001), three zones of geology exist at the site. The first zone of geology, the West Side

Geology, exists on the West Side and northwest corner of the East Side. Generally, the West Side Geology consists of relatively shallow saprolite overlain by clay and fill. Specifically, the West Side Geology consists of the underlying saprolite (existing at elevations -3 to -7), overlain by clay (8 to 9 feet thick), overlain by fill (4 to 12 feet thick).

The second zone of geology the East Side Geology, exists on the eastern portion of the East Side. Generally, the East Side Geology consists of deeper saprolite overlain by fine to coarse sand, some silts/clays, and fill. Specifically, the East Side Geology consists of the underlying saprolite (existing at elevation -10 to -20), overlain by fine to coarse sand (10 to 20 feet thick, thickening to the east), overlain by intermittent layer of silts/clays (0 to 4 feet thick), overlain by fill (7 to 11 feet thick).

The third zone of geology, the Transition Zone Geology, exists between the East Side Geology and West Side Geology, on the central portion of the East Side. Generally, the Transition Geology is a zone that transitions from shallower saprolite with clays (West Side Geology) to deeper saprolite with fine to coarse sands (East Side Geology). Specifically, the Transition Zone consists of the underlying saprolite (existing at elevations -7 to -10), overlain by intermittent sand (1 to 10 feet thick), overlain by silts/clays (0 to 5 feet thick), overlain by fill (10 to 16 feet thick).

2.3.3 Hydrology

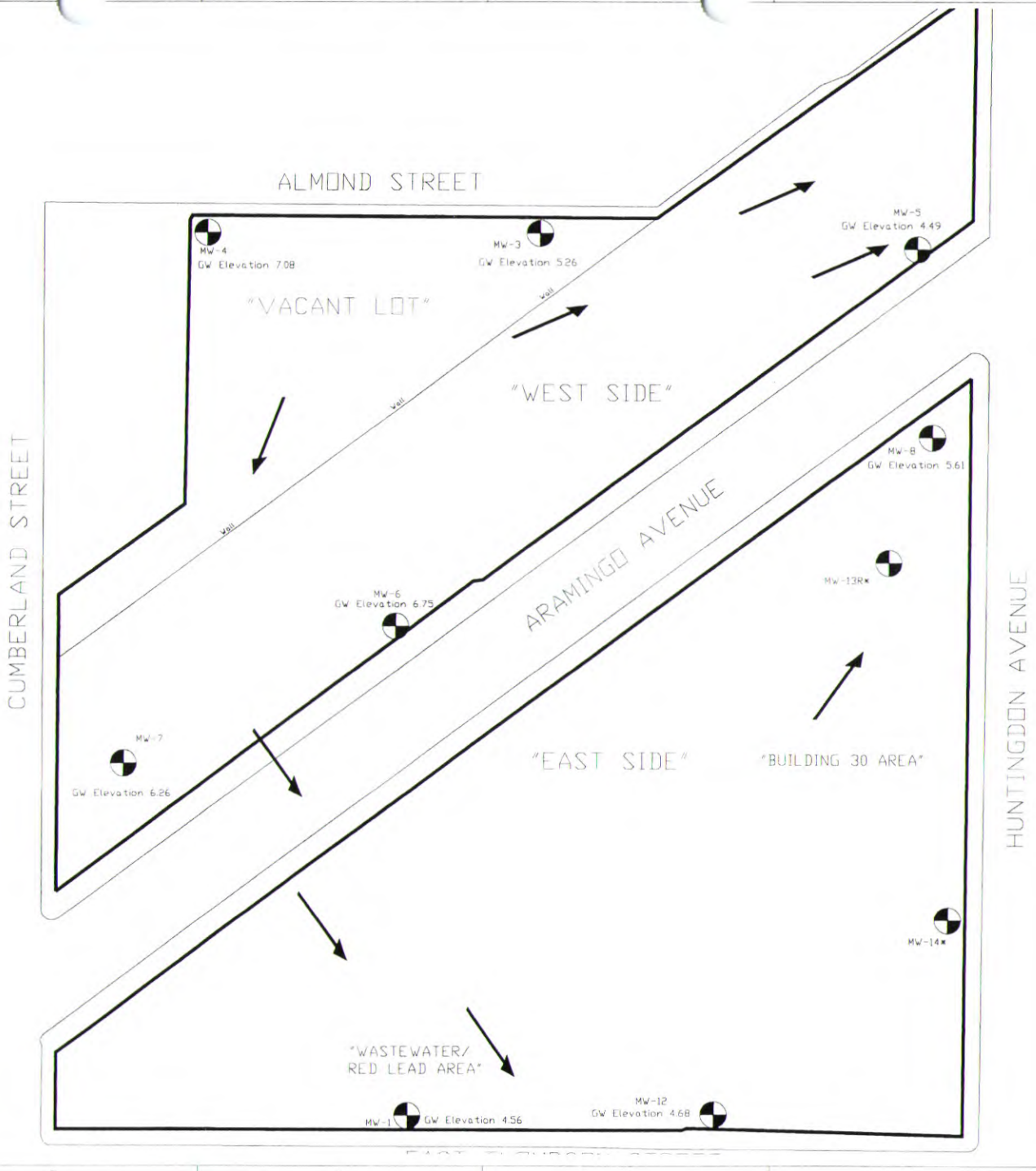
2.3.3.1 Surface Water

The site is located in the Delaware River Drainage Basin, approximately 0.5 miles northwest of the Delaware River. Surface runoff from the site drains to the City of Philadelphia stormwater/sewer system. Thompson Creek (also referred to as Gunner's Run or Rambo's Run) traversed portions of the property in the past. Former watercourses may have been filled/sewered to facilitate site development.

2.3.3.2 Groundwater

The depth to water at the site is approximately 2 to 10 feet below the ground surface. According to the Water-Table Map of Philadelphia, Pennsylvania, regional groundwater is expected to flow generally to the east-southeast toward the Delaware River, located approximately one-quarter mile to the southeast. The sands underlying the East Side may be hydraulically connected with the Delaware River. The groundwater flow direction on the East Side is to the east/southeast, which would be expected given these conditions. Generally, the groundwater flow direction on the West Side is to the east/northeast. Figure 3 is a groundwater contour map based upon the August 2003 monitoring round.

Local variations to the groundwater flow direction occur on the site, apparently as a result of hydraulic influences from sewers beneath the streets adjacent to the site. In particular, there is a nine-foot-diameter brick sewer beneath East Huntingdon Street, bounding the site on the northeast, that is inferred to be leaking and acting as a sump. This inference is based upon eastern to northeastern groundwater flow directions on the West Side and in the northern portion of the East Side, which are contrary to the regional shallow groundwater flow regime to the southeast.



N

LEGEND

MW-8 Monitoring Well Locations

GROUNDWATER FLOW DIRECTION

* No Measurements Obtained

NOTES:

BASED ON THE SITE SURVEY PERFORMED BY MILLENNIUM SURVEYING AND MAPPING DATED 5/8/2001

PREPARED BY:
RT ENVIRONMENTAL SERVICES, INC.
215 W. CHURCH RD.
KING OF PRUSSIA, PA 19406

FOR:
PORT RICHMOND DEV. LP
1616 WALNUT STREET
PHILADELPHIA, PA 19103

FIGURE 3
FORMER ANZON FACILITY
GROUNDWATER FLOW
AUGUST 13, 2003

AUTOCAD FILE GWFLOW2003		DRAFTSPERSON KAG
SCALE 1"=60'	DRAWING NUMBER 70137-01	REVISION
DATE 8/13/03		

3.0 SITE CHARACTERIZATION

Significant environmental activities at the subject site are discussed below. Refer to Attachment 1 for additional details.

3.1 SOIL INVESTIGATION

ITS completed a Phase II Investigation at the subject property in April and May of 2001. This involved the drilling, logging, and sampling of 43 soil borings (SB-1 through SB-43), and the laboratory analyses of 60 soil samples for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and Target Analyte List (TAL) metals. A description of the field methods used, boring logs, and laboratory reports from the soil assessment are contained in ITS' Phase II Report which is included in Attachment 1. Soil analytical results are summarized in Tables 1 and 2.

3.1.1 Organic Compounds

Relatively few VOCs, and several polynuclear aromatic hydrocarbon (PAH) compounds were detected in soil samples from the site. The only area significantly impacted with VOCs is the northern portion of the East Side (formerly the location of a structure designated as A Building 30", a former process area), where elevated concentrations of naphthalene, n-propylbenzene, toluene and two isomers of trimethylbenzene were detected. Soil samples from a depth of approximately seven to eight feet below the ground surface (in the saturate zone) contained the highest concentrations. The area with the most significant impact from PAHs is the southeastern portion of the East Side (the wastewater/red lead@ area, former process area), where elevated concentrations of anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, chrysene, dibenzo(ah)anthracene, indeno(123cd)pyrene, and pyrene were detected. These impacts were encountered at a depth of approximately 2.5 to three feet below the ground surface. Relatively low concentrations of benzo(a)pyrene were ubiquitously encountered throughout the remainder of the site, and pyrene was detected in one other, relatively isolated sample.

Table 2: Soil Analytical Summary, Metals Exceeding the Used Aquifer Standard Comparison to Direct Contact Standards (mg/kg)

Boring	Sample Depth (ft)	Antimony	Arsenic	Cadmium	Chromium	Lead	Mercury	Selenium	Thallium	Vanadium	Zinc
Building 30 Area											
SB-10	7 - 7.5					28,000			3.2		
SB-31	7 - 7.5					15,000					
	13.5 - 14					120					
SB-33	2.5 - 3					4,400					
	7.5 - 8	70				15,000					
	11 - 11.5					1,300					
Wastewater/Red Lead Area											
SB-2	2.5 - 3	63	28		140	29,000	1.7	2.8			
	7.5 - 8		3.3		12	160					
SB-3	7 - 7.5	6.1				9,200			3.3		
SB-6	5.5 - 6	19	29			10,000			8.7		
SB-23	2.5 - 3	120		7.3		14,000					
	6 - 6.5	5.1				80					
SB-24	3 - 3.5	12				25,000					
SB-25	1.5 - 2	170	30	5.6		**15,000**					
Other Site Areas											
SB-1	3.5 - 4					310			5.8		
SB-4	2.5 - 3	5.3	16	12		150		5.5	44		
SB-7	3.5 - 4	9				2,600			22		
	10 - 10.5					5,200			3.8		
SB-8	9.5 - 10					600					
SB-9	7.5 - 8					950			5.3		
SB-11	2.5 - 3		36			470					
SB-12	3.5 - 4					7,700			4.5		
SB-13	2.5 - 3					75			3.8		
SB-14	8.5 - 9	7				3,900			4.4		
SB-15	1.5 - 2					280			4.7		
SB-16	7 - 7.5					1,500					
SB-17	1 - 1.5	3.3				590			2.5		
SB-18	7 - 7.5	8.5	110			380			3		
	14 - 14.5								5.7		
SB-19	3 - 3.5	10	26	6.1		1,700			26		
SB-21	12 - 12.5	72				520					
SB-22	10 - 10.5	20	48		170	8,600					
	11.5 - 12	5.8				650					
SB-26	0.5 - 1	19				820					
SB-28	2 - 2.5	9.9	17			3,700					
SB-29	10.5 - 11					260					
	12.5 - 13					560					
SB-30	7 - 7.5		16			2,000					
SB-32	10 - 10.5	3.3				16,000					
	12 - 12.5					1,700					
SB-34	1.5 - 2	17				**15,000**					
	6 - 6.5					58					
SB-35	2.5 - 3	61				18,000					
SB-36	2.5 - 3					310					
SB-37	6.5 - 7					2,900					
SB-38	1.5 - 2	5	30			**1,400**					
	3.5 - 4	11	27			3,200					
SB-39	1.5 - 2	5.3	26			360	1.6				
SB-40	3.5 - 4	4.5				800	89				
	5 - 5.5					580	3				
	7.5 - 8					320	4.8				
SB-41	9.5 - 10					94					
SB-42	10 - 10.5	5				1,000					
SB-43	7 - 7.5					290					
S-G Non-res. Used Aquifer[1]		2.7	15	3.8	190	45	1	2.6	1.4	7,200	1,200
D/C Non-residential, 0 - 2 ft.[2]		1,100	53	210	420	1,000	840	14,000	200	20,000	190,000
D/C Non-residential, 2 - 15 ft.[3]		190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000

Notes: 1) Soil-Groundwater, Non-residential, Used Aquifer standard, 1/10 the MSC because of saturated conditions.
2) Direct Contact, Non-residential Soil standard, 0 - 2 feet.
3) Direct Contact, Non-residential Soil standard, 2 - 15 feet.
Blank cells indicate that no standards were exceeded for the compound.
Bold numbers indicates the concentration exceeds the Soil-to-Groundwater standard and the Direct Contact standard for the depth at which the sample was collected.

TABLE 3
GROUNDWATER QUALITY DATA - VOCs
FORMER ANZON FACILITY
PHILADELPHIA, PA

Well Number	Sample Date	Benzene (ug/L)	1,1-DCA[1] (ug/L)	1,1-DCE[2] (ug/L)	cis-1,2-DCE[3] (ug/L)	Isopropyl-benzene (ug/L)	Ethyl-benzene (ug/L)	MTBE (ug/L)	Toluene (ug/L)	PCE[4] (ug/L)	1,1,1-TCA[5] (ug/L)	Xylenes (ug/L)	1,3,5-TMB[6] (ug/L)	1,2,4-TMB (ug/L)
MW-1	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	NA	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	4/16/03	--	--	--	--		--	--	--	--	--	--		
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/21/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-2	Apr/May '01	--	4.8	1.4	10	--	--	22	--	1.2	7.8	--	NA	NA
	4/25/02	--	--	--	2.2	NA	--	37	--	--	--	--	--	--
	9/26/02	--	--	--	2.9	--	--	170	--	--	2.3	--	--	--
	10/3/02	--	--	--	--		--	62	--	--	--	--	--	--
MW-3	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/25/02	--	--	--	--	NA	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-4	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	NA	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	2.0
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-5	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-6	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-7	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
GW Screening Values		3,500	160,000	160,000	42,000	NOC	27,000	380,000	490,000	42,000	NOC	130,000	NOC	NOC

- - = Analyte not detected

NA = Constituent Not Analyzed

Groundwater screening values for the protection of indoor Air - Residential

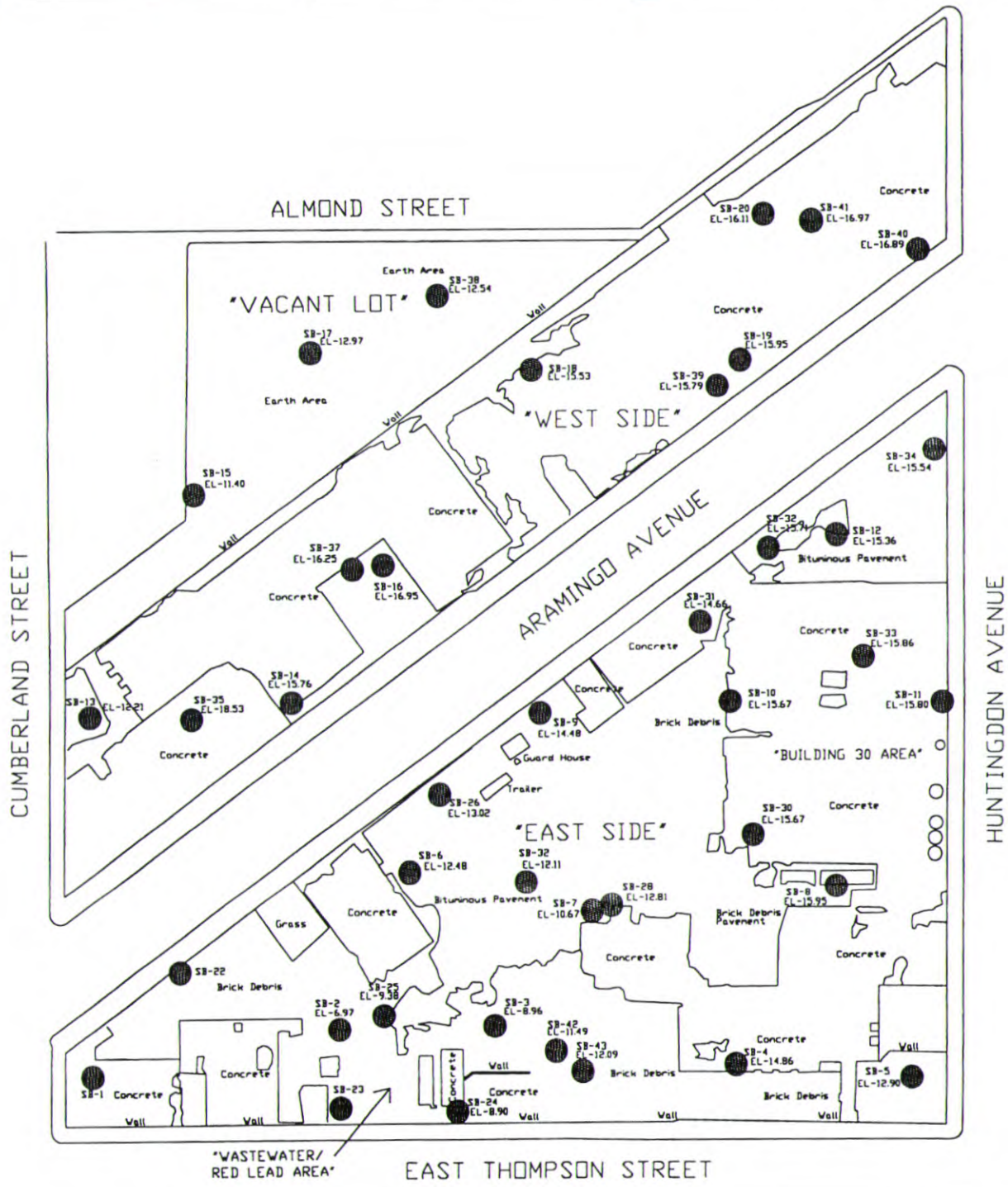
TABLE 4
GROUNDWATER QUALITY DATA - VOCs
FORMER ANZON FACILITY
PHILADELPHIA, PA

Well Number	Sample Date	Benzene (ug/L)	1,1-DCA[1] (ug/L)	1,1-DCE[2] (ug/L)	cis-1,2-DCE[3] (ug/L)	Isopropyl-benzene (ug/L)	Ethyl-benzene (ug/L)	MTBE (ug/L)	Toluene (ug/L)	PCE[4] (ug/L)	1,1,1-TCA[5] (ug/L)	Xylenes (ug/L)	1,3,5-TMB[6] (ug/L)	1,2,4-TMB (ug/L)
MW-8	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-9	Apr/May '01	16	--	--	--	210	320	--	4.6	--	--	870	***700***	870
	4/25/02	13	--	--	--	--	500	--	14	--	--	4100	***590***	3,400
	9/26/02	19	--	--	--	430	390	--	--	--	--	1570	***320***	3,500
	10/3/02	19	--	--	--		410	--	--	--	--	3,820	***980***	3,800
MW-10	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
MW-11	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
MW-12	Apr/May '01	--	--	--	--	--	--	--	--	--	--	--	NA	NA
	4/25/02	--	--	--	1.2	--	--	--	--	--	--	--	--	--
	9/26/02	1.3	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	1.6	--	--	--		--	--	--	--	--	--	--	--
	4/16/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/6/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	1.1	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-13/ 13R	Apr/May '01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/25/02	--	--	--	1.3	--	40	--	14	--	--	260	10	36
	5/30/02	2.3	--	--	--	NA	74	--	22	--	--	490	16	70
	9/26/02	4.6	--	--	--	8	70	--	12	--	--	778	17	71
	10/3/02	1.6	--	--	--		--	--	--	--	--	84	--	5.2
	6/4/03	--	--	--		--	--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
MW-14	Apr/May '01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/25/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/30/02	--	--	--	--	NA	--	--	--	--	--	--	--	--
	9/26/02	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/3/02	--	--	--	--		--	--	--	--	--	--	--	--
	3/25/03	--	--	--	--		--	--	--	--	--	--	--	--
	6/4/03	--	--	--	--		--	--	--	--	--	--	--	--
	8/13/03	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/16/03	--	--	--	--		--	--	--	--	--	--	--	--
GW Screening Values		3,500	160,000	160,000	42,000	NOC	27,000	380,000	490,000	42,000	NOC	130,000	NOC	NOC

-- = Analyte not detected

NA = Constituent Not Analyzed

Groundwater screening values for the protection of indoor Air - Residential



LEGEND

Soil Boring Locations

NOTES:

BASED ON THE SITE SURVEY PERFORMED BY MILLENNIUM SURVEYING AND MAPPING DATED 5/8/2001

RT ENVIRONMENTAL SERVICES, INC.
215 W. CHURCH RD.
KING OF PRUSSIA, PA 19406

PORT RICHMOND DEV LP
1616 WALNUT STREET
PHILADELPHIA, PA 19103

FIGURE 5
FORMER ANZON FACILITY
SOIL BORING LOCATION MAP

AUTOCAD FILE ANZON SITE		DRAFTSPERSON KAG
SCALE 1"=60'	DRAWING NUMBER 70137-01	REVISION
DATE 5/20/02		

Table 1: Soil Analytical Summary, Organic Compounds Exceeding Used Aquifer Standards
Comparison to Direct Contact Standards (mg/kg)

Boring	Sample Depth (ft)	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(ghi) perylene	Carbazole	Chrysene	Dibenzo(ah) anthracene	Ethylbenzene	Indeno(123cd) pyrene	Naphthalene	Propyl-benzene, n-	1,1,2,2-TCA[1]	Toluene	Trimethyl-benzene, 1,2,4-	Trimethyl-benzene, 1,3,5-	Xylenes
Building 30 Area																	
SB-10	7 - 7.5										55				390	13	
SB-31	7 - 7.5										31	60		590	300	**390**	
SB-33	7.5 - 8								150		300	120			**630**	**1,200**	1,030
	11 - 11.5																
Wastewater/Red Lead Area																	
SB-3	7 - 7.5		5.1														
SB-23	2.5 - 3	50	1,200	120	130	21	34	53		570							
SB-25	1.5 - 2																
Other Site Areas																	
SB-4	2.5 - 3		5.4														
SB-16	7 - 7.5		8.1														
SB-22	10 - 10.5		6.5														
SB-29	12.5 - 13												0.31				
SB-37	6.5 - 7		5.6														
S-G Non-res. Used Aquifer[1]		32	4.6	17	18	8.3	23	16	4.6	2,800	2.5	78	0.003	10	20	0.62	100
D/C Non-residential, 0 - 2 ft.[2]		110	11	110	170,000	4,000	11,000	11	10,000	110	56,000	10,000	100	10,000	320	320	10,000
D/C Non-residential, 2 - 15 ft.[3]		190,000	190,000	190,000	190,000	190,000	190,000	190,000	10,000	190,000	190,000	10,000	120	10,000	360	360	10,000

Notes: 1) 1,1,2,2-trichloroethane
2) Soil-Groundwater, Non-residential, Used Aquifer standard, 1/10 the MSC because of saturated conditions.
3) Direct Contact, Non-residential Soil standard, 0 - 2 feet.
4) Direct Contact, Non-residential Soil standard, 2 - 15 feet.
Blank cells indicate that no standards were exceeded for the compound.
Bold numbers indicates the concentration exceeds the Soil-to-Groundwater standard
and the Direct Contact standard for the depth at which the sample was collected.

3.1.2 Metals

Lead was found to be ubiquitous on the site, and other metals, such as antimony, arsenic, thallium, and vanadium were variously detected throughout the site. Lead concentrations were the most elevated, and when detected with other metals, the concentrations were normally three to four orders-of-magnitude higher. The most elevated lead concentrations were detected in samples from the former Building 30 and the wastewater/red lead areas, described above, from both saturated and unsaturated zones.

3.2 INITIAL GROUNDWATER CHARACTERIZATION

Initial groundwater characterization was completed by ITS in 2001 with the installation of 12 groundwater monitoring wells (MW-1 through MW-12), one round of monitoring, and laboratory analyses of groundwater samples for VOCs, SVOCs and TAL metals. RT followed up with a groundwater assessment included the installation of 2 additional wells (MW-13 and MW-14), and a second round of sampling. A description of the field methods used, well logs, and laboratory reports from the ITS' initial groundwater assessment are contained in ITS' Phase II Report (2001) included in Attachment 1. Well logs and laboratory reports from RT's follow-up groundwater assessment are also included in Attachment 2. Comprehensive groundwater analytical results including these two sampling events are included in Tables 3 through 8.

3.2.1 Organic Compounds

Relatively low concentrations of organic compounds have been detected in samples from various areas on the site, with few exceedences of groundwater standards. The most elevated concentrations of organic compounds have been in samples from both monitoring rounds at well MW-9, in the Building 30 area. The May, 2001, sample from well MW-9 contained elevated concentrations of benzene, naphthalene, and two isomers of trimethylbenzene. The April, 2002, sample contained elevated concentrations of benzene and naphthalene. No organic compounds have been detected in the samples from well MW-1, in the wastewater/red lead area.

3.2.2 Metals

As in soils, several metals are ubiquitous in groundwater samples. In general, wells with elevated metals concentrations correlate with areas of the site where elevated concentrations were found in soil samples. Barium, calcium, magnesium, manganese, potassium, and sodium have been detected in nearly every sample, and relatively few samples have contained aluminum, antimony, arsenic, cadmium, cobalt, nickel, selenium, and vanadium. Relatively elevated concentrations of lead were detected in both samples from wells MW-9 and MW-1, in the Building 30 and wastewater/red lead areas, respectively. The most elevated concentrations of metals were for antimony, arsenic, and lead in the April, 2002, samples from well MW-13, which is downgradient of the Building 30 area.

3.2.3 Monitoring Well Replacement

Pursuant to our development and environmental plans, in the spring of 2003, five (5) monitoring wells on the east side of the site were covered over during the construction activities. These wells included MW-2, MW-9, MW-10, MW-11, and MW-13. MW-13 was replaced on April 30, 2003. The PADEP was informed that this would occur during the redevelopment process. The PADEP indicated that the only wells needing replacement would be the attainment wells. Therefore, MW-13R was the only well replaced. Field logs for the well installation are included in Attachment 4.

3.2.1 Phase-Separated Hydrocarbons

In the spring of 2003, product was detected in monitoring well MW-12. The source of the product is believed to be from vandalism as the area around the well appeared to be stained. Groundwater samples obtained from MW-12 were non-detect for petroleum constituents, indicating that the product had not partitioned to the dissolved phase. RT completed product removal and re-inspected monitoring well MW-12 for the presence of free product a number of times. Free product is no longer present in MW-12. Field logs for the product removal are included in Attachment 4.

3.2.4 Penntoxsd Data

RT completed modeling to determine the contaminant loading to surface water. The SWLOAD5B method for estimating contaminant loading to surface water (P.A. Domenico, 1987) was utilized and found that only lead required further analysis. The Penntoxsd program was used to establish recommended effluent limits for lead to the Delaware River. The recommended effluent limitations results indicated that the highest lead concentration detected at the site is more protective than any other governing criterion. Therefore, based on the results of the Pentoxsd analysis, contaminant loading to surface water does not appear to be of further concern at this time.

3.3 GROUNDWATER QUALITY SUMMARY – ATTAINMENT PHASE

Beginning in April of 2001, RT sampled the key site monitoring wells for eight (8) quarterly events. Monitoring wells MW-2, MW-9, MW-10, and MW-11were sampled for four (4) quarterly events. Concentrations of MTBE, aluminum, antimony, arsenic, iron, lead, manganese and cadmium were consistently detected above their respective statewide health standards in the site monitoring wells. Concentrations of MTBE ranged from 22.0 to 170.0 ug/L in MW-2. Concentrations of aluminum ranged from 0.21 to 12.0 mg/L in MW-4. Concentrations of Antimony ranged from 0.00516 to 175 mg/L. A single arsenic concentration of 0.058 mg/L was detected in MW-13. Concentrations of iron ranged from 0.5 to 66 mg/L in MW-4. Concentrations of lead ranged from 0.005 to 7.89 mg/L. Concentrations of manganese ranged from 0.054 to 5.6 mg/L, detected in most of the site monitoring wells. Concentrations of cadmium ranged from 0.006 to 0.024 mg/L in MW-4. In general, groundwater quality results remained consistent with historical concentrations. Groundwater analytical results are presented in Tables 3 through 8 and laboratory reports are included as Attachment 2.

The spatial distribution of contaminants across the site is rather sporadic, as certain compounds show up in one well and not others. The pattern suggests that the impact to groundwater is limited to a few isolated areas across the site and that there is not a large dissolved-phase plume associated with any of the constituents of concern. It should be noted, that groundwater data obtained from the point of compliance monitoring wells has

been consistent throughout the characterization and attainment phase of this project, which suggests that groundwater quality at the site is stable. Furthermore, modeling indicates that the present concentration of the constituents of concern in groundwater will not impact any downgradient receptors.

3.4 GROUNDWATER USE DETERMINATION

ITS conducted a Groundwater Use Study for the site vicinity. The methodology, supporting documentation, and results are presented in the ITS Report (2001) presented in Attachment 1. A Pennsylvania Geological Survey well search indicated the presence of 14 wells (designated as other than "unused")within a one mile radius of the site. However, no wells were located in the downgradient direction from the site (between the site and the Delaware River, and no wells were located within ½ mile of the site. Philadelphia Health Department records indicated that no potable wells exist within one mile of the site. Information received from the City of Philadelphia Water Department indicated that the public water supply is derived from surface water intakes on the Delaware and Schuylkill Rivers.

3.5 SURROUNDING LAND USE

Commercial and light-industrial facilities, interspersed with residences are located in the vicinity of the site. The current properties immediately surrounding the site include the following:

North: Residential dwellings (row houses), vacant lots, a fire station, and a city park are located to the north of the site, along East Huntingdon Street.

South: The Richmond Village Shopping Center and a CVS Pharmacy are located to the south of the site, along Aramingo Avenue. An auto repair shop, row houses, and the Catholic Services Center are located south the site, along East Cumberland Street.

East: A bar and grill, an auto body shop, fraternal clubs, row houses, and vacant lots are located immediately east of the site, along Thompson Street.

West: A hydroponics garden/greenhouse, vacant lots, residences, and a Philadelphia Electric Company (PECO) station are located west of the site, along Almond and Moyer Streets.

4.0 SITE-SPECIFIC STANDARDS

4.1 SOIL

Laboratory data from the site characterization, indicated that organic chemicals and metals were detected in soil samples above the residential Statewide Health Standards (rSWHS). The area of impacts were delineated and were found to be confined to the site. Since the planned reuse for the property is commercial, it was decided to mange the impacted soils through institutional and engineering controls, using a site-specific standard.

The site will be have a deed notice referencing this report and a vapor barrier has been installed in an area were volatile organics were present, to eliminate the vapor exposure pathway. Information regarding the location and installation of the vapor barrier was sent to the Department and is also included in Attachment 3 of this report. Furthermore, the site will be improved with buildings, parking areas and landscape areas eliminating the direct contact exposure pathway to the constituents of concern, thus demonstrating attainment of the site-specific standard for soil through pathway elimination.

4.2 GROUNDWATER

Groundwater concentrations have remained consistent with historical concentrations. RT has conducted a groundwater use determination study, a pathway elimination analysis, and completed eight sampling events at the subject site. Groundwater will not be in use at the subject site, and impact to off-site receptors is not likely, thus demonstrating attainment of the site-specific standard at the site for groundwater through pathway elimination.

5.0 RISK ASSESSMENT/PATHWAY ELIMINATION

A risk assessment and pathway analysis were completed by RT and presented in the Combined Remedial Investigation Report, Risk Assessment, and Cleanup Plan which is presented in Attachment 1.

6.0 ECOLOGICAL SCREENING

An on-site evaluation of potential impacts to ecological receptors pursuant to Title 25, Chapter 250, Section 311 (Administration of the Land Recycling Program) was not conducted because the site meets the following criterion, which negates the requirement:

The site has features, such as buildings, parking lots or graveled paved areas, which would obviously eliminate specific exposure pathways, such as soils exposures (250.311.b.3).

7.0 NIR/RIR AND PUBLIC NOTIFICATIONS

The Notice of Intent to Remediate (NIR) and public notifications were made by RT once all sources of soil and groundwater contamination had been identified. These documents were submitted on October 3, 2002. Notification was also given to the City of Philadelphia on this date. The NIR was published on October 8, 2002 in the Philadelphia Inquirer. The PADEP project contact approved these submittals by means of a letter to RT on October 8, 2002. Furthermore, the Combined Remedial Investigation, Risk Assessment, and Cleanup Plan Report was approved by the PADEP in the letter dated January 27, 2003. Copies of these documents are included in Attachment 4 of this report.

8.0 ATTAINMENT OF SITE-SPECIFIC STANDARD

8.1 SOIL

RT has characterized soils at the site in accordance with the residential statewide health standard. The site will be capped with pavement, buildings, or at least 1 foot of clean fill. Vapor barriers are being installed into the buildings to prevent contact with soil. Direct contact with soil at the subject property will not be possible. Therefore, all pathways concerning soils at the site will be eliminated, thus demonstrating attainment of the site-specific standard. The constituents of concern identified in the site characterization include: ethylbenzene, naphthalene, propylbenzene, toluene, 1,2,4- and 1,3,5-trimethylbenzene, xylenes, antimony, lead, thallium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, carbazole, chrysene, dibenzo(ah)anthracene, indeno(123cd)pyrene, antimony, arsenic, cadmium, chromium, selenium (assumed to be hexavalent chromium).

8.2 GROUNDWATER

RT has conducted eight groundwater sampling events in order to demonstrate attainment of a site-specific standard. RT Field notes are presented in Attachment 5. Groundwater concentrations have remained consistent with historical concentrations. RT has conducted a pathway elimination analysis, risk assessment, and groundwater use determination survey. Because there is no potable groundwater use in the vicinity of the site, and because the site is covered, and will remain so, there are no sensitive environmental receptors. RT has also conducted modeling to determine whether contaminants in groundwater at the site will impact surface water, particularly the Delaware River. The highest concentration of lead at the site will below the applicable surface-water criteria. The constituents of concern identified in the site characterization include: benzene, MTBE, 1,2,4- and 1,3,5-trimethylbenzene, xylenes, 1,1 dichloroethene, cumene, cis-1,2 dichloroethene, toluene, arsenic, aluminum, barium, cadmium, chromium, iron, magnesium, manganese, selenium, silver, mercury, antimony, lead, naphthalene, and phenantherene.

8.3 ATTAINMENT CONCLUSIONS

RT, therefore, concludes that analytical sampling has demonstrated attainment of the specified standards for all compounds identified in groundwater and soil at the subject site. RT hereby requests the liability protection afforded under Act 2 be given to the signatories listed in Section 12.0 of this report. Due to the attainment of site specific standards for soil and groundwater at this site, a deed acknowledgement will be required for the property subject to the Hazardous Sites Cleanup Act of October 18, 1988. This deed acknowledgement will preclude the installation of groundwater supply wells or any other use of groundwater. A copy of the deed acknowledgement language can be found in Attachment 6.

9.0 PUBLIC PARTICIPATION PLAN

Subsequent to submitting the NIR to the City of Philadelphia, the City requested active participation in the development of the remediation and the reuse plans for the site. Details of the Public Participation Plan, including the letter from the City indicating that all public participation requirements have been met , are included in Attachment 7.

10. POST REMEDATION CARE PLAN

A post remedial care plan is needed at the site to maintain attainment of the standards for the following reasons:

- As part of the post remediation care plan, notice will be placed in the deed which identifies the area of concern for the site soil and groundwater.

- Routine periodic inspections of the site will be conducted to document the condition of the asphalt parking lot and landscape area.

- Periodic inspections will be conducted of the vapor barrier area shown in Attachment 3, to ensure that the pathway elimination is maintained, and that differential settlement has not occurred in area of the site where the vapor barrier is present.

Upon receipt of the revised deed, a copy will be forwarded to the Department.

11.0 REFERENCES

1) Pennsylvania Bulletin Volume 27 Number 23
Saturday August 16, 1997, Harrisburg, P.A.
Part II Environmental Quality Board
Administration of the Land Recycling Program (Act 2)

2) Integrated Technical Services, Inc./Clean Earth, Inc. (ITS), 2001, Phase II Environmental Assessment Report, Former Anzon Lead Facility, Aramingo Avenue, Philadelphia, Pennsylvania: dated August 21, 2002, 29p.

3) RT Environmental Services, Inc. (RT), Combined Remedial Investigation Report, Risk Assessment, and Cleanup Plan. Former Anzon Site, 2545 Aramingo Avenue, Philadelphia, Pennsylvania: dated June 18, 2002.

12.0 SIGNATURES

The following person is seeking a release of liability:

Port Richmond Dev., L.P.

Port Richmond Dev., II L.P.

Port Richmond Dev., III L.P.

Port Richmond Dev., IV L.P.

13.0 CONTACTS

Site and remediator contacts are as follows:

Port Richmond Dev., LP:

Mr. Jerald S. Batoff Esq.
Midlantic Real Estate, Inc.
200 South Ithan Avenue
Villanova, PA 19055

RT Environmental Services, Inc:

Christopher Orzechowski, P.G.
Senior Geologist
RT Environmental Services, Inc.
215 West Church Road, Suite 301
King of Prussia, PA 19406
(610) 265-1510

Gary Brown, P.E.
President
RT Environmental Services, Inc.
215 West Church Rd, Suite 301
King of Prussia, PA 19406
(610) 265-1510

Pursuant to the requirements of the Environmental Remediation Standards Act (Act 2), Adopted August 16, 1997, which states that:

> Interpretations of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth
>
> I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretations of the geology and hydrogeology presented in the attached report entitled:
>
> **Act 2 Final Report**, dated November 2003, for the Former Anzon Facility, 2545 Aramingo Avenue Philadelphia, Pennsylvania

and, based on the available data presented in the report, believe that the geologic and hydrogeologic interpretations made therein are reasonable and accurate.

Christopher Orzechowski, P.G.
PG-003744
Expires 9-30-05

ORIGINAL

ACT 2 FINAL REPORT
VOLUME 2 OF 2

FORMER ANZON SITE
2545 ARAMINGO AVENUE
PHILADELPHIA, PENNSYLVANIA

PREPARED FOR:

PORT RICHMOND DEV., LP
C/O THE RODIN GROUP
1616 WALNUT STREET, 24TH FLOOR
PHILADELPHIA, PENNSYLVANIA 19103

RT PROJECT # 70137-04

PREPARED BY:

RT ENVIRONMENTAL SERVICE, INC.
215 WEST CHURCH ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

ORIGINAL NOVEMBER, 2003

RT Environmental Services, Inc.

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

Former Anzon Lead Facility
Aramingo Avenue
Philadelphia, Pennsylvania

August 21, 2001

Prepared for:
Mr. Brian Clark, Buchanan Ingersoll

Prepared by:
Integrated Technical Services, Inc./Clean Earth, Inc.
PO Box 156
Winslow, NJ 08095

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APPENDICES

1.0 INTRODUCTION

1.1 Purpose and Scope

Buchanan Ingersoll of Harrisburg, Pennsylvania retained Integrated Technical Services/Clean Earth (ITS/Clean Earth) to perform a Phase II Environmental Site Assessment (ESA) for the former Anzon Lead property located at 2545 Aramingo Avenue in Philadelphia, Philadelphia County, Pennsylvania (Subject Property). Cookson Group LLC (formerly called, and hereafter referred to as, Anzon Lead) currently owns the Subject Property. The purpose of this Phase II ESA was to continue the evaluation presented in the Phase I ESA (ITS/Clean Earth, 2001) and to identify the presence or likely presence of oil and/or hazardous materials (OHM) at the Subject Property.

This assessment was conducted following the American Society for Testing and Materials *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* ("ASTM Practice E 1903-97"). The objective of the Phase II ESA as specified in ASTM Practice E 1903-97 is to "...evaluate the recognized environmental conditions identified in the Phase I ESA...to assist in making informed business decisions about the property; and where applicable, providing the level of knowledge necessary to satisfy the innocent purchaser defense under [Comprehensive Environmental Response, Compensation and Liability Act] (CERCLA)". The ASTM practice defines recognized environmental conditions as follows:

> *"The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."*

ITS/Clean Earth conducted the Phase II ESA for the Subject Property starting in February 2001. As part of the scope of work, ITS/Clean Earth performed the following activities:

- Reviewed the findings of the Phase I ESA;
- Installed forty-three soil borings and collected and analyzed sixty soil samples;
- Installed, gauged, and sampled twelve site ground water monitoring wells; and
- Performed ancillary studies (i.e. topographic survey, geophysical investigation, and focused asbestos sampling).

1.2 Report Organization

This Phase II ESA Report is organized as follows:

- Section 1.0 provides an introduction;
- Section 2.0 provides background site information;
- Section 3.0 describes Phase II site activities;
- Section 4.0 discusses Phase II results; and
- Section 5.0 presents findings and conclusions.

Appropriate tables, figures, and appendices are included to support this report.

2.0 BACKGROUND SITE INFORMATION

2.1 Site Location and Description

The Subject Property is located at 2545 Aramingo Avenue, in the Kensington/Port Richmond section of Philadelphia, Philadelphia County, Pennsylvania, northeast of the city center. A site location plan is included as Figure 1. Aramingo Avenue dissects the Subject Property, which is otherwise bounded by Thompson Street to the east, Moyer Street to the west, East Cumberland Street to the south, and East Huntingdon Street to the north. The perimeter of the Subject Property is currently enclosed by a combination of concrete block walls and chain link fence.

The Subject Property consists of five tax parcels designated as tax registry numbers 19N19-10, 19N20-18, 19N20-19, 19N20-20, and 19N22-162 on the City of Philadelphia tax maps. For ease of reference in the remainder of this Phase II ESA report, the three main areas of the Subject Property will be designated as follows:

- The **East Side**, which is the area located to the east of Aramingo Avenue (generally shaped like a triangle). The East Side comprises tax registry parcel number 19N19-10 on the tax map;

- The **West Side**, which is the area (generally rectangular shaped) located immediately to the west of Aramingo Avenue and east of Moyer Street, a paper street. The West Side comprises tax registry numbers 19N20-18 (south end), 19N20-19 (Moyer Street), and 19N22-162 (north end) on the tax map; and

- The **Vacant Lot**, which is the area bounded by Moyer Street, Almond Street, and the Catholic Services property along East Cumberland Avenue (odd-shaped). The Vacant Lot comprises tax registry number 19N20-20 on the tax map.

One building currently exists at the Subject Property. This building (former Building No. 7B) is located in the central portion of the East Side, by the main gate, has an approximate 20-foot by 20-foot footprint, and is currently used as a guardhouse. Based on permit approval dates on file at the City of Philadelphia Department of License and Inspection, many of the other site buildings and structures were dismantled, demolished, or decommissioned between 1997 and 1999. The majority of the Subject Property is currently covered by asphalt parking areas, concrete slab floors or foundations, or masonry debris. Sparse grass and soil cover the surface of the Vacant Lot and a small area on the East Side, adjacent to Aramingo Avenue.

2.2 Subject Property Historical Use Overview

An overview of the historical property use of the East Side, West Side, and the Vacant Lot is provided below. The property use overview is based on the findings of the Phase I. Figure 2 identifies former site features for the Subject Property.

East Side

Topical information from Subject Property files indicates that the firm of Mordecai Lewis & Company began operations at the Subject Property (on the East Side) consisting of the merchandising, importing, and the sale of white lead and read lead (for use in paint manufacturing) in 1849. The firm's name was changed to John T. Lewis & Brothers Company in 1856. By the 1870s, operation as a brick manufacturer on the West Side had begun, by other owners (see the discussion below). National Lead Company acquired the Subject Property in 1889, then known as the Philadelphia Lead Works, and changed the firm name to N. L. Industries, Inc in 1972. Cookson Group PLC (formerly Lead Industries Group) acquired the Subject Property in 1979 and renamed the operations to Associated Lead, Inc. Cookson renamed the operations Anzon, Inc. in 1985. The Subject Property is widely known as Anzon Lead.

In addition to white lead and read lead operations, the facility on the East Side was also a major producer of linseed oil, acetic acid, orange mineral, and "all sorts of colors" around the 1900s. Aramingo Canal was filled (with undefined material) in 1900 and was thereafter called Aramingo Avenue. Historically, the site produced lead oxides used in part to supply needs for solder and batteries during the two world wars. Dutch Boy paint was produced at the Subject Property from the early 1900's to 1978. The site produced lead stabilizers used in the PVC wire and cable industry in the 1990s. This process included melting and oxidizing lead ingots (on the West Side) then blending/reacting with other chemicals to form intermediate and final products (on the East Side). The site also produced zinc stearate, which was used as an additive in rubber products, in the 1990s.

The original buildings on the East Side are noted to have "dirt" or "clay" floors. Between 1919 and 1930, the majority of the buildings used in the modern operations had been constructed. These buildings or parking areas covered the majority of the East Side during operations. Certain buildings and structures were removed, modified, or constructed between 1930 and the 1990's. The majority of these buildings remained until the cessation of site activities in the 1990's. The East Side is currently vacant of buildings, except for the guard shack

West Side

Other owners initially developed the West Side in the 1870's, operated as the Richard C. Remmey, American Fire Brick and Tile Works. At that time, buildings covered the majority of the southern end of the West Side. This facility manufactured firebrick, tile, stoneware, white ware, and "chemical apparaluses". During the initial operation period, the north end of the West Side was an open lot. Approximately 1900, a railroad spur was extended to the center of the West Side. The northern portion of the West Side was developed as the Old Iron Yard in the early 1900s, later renamed H. Hilner's Son's Iron Yard.

Between 1908 and 1919, the American Fire Brick and Tile Works buildings were demolished, and buildings of the John T. Lewis, National Lead Company were erected, marking the expansion of the Subject Property operations to the West Side. The West Side operations expanded between 1919 and 1930 to a point where buildings covered the majority of the West Side and extended from Cumberland Street to Huntingdon Street. Prior to establishment as a

paper street, the Moyer Street parcel was used for vehicular and railroad traffic. The West Side buildings were demolished in the 1990's. The West Side is currently vacant of buildings.

Vacant Lot

Records indicate that the Vacant Lot was used for firebrick storage and residential dwellings in the 1870's. This tract of land remained residential until the 1930's, when the residential dwellings were razed and the vacant lot was used for miscellaneous storage. By 1951, John T. Lewis & Brothers Company had acquired the parcel and constructed an administrative building and parking space on the southwest corner. This marked the use of the Vacant Lot by the Subject Property operations. In 1980, the administrative building is listed as St. Anne Senior Citizen Center. The former administrative building is currently used by the Catholic Services. Anzon Lead has indicated that they no longer own the building/parking area. The open portion of the Vacant Lot was used for miscellaneous storage of goods until site operations were ceased in the 1990's.

2.3 Surrounding Land Use

Commercial and light-industrial facilities, interspersed with residences are located in the vicinity of the Subject Property. The current properties immediately surrounding the Subject Property include the following:

North: Residential dwellings (row houses), vacant lots, a fire station, and a city park are located to the north of the Subject Property, along East Huntingdon Street.

South: The Richmond Village Shopping Center and a CVS Pharmacy are located to the south of the Subject Property, along Aramingo Avenue. An auto repair shop, row houses, and the Catholic Services Center are located south of the Subject Property, along East Cumberland Street.

East: A bar and grill, an auto body shop, fraternal clubs, row houses, and vacant lots are located immediately east of the Subject Property, along Thompson Street.

West: A hydroponics garden/green house, vacant lots, residences, and a Philadelphia Electric Company (PECO) station are located west of the Subject Property, along Almond and Moyer Streets.

Historical property uses of environmental interest in the area surrounding the Subject Property include galvanizing operations along Almond Street, a gasoline station on the southwest corner of East Cumberland Street and Aramingo Avenue (currently the CVS), and American Engineering (currently the Richmond Village shopping center). In addition, the Riverside Industrial Park and the Port Richmond rail yard and marine terminals are located along the Delaware River approximately one quarter of a mile to the east-southeast of the Subject Property.

2.4 Site Improvements

2.4.1 Structures

As noted above, only one concrete block building, which is currently used as a guardhouse, currently remains on site. Other site buildings have been demolished. The remaining brick and concrete footings and foundations are generally at grade.

2.4.2 Roads

The main thoroughfare providing access to the Subject Property is Aramingo Avenue, is a four-lane, non-divided roadway used by residential and commercial vehicles. The Subject Property includes approximately 890 feet of frontage along Aramingo Avenue. The streets on the perimeter of the Subject Property are two-lane secondary streets that are more suitable to residential traffic and parking. An elevated portion of Interstate 95 (I-95) is located less than 1,000 feet east of the Subject Property that provides regional access to the Subject Property via Exit 18.

2.4.3 Railways

Railways serving the Port Richmond yard run parallel to Lehigh Avenue, less than 1,500 feet north of the Subject Property. Although historical maps indicate that rail spurs from these main lines formerly extended to the Subject Property, operable tracks servicing the Subject Property cannot currently be observed. Many of the railroad easement properties have apparently been sold to the adjacent landowners, including Anzon Lead.

2.4.4 Sewer

The City of Philadelphia Water Department provides sanitary sewer and storm water service to the Subject Property. However, a lavatory is not present in the guardhouse, indicating that a sanitary connection may not be currently active for the Subject Property. A portable restroom is currently positioned outside the guardhouse.

A catch basin was observed between the landscape islands in the parking area to the south of the guardhouse. Two shallow catch basins were also observed on the East Side, near Thompson Street. Curbside gutters were observed along the adjoining streets. These data indicate that storm water at the Subject Property is likely managed through the city sewers.

Review of City of Philadelphia Water Department files indicates that each of the streets adjacent to the Subject Property contains storm sewers. The sewers in the streets (other that Aramingo Avenue) adjacent to the site are constructed of brick and are likely old (circa 1900). The sizes of these sewers are from three to nine feet diameter. The sewer in Aramingo Avenue at the Subject Property is a 12 foot by 9 foot concrete sewer that serves as a major trunk for the regional sewer system. This section of the sewer in Aramingo Avenue at the site was installed during the 1990s. The brick sewer in Aramingo Avenue was reportedly rehabilitated during the installation of the new concrete sewer.

As discussed in Section 4.5, these sewers are expected to have significant impacts on local ground water flow.

2.4.5 Water

The City of Philadelphia Water Department serves potable water to the Subject Property. Anzon Lead has indicated that ten City of Philadelphia water meters previously served the Subject Property, although most of them have been closed at the street. An active and leaking "garden" hose connection exists on the East Side indicating that the Subject Property may currently be serviced by potable water.

A site well (fourteen-foot diameter, twenty-two foot deep well) exists near the northeast corner of the East Side. This site well was sampled by others as recently as 1980. The site well is not currently used.

2.4.6 Electricity and Gas

PECO provides electrical service to the East Side via aboveground lines running along Aramingo Avenue. Utility lines also run along the perimeter streets/sidewalks. Pole-mounted transformers were observed on a few of the off-site utility poles. Anzon Lead has indicated that these off-site transformers are owned by PECO. Anzon Lead has indicated that a second electricity source from PECO was provided to the West Side via subsurface, concrete-encased lines running generally west, perpendicular to Aramingo Avenue.

It is unknown if natural gas service was or is provided to the Subject Property. However, gas service manhole covers were observed in the sidewalk near the northwest intersection of Aramingo Avenue and East Cumberland Street. Thus, it appears that natural gas service may be available within the vicinity of the site.

2.5 Physical Setting

2.5.1 Topography

The Subject Property is generally flat with irregular surfaces (related to demolished structures) and exists at an elevation of between 8 to 20 feet above mean sea level. Land in the vicinity of the Subject Property is urban land on a relatively flat plane that slopes gently to the south-southeast, towards the Delaware River.

2.5.2 Geology

According to the Atlas of Preliminary Geologic Quadrangle Maps of Pennsylvania, on the Camden PA-NJ Geologic Quadrangle Map (Berg, 1978), the Subject Property is located very near the geologic contact between Quaternary age Trenton Gravel unconsolidated sediments and the Cambrian age Wissahickon Schist bedrock, near the contact between the Coastal Plain and Piedmont Physiographic Provinces. The Quaternary age Trenton Gravel Formation is described as a gravelly sand interstratified with silt and clay lenses. Given the proximity of the Subject Property to the Delaware River floodplain, noted historical flooding problems, and the documented former location of the Aramingo canal/creek, recent fluvial stream deposits and, possibly, organic-rich floodplain deposits also underlie the area.

According to the Soil Survey for Bucks and Philadelphia Counties, Pennsylvania (USDA, 1981), the Subject Property is underlain by soils classified as "Urban land" (Ub) with slopes of less than 10 percent. This mapping unit consists of areas where the native soil has been reworked or covered with fill, or where urban improvements cover so much of the surface that identification of the soils is not practical.

Based on these documents and the findings of the investigation discussed in Sections 3.0 and 4.0, three zones of geology exist at the Subject Property. Refer to Appendix A for geologic cross-sections and boring logs and refer to Figure 3 for the site hydrogeologic model. The first zone of geology, the West Side Geology, exists on the West Side and the northwest corner of the East Side. Generally, the West Side Geology consists of relatively shallow saprolite overlain by clay and fill. Specifically, the West Side Geology consists of the underlying saprolite (existing at elevations -3 to -7), overlain by clay (8 to 9 feet thick), overlain by fill (4 to 12 feet thick).

The second zone of geology, the East Side Geology, exists on the eastern portion of the East Side. Generally the East Side Geology consists of deeper saprolite overlain by sand, some silts/clays, and fill. Specifically, the East Side Geology consists of the underlying saprolite (existing at elevations -10 to -20), overlain by sand (10 to 20 feet thick, thickening to the east), overlain by intermittent layer of silts/clays (0 to 4 feet thick), overlain by fill (7 to 11 feet thick).

The third zone of geology, the Transition Zone Geology, exists between the East Side Geology and the West Side Geology, on the central portion of the East Side. Generally, the Transition Geology is a zone that transitions from shallower saprolite with clays (West Side Geology) to deeper saprolite with sands (East Side Geology). Specifically, the Transition Zone consists of the underlying saprolite (existing at elevations -7 to -10), overlain by intermittent sand (1 to 10 feet thick), overlain by silts/clays (0 to 5 feet thick), overlain by fill (10 to 16 feet thick).

The "fill" is a highly variable mix of granular, organic, debris-oriented, or cinder-like material. The size of the particles may vary from clay-sized to cobble-sized. A geotechnical sample of fill was collected for geotechnical evaluation as part of the test pit investigation discussed in Sections 3.0 and 4.0. Due to the highly variable nature of the fill, no single sample can be considered "typical". The geotechnical laboratory results of a sample of the fill indicates that the sample has a bulk density of 136 pounds per cubic feet, a maximum dry density of 90.6 pounds per cubic feet, and a permeability as low as 0.000099 centimeters per second. The sieve analysis indicates that 93% of the fill passed the 1.5-inch sieve and 12% of the fill passed the #200 sieve.

The "clay" is a relatively consistent, pliable material. A geotechnical sample of clay was collected for geotechnical evaluation, as part of the test pit investigation discussed is Sections 3.0 and 4.0. The geotechnical laboratory results of a sample of the clay indicates that the sample has a bulk density of 156.7 pounds per cubic feet, a maximum dry density of 114.1 pounds per cubic feet, and a permeability as low as 0.000011 centimeters per second. The sieve analysis indicates that 100% of the clay passed the 0.25-inch sieve and that 82.8% of the clay passed the #200 sieve.

The "sand" is a granular material, varying throughout the Subject Property as a fine to a coarse sand.

2.5.3 Hydrology

2.5.3.1 Surface Water

The Subject Property is located in the Delaware River Drainage Basin. The Delaware River is located approximately 0.5 miles east of the Subject Property. Surface runoff from the Subject Property drains to the City of Philadelphia storm water system. Thompson Creek (also referred to as Gunner's Run or Rambo's Run) used to traverse portions of the Subject Property. Former watercourses may have been filled/sewered to facilitate site development.

2.5.3.2 Flood Zone

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the vicinity of the Site indicates that the site is located in a Zone X, an area determined to be within the 500-year floodplain, areas within the 100-year flood with average depths of less than 1 foot, or within areas protected by levees from a 100-year flood.

2.5.3.3 Wetlands

According to the National Wetlands Inventory Map for the Camden, NJ-PA Quadrangle, wetlands vegetation is not located at the Subject Property. ITS/Clean Earth did not observe obvious wetland-type vegetation at the Subject Property.

2.5.3.4 Hydrogeology

The depth to water at the Subject Property is approximately 2 to 10 feet.

According to the Water-Table Map of Philadelphia, Pennsylvania (Paulachok, 1986), regional groundwater is expected to flow generally to the east-southeast toward the Delaware River in a sub-perpendicular path that has a component of flow in the "down river" direction. Local variations exist due, in part, to the effect of the sewers discussed below. Ground water flow direction on the East Side Geology is consistent with reported regional flow direction (to the southeast). This geology (i.e. sand) may be hydraulically connected with the Delaware River, located approximately one-quarter mile to the southeast.

A USGS study (Greenman, 1961) states groundwater flow into leaky sewers prevents the water table from rising much above that of the sewers; consequently, groundwater level fluctuations are dampened and show little change. This is consistent with the Tidal Study performed at the Subject Property, discussed in Sections 3.0 and 4.0. Based on the information obtained from the investigative activities described in Sections 3.0 and 4.0, the water table is strongly influenced by the area sewers, particularly in the West Side Geology. Figure 3 depicts the site hydrogeologic model (and includes general locations, invert elevations, and certain "gauging" information of nearby sewers). Generally, site wells indicate that the groundwater flow direction on the West Side Geology flows to the northeast. Further, the elevation of flowing water in the

sewer during a dry period was lower than the elevation of site groundwater in the West Side Geology. Records from the City of Philadelphia Water Department indicates that the Huntingdon Street sewer is an old, brick sewer, and is therefore expected to be leaky (i.e. allow inflow from the groundwater). The West Side Geology flow direction, expected leadky conditions of the sewers, and the measured elevation of the flow in the seers versus the ground water indicate that the sewers in Huntingdon Street (particularly the 9'-diameter brick sewer) are expected to act as a sump and, therefore, significantly influence groundwater flow direction, particularly in the West Side Geology. Conversely, the sewer in Aramingo was installed/refurbished in the past ten years. Accordingly, the inflow to the Aramingo sewers would be substantially lower than the inflow to the Huntingdon sewers and would be expected to influence the water table to a much lesser degree.

2.5.4 Climate

The climate associated with the Subject Property is typical of that of the eastern United States temperate, mid-Atlantic coastal plain. It is a humid continental climate modified due to its proximity to the Atlantic Ocean. Based on data collected between 1941 and 1970 at the Philadelphia International Airport (USDA, 1981), the daily temperatures for the region range from an average low of 25°F in winter to an average high of 86°F in summer. The mean annual total precipitation in the Philadelphia area is approximately 41 inches (Greenman, 1961).

3.0 PHASE II ACTIVITIES

The Phase II activities are discussed in the following sections.

3.1 Investigative Approach

The Phase I ESA identified the following key areas of potential environmental conditions:

- Site-wide soils;
- Former ASTs/USTS;
- Former PCB transformers;
- Wastewater treatment areas;
- Drum Storage Areas;
- Building 2 and Building 6;
- Barton Pits; and
- Former Buildings 14/15 and Building 30.

The Phase I ESA identified the site-wide soils as a key area due to the extended operational period (over 150-years); the diversity of manufacturing processes and materials storage procedures; and the known existence of fill over the Subject Property. The other key areas of potential environmental conditions are based on known or suspected storage/handling/releases of materials at more localized areas. In order to address both the site-wide issues and the more localized issues, the Phase II ESA was conducted in two, well-balanced sub-phases (Phase IIA and Phase IIB).

The Phase IIA investigation focused on addressing the site-wide issues. The Phase IIA soil sampling locations were located throughout the site based on the use of the systematic random grid defined by the Pennsylvania Act 2 regulations. The systematic random grid is established by selecting sample locations at the vertices of a triangular grid with distances based on site-specific conditions.

In addition, the Phase IIA investigation also included the installation and sampling of a focused network of groundwater monitoring wells to initially understand site groundwater conditions. The monitoring wells were positioned based on published regional groundwater flow conditions (Paulachok, 1986), with focus on understanding potential for off-site sources and downgradient, point-of-compliance (POC) boundaries. In order to identify potential subsurface storage vessels to be investigated during the Phase IIB activities, a geophysical survey was also conducted as part of the Phase IIA scope of work.

The Phase IIB soil sample and monitoring well locations were selected to target soil and groundwater in localized key areas identified in the Phase I ESA and to delineate higher detections from the Phase IIA results.

The Phase IIB groundwater monitoring wells were positioned in the inferred downgradient direction from potential environmental locations, located based on providing reasonable

delineation, or sited to define the ground water flow direction, accounting for potential effects of the extensive sewer network underlying the surrounding streets. Phase IIB also included focused asbestos sampling and the performance of a topographic survey.

This two-phased approach developed site data in a logical, step-wise manner to meet Phase II objectives. The locations and rationale for the locations are depicted in Figure 2.

3.2 Methods of Investigation

The Phase II investigation field activities conducted by ITS/Clean Earth consisted of the following:

- Installation, lithologic logging, and sampling for laboratory analyses of 43 soil borings (and 60 soil samples);
- Installation, gauging, and sampling for laboratory analyses of 12 ground water monitoring wells;
- Collection of select samples to understand potential alternative standard and disposal conditions.
- Completion of a geophysical survey to identify the potential locations of USTs or buried drums;
- Completion of a site topographic survey; and
- Collection of samples from remnant piping insulation, floor tiles, and drop ceiling panels for asbestos analyses.

The Phase II field activities were completed in a phased approach between February 20, 2001 and May 16, 2001. Field activities were completed by or under the direct oversight of a Pennsylvania-licensed geologist. Soil and groundwater were collected in accordance with Pennsylvania Act 2 considerations.

ITS/Clean Earth retained and oversaw Talon Drilling (of Trenton, New Jersey) for the completion of the Phase II soil boring and monitoring well installation. Anzon Lead contracted CET Laboratories of Stratford, Connecticut to provide laboratory services for the Phase II investigation. Soil and groundwater samples were transported to the laboratory under chain of custody by contract courier. The specific method of investigation procedures and protocols are provided below. The results of the Phase II investigation activities are presented in Section 4.0.

3.2.1 Phase IIA Soil Boring Installation, Logging, Sampling

3.2.1.1 General Analysis

Between February 26 and February 29, 2001, as part of the Phase IIA, ITS/Clean Earth oversaw the completion of 20 soil borings at locations consistent with the systematic random sampling method dictated by the Act 2 regulations. This sample location selection generally

consists of overlaying a triangular grid over the site (using a random number sequence to select an unbiased starting point) and sampling the triangle vertices points. The sample points were numbered SB-1 through SB-20 for Phase IIA. The grid used to develop the Phase IIA sample locations is provided as Figure 2.

A truck-mounted Geoprobe™ unit operated by Talon was used to advance the Phase IIA borings. Soil borings were advanced to depths ranging from 8 to 30 feet below ground surface (bgs). Borings were advanced to the minimum depth of the water table unless refusal was obtained. Select borings were advanced to the top of the underlying Wissahickon schist saprolite layer in order to define the saprolite elevation underlying the Subject Property and to develop a hydrogeologic model of the site. Soil samples were collected continuously in the acetate sleeves of the Geoprobe™ sample tool throughout the boring length, with the exception of SB-7. Due to encountering gravel zones that were impenetrable with the sampler at SB-7, a solid stainless steel probe was advanced through select portions of the boring in order to advance the boring to the top of the saprolite. Soil samples were field screened using visual observations (color, staining) and the use of a combination photoionization detector (PID) and flame ionization detector (FID) calibrated to isobutylene and methane standards, respectively. The FID is better suited to detect the presence of heavier organics (i.e., fuel oils) and the PID (outfitted with an 11.2 bulb) will better screen for lighter organics, including chlorinated compounds. Visual screening was particularly useful to recognize "red lead" zones or staining.

Based on field screening results, soil samples were collected from the interval indicating the highest potential concentrations according to the field observations. If the field screening indicated no bias, then the soil samples were generally collected from the "surface" soil interval. In many of the site locations where a concrete slab exists, a void existed under the slab (presumably where underlying material settled after slab construction). In these cases, the surface interval would be considered the first soil (non-debris) observed under the slab. In select cases, soil samples were taken at multiple depths in a boring. The sample closest to the ground surface was designated with the suffix "A", the next deeper samples with the suffix "B", etc.

Soil samples were transferred from the acetate sample tube liners to the laboratory-supplied containers with stainless steel spoons and the plastic syringes used to extract the VOC samples for methanol preservation. The soil samples were stored and shipped to the laboratory on ice. The soil samples were submitted to CET for laboratory analyses of base neutral extractable compounds (BNs), volatile organic compounds (VOCs), and target analyte list (TAL) metals by SW-846 methods.

Quality assurance/quality control (QA/QC) samples were collected as follows. A Field blank/field rinsate sample was collected (one for each Phae IIA and Phase IIB). The field blank/field rinsate was collected by rinsing field sampling equipment with laboratory-supplied dionized water, then collecting and analyzing the rinsate for organics and inorganics. Trip

blanks consisted of vials of laboratory-supplied dionized water shipped in the cooler to the laboratory for organic analysis.

3.2.1.2 XRF

In addition to submitting the Phase IIA soil samples for laboratory analyses, select samples were analyzed in the field for lead using USEPA Method 6200, known as X-Ray Fluorescence (XRF). The field analyses method was completed by field staffed trained and certified in the use of the XRF equipment. The XRF field study was completed to evaluate the potential effectiveness of utilizing XRF as a real-time, cost-effective tool for the investigation or remediation of lead in soil at the site during later phases of the site environmental management program.

3.2.2 Phase IIA Groundwater Monitoring Well Installation and Sampling

On March 8 and 9, 2001, four monitoring wells (MW-1 to MW-4) were installed as part of the Phase IIA field investigation. The Phase IIA well distribution was selected to provide a preliminary understanding of groundwater conditions across the Subject Property and with consideration of the Phase IIB well locations.

Talon used a truck-mounted combination rotary bit/hollow stem auger drill rig to advance the boreholes for the well installation. Because monitoring wells MW-1 and MW-2 are located in areas of asphalt and concrete surface cover, respectively, and historical fill and floors are present in the upper zone at these locations, an air rotary hammer was used to advance the borings to depths of approximately 9 to 10 feet. Talon used potable water to cool the rotary bit and remove the cuttings from the bottom of the borehole. After penetrating the fill material, the drill rig was converted to an auger bit to advance the borehole to the finished depth. A Pennsylvania-licensed geologist logged the drill cuttings for the length of the boreholes.

Well construction design was based on the depth to groundwater at each location and the subsurface conditions. The monitoring wells were constructed with ten feet of 4-inch diameter polyvinyl chloride (PVC) well screens placed at the necessary depths to bridge the water table and allow for the evaluation of the potential presence of residual petroleum products. Because the saprolite was encountered and resulted in auger refusal at approximately 10 feet below ground surface in the MW-3 location, only eight feet of screen was used in this well to provide a proper seal of the screen zone near the surface. Monitoring wells MW-1 and MW-2 were screened in sands so 0.02-slot screens were used to construct these wells. Monitoring well MW-3 and MW-4 are screened in silts and clays so 0.01-slot screen was used to construct these wells. PVC riser pipe extended from the screen to the surface. Monitoring well MW-1 was completed as a stick-up well protected by a 6-inch diameter steel protective casing. Monitoring wells MW-2, MW-3 and MW-4 were finished as flush mount wells in 8-inch diameter curb boxes. Wells were developed by surge-and-block techniques, followed by pumping. The wells are secured with locking compression caps. Well construction details are summarized in Table 1. Well completion records are provided in Appendix B.

On March 27, 2001, ITS/Clean Earth collected groundwater samples from MW-1 through MW-4. Prior to collecting groundwater samples for laboratory analyses, groundwater elevations were gauged. Gauging included measuring the distance from a fixed point on the well casing to the

top of the water column. The elevations of these fixed point were measured by a licensed-surveyor.

A submersible pump with variable speed flow control was used to evacuate a minimum of three well volumes from the wells at a flow rate of less than one gallon per minute (gpm). The field parameters dissolved oxygen (DO), temperature, pH, oxidation-reduction potential (ORP or Eh), and specific conductance (SpC) were measured throughout the purging process to confirm that the field parameters had stabilized.

Groundwater samples were collected into laboratory-supplied glassware and stored on ice. Groundwater samples were submitted to CET under chain of custody for laboratory analyses of BNs, VOCs, and dissolved TAL metals.

QA/QC samples included a field blank/field rinsate (one for each Phase IIA and Phase IIB), a trip blank, and one duplicate sample (a split sample taken from MW-9 and sent unnamed to the laboratory for analysis).

3.2.3 Geophysical Survey

Between February 21 and 26, 2001, Quantum Geophysics, Inc. (Quantum) conducted a geophysical investigation. Given the extensive site history, there was a potential that storage vessels remain at unspecified locations of the Subject Property that could not be located or quantified through the Phase I document search. Consequently, as a matter of due diligence and as part of the site investigation, Quantum was contracted to conduct a Geophysical Investigation. The extensive site cover (including steel reinforcement in the concrete) and extensive fill throughout the site complicates a Geophysical Investigation. The methods selected and performed to overcome these limitations to the extent possible at the Subject Property, includes an EM61 metal detector survey and a ground penetrating radar (GPR). The purpose of the EM61 is to detect subsurface metal (i.e . underground storage tanks (USTs), buried drums, or other anomalous metal objects). While the concrete slab reinforcing steel significantly masks potential objects below the reinforcement steel, larger metal vessels such as tanks can sometimes be detected by this method. The purpose of the GPR is to detect subsurface anomalies through the use of radar waves. The GPR injects then measures radar waves and measures potential diffractions of the waves caused by subsurface features.

The geophysical report is provided in Appendix C and further details the geophysical investigative techniques.

3.2.4 Phase IIB Soil Boring Installation, Logging, Sampling

3.2.4.1 General Analysis

Between April 17 and April 19, 2001, ITS/Clean Earth oversaw the completion of 19 soil borings at the Subject Property as part of the Phase II ESA. Consistent with the investigative approach outlined in Section 3.1, the soil boring locations of the Phase IIB investigation were selected to target identified potential areas of concern associated with localized areas. The Phase

IIB soil boring locations and rationale are shown on Figure 2. The soil boring installation and soil screening and sampling procedures were similar to the Phase IIA procedures (Section 3.2.1).

In addition, borings were completed at two Phase IIA locations (SB-2 and SB-10) at deeper locations in order to provide better vertical delineation of the Phase IIA laboratory results at these locations.

Due to the presence of surface or subsurface materials, refusal was encountered in five of the Phase IIB soil borings that, therefore, could not be completed with the Geoprobe™ unit. Between April 23 and 26, 2001, in conjunction with the Phase IIB well installation activities, a truck-mounted drill rig was used to advance an air rotary hammer through the upper nine feet of coarse fill material at the five locations (SB-21, SB-29, SB-41, SB-42, and SB-43, respectively). Augers were then advance through the borehole as 2-inch diameter stainless steel, split-spoon samples were driven with a 140 hammer dropped from 24 inches. Split-spoon samplers were advance to depths ranging from 9 to 15 feet within each of the borings. Field screening, sample collection, and laboratory analyses procedures for the soil samples collected by split-spoon are consistent with the methods and procedures employed for the samples collected by Geoprobe™ equipment. In order to develop certain geotechnical data, the hammer drop blow counts were recorded during the installation of the borings with the drill rig.

3.2.4.2 SPLP

In order to understand the potential to utilize alternate cleanup standards allowed by Act 2, ITS/Clean Earth collected three soil samples for Synthetic Precipitation Leaching Procedure (SPLP). These samples were collected from SB-2A, SB-10A, and SB-35A.

3.2.4.3 TCLP

In order to understand potential remedial measures associated with possible disposal of site soil, ITS/Clean Earth collected and analyzed three Toxic Characteristic Leaching Procedure (TCLP) samples. These samples were collected from SB-2A, SB-10A, and SB-40A.

3.2.5 Phase IIB Test Pit Investigation

On April 25, 2001, three test pits were excavated with a backhoe operated by ITS/Clean Earth personnel in areas of the vacant lot identified during the geophysical investigation that emitted anomalous geophysical signals potentially indicative of a buried metal object. In addition, the backhoe was used to collect two soil samples for geotechnical analysis, one from the "fill" and one from the "clay". The soil samples were collected from the center of the backhoe bucket and submitted to CET for laboratory analyses of permeability, grain size, and bulk density.

3.2.6 Phase IIB Groundwater Monitoring Well Installation and Sampling

3.2.6.1 General Analysis

Between April 23 and 26, 2001, eight monitoring wells were installed as part of the Phase IIB field investigation. The Phase IIB monitoring well locations were selected to determine site ground water

flow directions and to investigate key potential areas of concern. The installation and sampling procedures were very similar to the Phase IIA investigation, discussed in Section 3.2.2.

As shown in Table 1, the monitoring well depths ranged from approximately 13 to 19 feet below grade. Well construction design was based on the depth to groundwater at each location and the subsurface conditions. The monitoring wells were constructed with ten feet of 4-inch diameter PVC well screens placed at the necessary depths to bridge the water table and allow for the evaluation of the potential presence of residual petroleum products. Monitoring wells MW-5 through MW-9 were screened in silts and clays so 0.01-slot screen was used to construct these five wells. PVC riser pipe extended from the screen to the surface. Monitoring wells MW-10, MW-11, and MW-12 were primarily screened in sand, so 0.02-slot screens were used to construct these wells. The monitoring wells installed during the Phase IIB investigation were finished as flush mount wells in 8-inch diameter curb boxes. Wells were developed by surge-and-block techniques, followed by pumping. The wells are secured with locking compression caps. Well construction logs are provided in Appendix B.

On May 17, 2001, ITS/Clean Earth performed a synoptic ground water well gauging round of site wells MW-1 through MW-12. ITS/Clean Earth also collected groundwater samples from MW-8 through MW-12. A submersible pump with flow rate control was used to evacuate a minimum of three well volumes from the wells at a flow rate of less than one gallon per minute. The field parameters DO, temperature, pH, ORP, and SpC were measured throughout the purging process to confirm that the field parameters were at or near stabilization and that a representative water sample was collected.

Groundwater samples were collected into laboratory-supplied glassware and stored on ice. Groundwater samples were submitted to CET under chain of custody for laboratory analyses of BNs, VOCs, and dissolved TAL metals.

3.2.6.2 Tidal Study

In order to understand potential tidal effects on site ground water (due to the relative proximity of the Subject Property to the tidally influenced Delaware River), we also performed a focused ground water tidal influence study. The tidal study consisted of manually monitoring the ground water elevation in a site ground water monitoring well over an approximate 24-hour period. We selected MW-2 as the focus of the study because this site well is closest to the Delaware River and is screened in the sands that, based on published literature, is most directly hydraulically connected to the Delaware River geology. Ground water elevations in MW-2 were manually monitored on April 25 and 26, 2001 for ten events over 28 hours.

3.2.6.3 Ground Water Use Study

In order to understand ground water use in the area and consistent with Pennsylvania Department of Environmental Protection's (PADEP's) Non-Use Aquifer Determination, ITS/Clean Earth completed the following tasks:

- Well use survey;
- Water use inquiry;
- Water supply inquiry; and
- Fate and transport modeling.

An Act 2 Aquifer Use Determination requires that the user investigate the use of area wells either via a door-to-door survey or other appropriate survey methods. Due to the highly urbanized nature of the site setting (i.e. the City of Philadelphia), the DEP recognizes the use of a well search coupled with an interview with tan agency with competent jurisdiction over well use (i.e. Philadelphia Health Department) as an "appropriate survey method". ITS/Clean Earth performed a well search at the Pennsylvania Geological Survey to obtain information on the wells located in the vicinity of the site. A one-mile radius search was completed to evaluate the potential presence of potable use production or domestic wells in the area. ITS/Clean Earth also submitted a well use inquiry to the City of Philadelphia Health Department, Environmental Section, the agency responsible for tracking potable use wells within Philadelphia.

Act 2 also requires contacting the municipal water supplier to understand current and planed water supply condition related to groundwater. ITS/Clean Earth also interviewed City of Philadelphia Water Department personnel to verify the source and intake location of the local water supply and future plans.

Finally, ITS/Clean Earth performed fate and transport modeling to evaluate downgradient water concentrations. Act 2 generally requires modeling to understand groundwater concentrations at a point of compliance (POC) downgradient of the site. Act 2 also requires that the user address surface water conditions if the potential for groundwater flow into surface water exists. In order to address these issues within the scope of this Phase II ESA, ITS/ Clean Earth has selected the groundwater/surface interface at the POC and has followed Act 2 Section 250.309 and 250.406 in this regard. ITS/Clean Earth has performed the prescribed modeling for the East Side Geology since its groundwater is the most hydraulically-connected to the Delaware River. Groundwater from the West Side Geology is believed to be intercepted by the sewer system (which accepts groundwater from throughout Philadelphia) almost at the property line, so calculating downgradient concentrations for the West Side are not appropriate.

The results of this study, as they relate to selecting standards for the site, are discussed in Section 4.0.

3.2.7 Potential Asbestos-Containing Material Sample Collection

During the Phase I investigation, potential asbestos-containing material (ACM) was observed at the site. These potential ACM materials included piping insulation along the block wall bounding Aramingo Avenue on the East Side, ceiling tiles stacked in the parking lot on the East Side, and floor tiles on the Building 31 and 52 slab floors. In order to evaluate the potential for ACM within these materials, ITS/Clean Earth collected samples for laboratory analyses on April 25, 2001. The samples were submitted to CET under chain of custody.

4.0 PHASE II RESULTS

The results of the Phase II ESA are discussed in the subsections below.

4.1 Standards Selection

ASTM suggests using "those cleanup standards...promulgated under federal environmental or state environmental...laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location" as a means of comparing sample results. The most appropriate standards to apply at the Subject Property are the Pennsylvania Act 2 Statewide Health Standards. Using state standards is appropriate because the owner has selected to guide the Subject Property through the state environmental (Act 2) process. Pennsylvania defined Statewide Health Standards for soil and ground water in 1997, with the passing of Act 2, the "Land Recycling Program". Statewide health standards are utilized in this Phase II because they provide a good baseline comparison. Act 2 allows the use of other standards (i.e. site-specific and background) that may be used later in the process of addressing the site's environmental conditions.

In order to select appropriate standards using Act 2, the user must first determine the proposed use of the site (i.e. residential or non-residential) then, secondly, determine whether the aquifer of interest is used or non-used. The site has a 150-year history of commercial/industrial use. Currently, the site's planned use is commercial (non-residential) use. However, to present a thorough comparison of site constituents and potentially applicable standards, detected concentrations will be compared to both residential and non-residential standards.

In order to formally determine whether the aquifer is used or non-used, Pennsylvania requires a specific non-use aquifer determination approval from the PADEP. This approval is beyond the scope of this Phase II, however, as discussed in Section 3.0, we have followed the requirements of an Act 2 non-use determination. While this aquifer use study (included in Appendix D) indicates that the aquifer is non-used, this Phase 2 will compare site constituents against both used and non-used aquifer standards for a thorough comparison.

For soil, Act 2 requires that the user step through published information for each compound of interest, selecting appropriate values based on direct contact or impact to ground water routes of exposure. An example of this procedure for one compound (lead) is included in Appendix E. The resulting standards for the compounds of interest are summarized in the table included in Appendix E. For purposes of developing these standards, we have calculated the standards based on a saturated condition for soil. This is a somewhat conservative approach, but appropriate due to the relatively high water table. This conservative measure also allows comparison for all site soil (saturated and unsaturated) to a common standard.

For ground water, Act 2 generally specifies the use of drinking water standards. DEP has published ground water standards for residential/non-residential and used/non-used aquifers that are used for comparison in this Phase II. PADEP has made certain adjustments to the initially published Act 2 standards for chlorobenzene, boron, ethylene glycol, malathion, naphthalene,

tetrachloroethane (1,1,2,2-), and trinitroglycerol (September, 2000), which are included in this report.

Currently, PADEP has proposed changes to Act 2 and the soil and ground water standards (public comment closed in September 2000); however, these proposed changes have not been promulgated. Further, PADEP indicates that it is uncertain when or if these changes will be promulgated. Therefore, these proposed changes are generally not used in this report. However, in the cases where proposed changes have presented standards for compounds that previously did not have standards, the proposed standards are used as a means of comparison. These proposed standards are currently not binding.

4.2 Soil Sampling Results

4.2.1 General Analysis

As discussed in Section 3.0, soil sampling was performed in two phases (Phase IIA and Phase IIB). Generally, Phase IIA sampling locations were non-biased based on the systematic random sampling grid (to target site-wide concerns) and Phase IIB sampling locations were based on identified AOCs. Table 2A and Table 2B summarize soil results for the respective phases. The samples results exceeding standards are depicted in Figure 4 and Figure 5. The laboratory results and chain of custody are included in Appendix F. A discussion of the soil results is provided below based on the classification of compounds (inorganics and organics). This discussion generally combines the data from the two phases into one cohesive discussion in order to appropriately consider the information as one data set.

None of the field blank/field rinsate or trip blank QA/QC samples detected compounds indicating that no contamination of the soil samples occurred in the field or during shipment.

Inorganics

The concentrations of nine inorganic compounds in soil exceeded the used aquifer, residential (most stringent) standards in individual samples. Act 2 specifies that certain statistical methods be applied to the data to determine whether statistical exceedances of the standards exist. Specifically, Act 2 suggests using the 75/10 rule to the data set. The 75/10 rule is basically a two part test. The first test is to determine whether 75% of the data results fall below the standard (i.e. 25% or more exceeds the standard). The second test is to determine whether any one value exceeds 10 times the standard. A summary of the application of the 75/10 rule applied to the nine compounds exceeding the used aquifer, residential standards (most stringent) is as follows:

Compound	# of Exceedances	Percent Exceeding	Does Any Result Exceed by 10 X?	Statistically Exceed Standard?
Antimony	27	90%	YES (SB-33B)	YES
Arsenic	16	27%	NO	YES
Cadmium	4	7%	NO	NO
Chromium	3	5%	NO	NO
Lead	53	88%	YES (Multiple)	YES
Mercury	5	8%	YES	YES
Selenium	1	2%	NO	NO
Thallium	13	22%	YES (Multiple)	YES
Vanadium	21	35%	NO	YES

Accordingly, cadmium, chromium, and selenium do not statistically exceed the most stringent soil standard. Therefore, antimony, arsenic, lead, mercury, thallium, and vanadium statistically exceed the most stringent standards. It is important to note that many of these inorganic compounds with statistical exceedances have their most stringent standards lower than background levels published by the PADEP, namely:

Compound	Most Stringent Standard (ppm)	PADEP Background Value (ppm)
Antimony	2.7	8.8
Arsenic	12	50
Lead	45	85.2
Vanadium	13	300

This in an indication that these compounds can be naturally occurring in the environment at values higher than published standards.

Lead was the only inorganic compound detected above non-use aquifer, non-residential standards (standard of 19,000 ppm). Specifically, lead was detected at concentrations of 25,000 ppm (SB-24A), 28,000 ppm (SB-10A), and 29,000 ppm (SB-2A). These exceedances comprise three samples out of sixty total. This apparent exceedance is only 5% of the results and, therefore, satisfies the first test of the 75/10 rule. The highest detection of lead was 29,000 ppm, which is less than ten times the standard of 19,000 ppm, which satisfies the second part of the test of the 75/10 rule. Therefore, lead (nor other compound) does not statistically exceed the non-use aquifer, non-residential use standard.

No PCBs were detected in site soil samples.

Organics

The concentrations of twelve organic compounds in soil were detected exceeding promulgated standards, as summarized below with the 75/10 rule applied:

Compound	# of Exceedances	Percent Exceeding	Does Any Result Exceed by 10X?	Statistically Exceed Standard?
Anthracene	1 (SB-23A)	2%	NO	NO
Benzo [a] anthracene	1 (SB-23A)	2%	NO	NO
Benzo [a] pyrene	10	17%	YES (SB-23A)	YES
Benzo [g,h] perylene	1 (SB-23A)	2%	NO	NO
Carbazole	1 (SB-23A)	2%	NO	NO
Chrysene	1 (SB-23A)	2%	NO	NO
Dibenzo[ah] anthracene	1 (SB-23A)	2%	NO	NO
Ethlbenzene	1 (SB-33B)	2%	NO	NO
Indeno [123cd] pyrene	1 (SB-23A)	2%	YES (SB-23A)	YES
Napthalene	2 (SB-10A, SB-33B)	3%	YES (SB-10A, SB-33B)	YES
Pyrene	2	3%	NO	NO
Toluene	1 (SB-31A)	2%	NO	NO
Xylenes	1 (SB-33B)	2%	NO	NO

Only benzo [a] pyrene, indeno [123cd] pyrene, and naphthalene statistically exceed the most stringent (used aquifer, residential) standards. Benzo [a] pyrene was detected at various locations around the Subject Property. The other organic exceedances (indeno [123cd] pyrene and naphthalene) were localized to four soil borings, namely, SB-23A (which is located in the wastewater/red lead area, exhibiting polyaromatic hydrocarbon [PAH] exceedances); and SB-10A, SB-31A and SB33B (these three borings are located in the northwest portion of Building 30, exhibiting certain VOCs).

Organics with proposed (but not promulgated) standards that were detected included butylbenzene (sec); propylbenzene; 1,2,4-trimethlbenzene and 1,3,5-trimethylbenzene. These four compounds were detected in borings SB-10A or SB-33B. The detections for butylbenzene (sec) and propylbenzene do not statistically exceed the proposed standard based on the 75/10 rule because the detection for each occurred only once (SB-33B) and does not exceed ten times the proposed standard. The detections for 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzen do statistically exceed the proposed standard based on the 75/10 rule because the detections exceed more than ten times the proposed standard.

No organics were detected that exceed the standards for non-use aquifer, non-residential use.

Soil Sample Overview

Generally, the exceedances of the used-aquifer, residential (most stringent) standards exist near two specific locations of the site, namely, the northern portion of the East Side (proximate to the northwest corner former Building 30, borings SB-2, -10 and -33) and the southeastern portion of the East Side (the former waste water/red lead area, borings SB-2,-23, and -24). The Building 30 exceedance area comprises less than two acres to an approximate depth of thirteen feet. This area includes exceedances of the most stringent standards for lead and certain organics (naphthalene, trimethylbenzene 124, and trimethylbenzene 135).

The former wastewater/red lead area exceedances comprise less than one-quarter an acre to an approximate depth of seven feet. This area includes statistical exceedances of lead and statistical exceedances of benzo [a] pyrene and benzo [b] flouranthene.

4.2.2 XRF

The XRF lead results for the six soil samples, compared to the laboratory results, are as follows:

Sample Location	Laboratory Result (ppm)	XRF Result (ppm)	Laboratory/XRF (%)
SB-2A	29,000	1,430,000	20
SB-4A	150	631	24
SB-11A	470	1,370	34
SB-12A	7,700	5,710	135
SB-13A	75	3,070	2
SB-18A	380	1,640	23

The comparison between XRF results and laboratory results range from 2 to 135 percent. In general, the XRF results are lower (2 to 34 percent of) the laboratory results (with one exception where the XRF results are higher). Generally, the XRF results do not have a high degree of correlation with laboratory results.

4.2.3 SPLP

The SPLP lead results for the three soil samples are as follows:

Sample	SPLP Lead Result (ppm)
SB-2A	24.0
SB-10A	1.9
SB-35A	2.2

The complete laboratory results are included in Appendix F. These SPLP results will not be applied in this report to developing soil standards because this report has chosen to use PADEP-published state health standards as a means for comparison for general soil samples.

4.2.4 TCLP

The TCLP lead results for the three soil samples are as follows:

Sample	TCLP Lead Result (ppm)
SB-2A	1,100
SB-10A	19
SB-40B	50

The laboratory results are included in Appendix F. Federal standards indicate that waste with TCLP lead results exceeding 5 ppm should be considered as hazardous waste. The three sample results exceed 5 ppm.

4.3 Ground Water Monitoring Results

4.3.1 General Analysis

Ground water monitoring results are summarized in Table 3 and exceedances are depicted in Figure 3. The laboratory results and chain of custody are included in Appendix F. Results are discussed below by compound classification (i.e. inorganic and organic).

No detected compounds exceeded the non-use aquifer, non-residential standards.

The trip blank field blank/field rinsate QA/QC samples did not detect compounds so no contamination of groundwater samples during sampling or shipping occurred. The duplicate groundwater sample (from MW-9) detect the same compounds at similar concentrations as the primary sample, indicating reasonable laboratory precision.

Inorganics

Five inorganic compounds exceed the used aquifer, residential standards, as follows:

Compound	Well	Standard (used aquifer, residential) (ppm)	Detection (ppm)
Antimony	MW-1	0.006	0.31
Antimony	MW-5	0.006	0.16
Iron	MW-2,-4,-5,-6,-8,-9,-10	0.3	0.5-22
Lead	MW-1, -6, -7, -9	0.005	0.014-0.28
Manganese	MW-1 through MW-12	0.05	0.16-2.4
Zinc	MW-4	2	8.4

Iron and manganese are naturally occurring minerals and are expected to be detected at the general concentrations, and are, therefore, not generally considered compounds of concern.

Lead exceeded the used-aquifer, residential standards in four out of twelve wells, namely MW-1, -6, -7, and -9. Antimony also exceeded the ground water standard in MW-1. MW-1 is located downgradient of the wastewater/red lead area (an area with higher detections of lead and antimony in soils). The highest ground water concentration of lead occurs at MW-9, the area near Building 30 with higher detections of lead in soil.

Antimony also exceeds the ground water standard in MW-5, located near the northeastern corner of the West Side.

Zinc exceeds the ground water standard in MW-4. MW-4 is located on the upgradient location of the West parcel, downgradient from a former galvanizing plant listed to have an environmental history (see the Phase I ESA for the Subject Property).

Organics

Methyl tertiary butyl ether (MTBE) was detected in MW-2 at a concentration of 22 parts per billion (ppb), just barely above the used-aquifer, residential standard of 20 ppb.

The concentrations of three organic compounds exceeded the most stringent (used aquifer, residential) ground water standards in MW-9, namely; benzene; 1,3,5-trimethylbenzene; and naphthalene. MW-9 is located in the highest organic detections, near the northwest of Building 30.

Ground Water Results Overview

No detected compounds exceeded the non-use aquifer, non-residential standards. Exceedances of the most stringent (used aquifer, residential standards) are sporadic and generally correlate to locations of higher soil concentrations of related compounds. Zinc exceeds the standard at a location upgradient of the site and downgradient from a former galvanizing operation with an environmental history. As expected, iron and manganese are generally ubiquitous in ground water throughout the Subject Property (and likely regionally). Lead is detected in two other site wells.

4.3.2 Tidal Study

The ground water elevation in MW-2 did not vary more than 0.01 feet over the duration of the tidal study. This indicates that ground water at the site is generally not tidally affected, which is consistent with published literature.

4.4 Geophysical Survey

The geophysical survey (included as Appendix C), consisting of an EM-61 and a GPR survey, indicates that the site presents challenges to a geophysical survey due to the existence of significant amounts of reinforcing metal in the slabs and the existence of significant quantities of subsurface structures. However, no UST's or drums were located. Anomalous locations in the vacant lot were investigated using test pits and discovered only miscellaneous (i.e. scrap) metals of a smaller nature.

4.5 Ecological Receptors Analysis

Act 2 requires an ecological receptor analysis in order to evaluate the potential of site constituents to affect ecological factors. Section 250.311(b)(3) of Act 2 indicates that if site features (such as impervious cover) exists, then the evaluation indicates that no further ecological receptor analysis is necessary. Based on site conditions, this situation is met, therefore, it is concluded that no additional ecological receptor analysis is necessary.

4.6 Asbestos Results

None of the samples collected from the floor tiles, ceiling tiles, or insulation detected asbestos.

5.0 FINDINGS AND CONCLUSIONS

ITS/Clean Earth performed a Phase II ESA for the Subject Property. The Phase II ESA included the installation of 43 borings, the collection and analysis of 60 soil samples for comparison with appropriate standards, analysis of ground water use in the area, the development of state health based standards for the site, and the installation/gauging/sampling of twelve-site ground water monitoring wells. Ancillary activities included collection of asbestos samples, performing a geophysical survey, and performing a topographic survey.

This Phase II ESA defined a site geologic model. Generally, three zones of geology exist at the Subject Property. The first zone of geology, the West Side Geology exists on the West Side and the northwest corner of the East Side. Generally, the West Side Geology consists of relatively shallow saprolite overlain by clay and fill. The second zone of geology, the East Side Geology, exists on the eastern portion of the East Side. Generally the East Side Geology consists of deeper saprolite overlain by sand, overlain by some silts/clays, overlain by fill. The third zone of geology, the Transition Zone Geology, exists between the East Side Geology and the West Side Geology, on the central portion of the East Side. Generally, the Transition Geology is a zone that transitions from shallower saprolite with clays (West Side Geology) to deeper saprolite with sands (East Side Geology).

Based on an evaluation of ground water use performed in accordance with Act 2 guidelines, the site is consistent with a non-use aquifer determination. The proposed site use is non-residential. In order to allow thorough comparison of site constituent results, detected concentrations for soil and ground water were compared to both used- and non-used aquifer standards and residential and non-residential standards.

Statistically, no compounds exceed the non-used aquifer, non-residential soil standards. Exceedance of the used aquifer, residential standards are generally localized at two site locations: the wastewater/red lead area and the Building 30 area. Statistical soil exceedances in the wastewater/red lead area include lead and PAHs. This area comprises less than one-quarter acre to an approximate depth of seven feet. The ground water monitoring well in this area (MW-1) reflects the soil compounds with an exceedances of the ground water standards for lead and antimony.

Statistical exceedances at the Building 30 area include lead and certain VOCs (such as naphthalene). This area comprises less than two acres to an approximate depth of thirteen feet. The ground water monitoring well in this area (MW-9) reflects the soil compounds and has an exceedances of the most stringent ground water standards for lead; benzene; 1,3,5-trimethylbenzenze; and naphthalene.

Certain compounds were detected with a higher frequency and are considered somewhat more ubiquitous over the site soils, including antimony, arsenic, lead, thallium, vanadium, and benzo [a]pyrene. The PADEP-published background concentrations for many of these

compounds (antimony, arsenic, lead, and vanadium) are higher that the soil standards, indicating that their existence may be associated more with background conditions.
No asbestos or PCBs were detected from the samples collected.

No ground water samples exceeded the non-used aquifer, non-residential standards. Zinc is detected in ground water upgradient of the site (MW-4), proximate to the former galvanizing operation above the used-aquifer, residential standards. MTBE is detected barely above the used-aquifer, residential standards in MW-2. Lead is detected in four site wells exceeding the used-aquifer, residential standards. Two of the wells (MW-1 and MW-9) are discussed above. Two other ground water lead exceedances were in MW-6 and MW-7.

Proposed non-residential development must properly address and accommodate the two primary soil exceedances areas and must make sure that other soil and ground water exceedances are addressed. Act 2 is designed to endorse redevelopment of industrial sites such as the Subject Property, particularly those where site development (i.e. buildings and parking areas consistent with the current site cover) will serve to eliminate potential exposure pathways. These issues could be addressed in an Act 2 Notice of Intent to Remediate (NIR) package and the site development design.

9.0 REFERENCES

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Table 1. Summary of Well Construction Details. Former Anzon Lead Facility; Philadelphia, Pennsylvania. DRAFT

Well Identificaito	Date Installed	Well Depth[1]	Screened Length[3]	Well Diameter[2]	Elevation of Top of Inner Casing[4,5]	Elevation of Top of Outer Casing[4,5]	Casing Material
MW-1	3/9/2001	13.9	10	4	11.44	11.92	PVC
MW-2	3/8/2001	14.90	10	4	12.96	13.17	PVC
MW-3	3/9/2001	12.96	10	4	12.51	12.86	PVC
MW-4	3/8/2001	9.82	8	4	13.11	13.31	PVC
MW-5	4/23/2001	17.82	10	4	16.09	16.47	PVC
MW-6	4/23/2001	15.80	10	4	15.70	15.97	PVC
MW-7	4/24/2001	19.10	10	4	17.82	18.5	PVC
MW-8	4/24/2001	14.15	10	4	14.74	15.21	PVC
MW-9	4/25/2001	12.75	10	4	15.68	16.05	PVC
MW-10	4/26/2001	13.90	10	4	11.59	11.91	PVC
MW-11	4/25/2001	15.50	10	4	12.49	12.86	PVC
MW-12	4/26/2001	14.80	10	4	12.78	13.11	PVC

[1] Measured in feet below designated point on top of polyvinyl chloride casing.

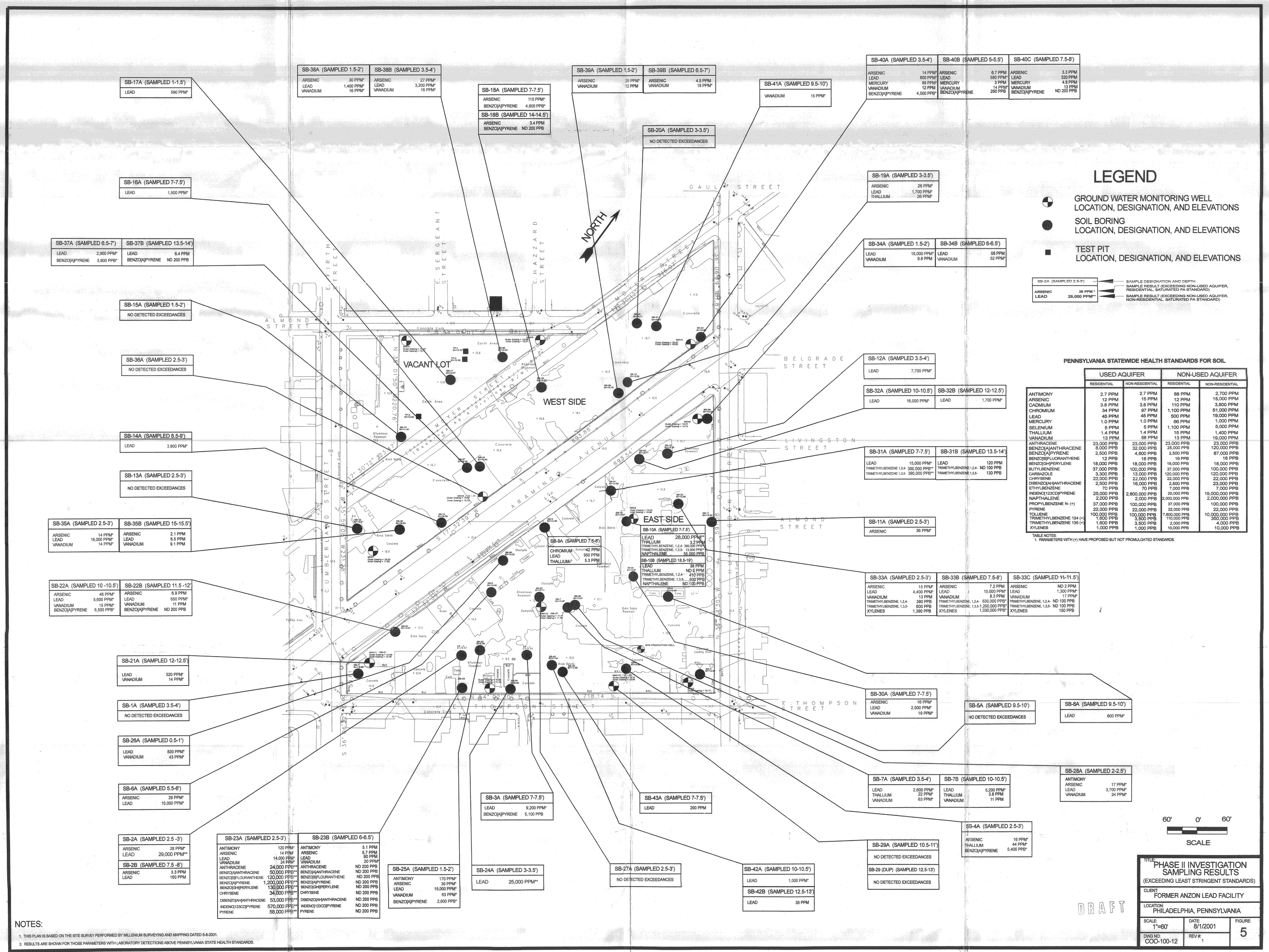
[2] Measured in inches.

[3] Measured in feet.

[4] Measured in feet above mean sea level.

[5] MW-1 is a stick-up well. Screen interval is approximately 12 to 2 ft. bgs. All other wells flush mount.

PVC=Polyvinyl chloride.



SB-17A (SAMPLED 1-1.5')	
LEAD	590 PPM*

SB-38A (SAMPLED 1.5-2')	
ARSENIC	30 PPM*
LEAD	1,400 PPM*
VANADIUM	16 PPM*

SB-38B (SAMPLED 3.5-4')	
ARSENIC	27 PPM*
LEAD	3,200 PPM*
VANADIUM	16 PPM*

SB-18A (SAMPLED 7-7.5')	
ARSENIC	110 PPM*
BENZO[A]PYRENE	4,600 PPB*

SB-18B (SAMPLED 14-14.5')	
ARSENIC	3.4 PPM
BENZO[A]PYRENE	ND 200 PPB

SB-39A (SAMPLED 1.5-2')	
ARSENIC	28 PPM*
VANADIUM	12 PPM

SB-39B (SAMPLED 6.5-7')	
ARSENIC	4.5 PPM
VANADIUM	18 PPM*

SB-41A (SAMPLED 9.5-10')	
VANADIUM	15 PPM*

SB-40A (SAMPLED 3.5-4')	
ARSENIC	14 PPM*
LEAD	800 PPM*
MERCURY	89 PPM*
VANADIUM	12 PPM
BENZO[A]PYRENE	4,600 PPB*

SB-40B (SAMPLED 5-5.5')	
ARSENIC	6.7 PPM
LEAD	580 PPM*
MERCURY	3 PPM
VANADIUM	14 PPM*
BENZO[A]PYRENE	290 PPB

SB-40C (SAMPLED 7.5-8')	
ARSENIC	3.3 PPM
LEAD	320 PPM
MERCURY	4.8 PPM
VANADIUM	13 PPM
BENZO[A]PYRENE	ND 200 PPB

SB-20A (SAMPLED 3-3.5')
NO DETECTED EXCEEDANCES

SB-19A (SAMPLED 3-3.5')	
ARSENIC	28 PPM*
LEAD	1,700 PPM*
THALLIUM	28 PPM*

SB-16A (SAMPLED 7-7.5')	
LEAD	1,500 PPM*

SB-37A (SAMPLED 6.5-7')	
LEAD	2,900 PPM*
BENZO[A]PYRENE	5,800 PPB*

SB-37B (SAMPLED 13.5-14')	
LEAD	6.4 PPM
BENZO[A]PYRENE	ND 200 PPB

SB-34A (SAMPLED 1.5-2')	
LEAD	15,000 PPM*
VANADIUM	9.6 PPM

SB-34B (SAMPLED 6-6.5')	
LEAD	58 PPM
VANADIUM	52 PPM*

SB-15A (SAMPLED 1.5-2')
NO DETECTED EXCEEDANCES

SB-12A (SAMPLED 3.5-4')	
LEAD	7,700 PPM*

SB-36A (SAMPLED 2.5-3')
NO DETECTED EXCEEDANCES

SB-32A (SAMPLED 10-10.5')	
LEAD	16,000 PPM*

SB-32B (SAMPLED 12-12.5')	
LEAD	1,700 PPM*

SB-14A (SAMPLED 8.5-9')	
LEAD	3,900 PPM*

SB-31A (SAMPLED 7-7.5')	
LEAD	15,000 PPM*
TRIMETHYLBENZENE 1,2,4-	390,000 PPB**
TRIMETHYLBENZENE 1,3,5-	390,000 PPB**

SB-31B (SAMPLED 13.5-14')	
LEAD	120 PPM
TRIMETHYLBENZENE 1,2,4-	ND 100 PPB
TRIMETHYLBENZENE 1,3,5-	130 PPB

SB-13A (SAMPLED 2.5-3')
NO DETECTED EXCEEDANCES

SB-35A (SAMPLED 2.5-3')	
ARSENIC	14 PPM*
LEAD	18,000 PPM*
VANADIUM	14 PPM*

SB-35B (SAMPLED 15-15.5')	
ARSENIC	2.1 PPM
LEAD	6.5 PPM
VANADIUM	9.1 PPM

SB-9A (SAMPLED 7.5-8')	
CHROMIUM	42 PPM
LEAD	950 PPM
THALLIUM	5.3 PPM

SB-10A (SAMPLED 7-7.5')	
LEAD	28,000 PPM**
THALLIUM	3.2 PPM
TRIMETHYLBENZENE, 1,2,4-	390,000 PPB
TRIMETHYLBENZENE, 1,3,5-	13,000 PPB**
NAPTHALENE	55,000 PPB

SB-10B (SAMPLED 18.5-19')	
LEAD	38 PPM
THALLIUM	ND 2 PPM
TRIMETHYLBENZENE, 1,2,4-	410 PPB
TRIMETHYLBENZENE, 1,3,5-	500 PPB
NAPTHALENE	ND 100 PPB

SB-11A (SAMPLED 2.5-3')	
ARSENIC	36 PPM*

SB-22A (SAMPLED 10 -10.5')	
ARSENIC	48 PPM*
LEAD	8,600 PPM*
VANADIUM	15 PPM*
BENZO[A]PYRENE	6,500 PPB*

SB-22B (SAMPLED 11.5 -12')	
ARSENIC	6.9 PPM
LEAD	550 PPM*
VANADIUM	11 PPM
BENZO[A]PYRENE	ND 200 PPB

SB-33A (SAMPLED 2.5-3')	
ARSENIC	15 PPM*
LEAD	4,400 PPM*
VANADIUM	13 PPM
TRIMETHYLBENZENE, 1,2,4-	380 PPB
TRIMETHYLBENZENE, 1,3,5-	600 PPB
XYLENES	1,390 PPB

SB-33B (SAMPLED 7.5-8')	
ARSENIC	7.2 PPM
LEAD	15,000 PPM*
VANADIUM	8.3 PPM
TRIMETHYLBENZENE, 1,2,4-	630,000 PPB*
TRIMETHYLBENZENE, 1,3,5-	1,200,000 PPB*
XYLENES	1,030,000 PPB*

SB-33C (SAMPLED 11-11.5')	
ARSENIC	ND 2 PPM
LEAD	1,300 PPM*
VANADIUM	17 PPM*
TRIMETHYLBENZENE, 1,2,4-	ND 100 PPB
TRIMETHYLBENZENE, 1,3,5-	ND 100 PPB
XYLENES	150 PPB

SB-21A (SAMPLED 12-12.5')	
LEAD	520 PPM*
VANADIUM	14 PPM*

SB-30A (SAMPLED 7-7.5')	
ARSENIC	16 PPM*
LEAD	2,000 PPM*
VANADIUM	19 PPM*

SB-5A (SAMPLED 9.5-10')
NO DETECTED EXCEEDANCES

SB-8A (SAMPLED 9.5-10')	
LEAD	600 PPM*

SB-1A (SAMPLED 3.5-4')
NO DETECTED EXCEEDANCES

SB-26A (SAMPLED 0.5-1')	
LEAD	820 PPM*
VANADIUM	43 PPM*

SB-7A (SAMPLED 3.5-4')	
LEAD	2,600 PPM*
THALLIUM	22 PPM*
VANADIUM	63 PPM*

SB-7B (SAMPLED 10-10.5')	
LEAD	5,200 PPM*
THALLIUM	3.8 PPM
VANADIUM	11 PPM

SB-28A (SAMPLED 2-2.5')	
ANTIMONY	17 PPM*
ARSENIC	3,700 PPM*
LEAD	24 PPM*
VANADIUM	

SB-6A (SAMPLED 5.5-6')	
ARSENIC	29 PPM*
LEAD	10,000 PPM*

SB-3A (SAMPLED 7-7.5')	
LEAD	9,200 PPM*
BENZO[A]PYRENE	5,100 PPB

SB-43A (SAMPLED 7-7.5')	
LEAD	290 PPM

SB-4A (SAMPLED 2.5-3')	
ARSENIC	18 PPM*
THALLIUM	44 PPM*
BENZO[A]PYRENE	5,400 PPB*

SB-2A (SAMPLED 2.5 -3')	
ARSENIC	28 PPM*
LEAD	29,000 PPM**

SB-2B (SAMPLED 7.5 -8')	
ARSENIC	3.3 PPM
LEAD	160 PPM

SB-23A (SAMPLED 2.5-3')	
ANTIMONY	120 PPM*
ARSENIC	14 PPM*
LEAD	14,000 PPM*
VANADIUM	24 PPM*
ANTHRACENE	24,000 PPB**
BENZO(A)ANTHRACENE	50,000 PPB**
BENZO(B)FLOURANTHENE	120,000 PPB**
BENZO(A)PYRENE	1,200,000 PPB**
BENZO(GHI)PERYLENE	130,000 PPB**
CHRYSENE	34,000 PPB**
DIBENZO(A,H)ANTHRACENE	53,000 PPB**
INDENO(123CD)PYRENE	570,000 PPB**
PYRENE	58,000 PPB**

SB-23B (SAMPLED 6-6.5')	
ANTIMONY	5.1 PPM
ARSENIC	5.7 PPM
LEAD	80 PPM
VANADIUM	20 PPM*
ANTHRACENE	ND 200 PPB
BENZO(A)ANTHRACENE	ND 200 PPB
BENZO(B)FLOURANTHENE	ND 200 PPB
BENZO(A)PYRENE	ND 200 PPB
BENZO(GHI)PERYLENE	ND 200 PPB
CHRYSENE	ND 200 PPB
DIBENZO(A,H)ANTHRACENE	ND 200 PPB
INDENO(123CD)PYRENE	ND 200 PPB
PYRENE	ND 200 PPB

SB-25A (SAMPLED 1.5-2')	
ANTIMONY	170 PPM*
ARSENIC	30 PPM*
LEAD	15,000 PPM*
VANADIUM	63 PPM*
BENZO[A]PYRENE	2,600 PPB*

SB-24A (SAMPLED 3-3.5')	
LEAD	25,000 PPM**

SB-27A (SAMPLED 2.5-3')
NO DETECTED EXCEEDANCES

SB-42A (SAMPLED 10-10.5')	
LEAD	1,000 PPM*

SB-42B (SAMPLED 12.5-13')	
LEAD	35 PPM

SB-29A (SAMPLED 10.5-11')
NO DETECTED EXCEEDANCES

SB-29 (DUP) (SAMPLED 12.5-13')
NO DETECTED EXCEEDANCES

LEGEND

- GROUND WATER MONITORING WELL LOCATION, DESIGNATION, AND ELEVATIONS
- SOIL BORING LOCATION, DESIGNATION, AND ELEVATIONS
- TEST PIT LOCATION, DESIGNATION, AND ELEVATIONS

SB-2A (SAMPLED 2.5-3')	SAMPLE DESIGNATION AND DEPTH
ARSENIC 28 PPM *	SAMPLE RESULT (EXCEEDING NON-USED AQUIFER, RESIDENTIAL, SATURATED PA STANDARD)
LEAD 29,000 PPM**	SAMPLE RESULT (EXCEEDING NON-USED AQUIFER, NON-RESIDENTIAL, SATURATED PA STANDARD)

PENNSYLVANIA STATEWIDE HEALTH STANDARDS FOR SOIL

	USED AQUIFER		NON-USED AQUIFER	
	RESIDENTIAL	NON-RESIDENTIAL	RESIDENTIAL	NON-RESIDENTIAL
ANTIMONY	2.7 PPM	2.7 PPM	88 PPM	2,700 PPM
ARSENIC	12 PPM	15 PPM	12 PPM	15,000 PPM
CADMIUM	3.8 PPM	3.8 PPM	110 PPM	3,800 PPM
CHROMIUM	34 PPM	97 PPM	1,100 PPM	51,000 PPM
LEAD	45 PPM	45 PPM	500 PPM	19,000 PPM
MERCURY	1.0 PPM	1.0 PPM	66 PPM	1,000 PPM
SELENIUM	5 PPM	5 PPM	1,100 PPM	5,000 PPM
THALLIUM	1.4 PPM	1.4 PPM	15 PPM	1,400 PPM
VANADIUM	13 PPM	58 PPM	13 PPM	19,000 PPM
ANTHRACENE	23,000 PPB	23,000 PPB	23,000 PPB	23,000 PPB
BENZO[A]ANTHRACENE	8,000 PPB	32,000 PPB	25,000 PPB	120,000 PPB
BENZO[A]PYRENE	2,500 PPB	4,600 PPB	2,500 PPB	87,000 PPB
BENZO[B]FLUORANTHENE	12 PPB	16 PPB	16 PPB	16 PPB
BENZO[GH]PERYLENE	18,000 PPB	18,000 PPB	18,000 PPB	18,000 PPB
BUTYLBENZENE	37,000 PPB	100,000 PPB	37,000 PPB	100,000 PPB
CARBAZOLE	3,300 PPB	13,000 PPB	120,000 PPB	120,000 PPB
CHRYSENE	22,000 PPB	22,000 PPB	22,000 PPB	22,000 PPB
DIBENZO[A,H]ANTHRACENE	2,500 PPB	16,000 PPB	2,500 PPB	23,000 PPB
ETHYLBENZENE	70 PPB	70 PPB	7,000 PPB	7,000 PPB
INDENO[123CD]PYRENE	25,000 PPB	2,800,000 PPB	25,000 PPB	19,000,000 PPB
NAPTHALENE	2,000 PPB	2,000 PPB	2,000,000 PPB	2,000,000 PPB
PROPYLBENZENE N- (+)	37,000 PPB	100,000 PPB	37,000 PPB	100,000 PPB
PYRENE	22,000 PPB	22,000 PPB	22,000 PPB	22,000 PPB
TCLUENE	100,000 PPB	100,000 PPB	7,600,000 PPB	10,000,000 PPB
TRIMETHYLBENZENE 124 (+)	1,800 PPB	3,500 PPB	110,000 PPB	350,000 PPB
TRIMETHYLBENZENE 135 (+)	1,800 PPB	3,500 PPB	2,000 PPB	4,000 PPB
XYLENES	1,000 PPB	1,000 PPB	10,000 PPB	10,000 PPB

TABLE NOTES:
1. PARAMETERS WITH (+) HAVE PROPOSED BUT NOT PROMULGATED STANDARDS.

60' 0' 60'
SCALE

NOTES:
1. THIS PLAN IS BASED ON THE SITE SURVEY PERFORMED BY MILLENIUM SURVEYING AND MAPPING DATED 5-8-2001.
2. RESULTS ARE SHOWN FOR THOSE PARAMETERS WITH LABORATORY DETECTIONS ABOVE PENNSYLVANIA STATE HEALTH STANDARDS.

DRAFT

TITLE: PHASE II INVESTIGATION SAMPLING RESULTS (EXCEEDING LEAST STRINGENT STANDARDS)
CLIENT: FORMER ANZON LEAD FACILITY
LOCATION: PHILADELPHIA, PENNSYLVANIA
SCALE: 1"=60'
DATE: 8/1/2001
FIGURE: 5
DWG NO: COO-100-12
REV#: 1

eRecorded in Philadelphia PA Doc Id: 53570882
09/26/2019 11:31 AM Page 1 of 13 Rec Fee: $256.75
Receipt#: 19-97210
Records Department Doc Code: DM

When recorded, return to:
Kaplin Stewart
910 Harvest Drive
P.O. Box 3037
Suite 200
Blue Bell, PA 19422-0765
Attn: William D. Auxer, Esq.

OPA Account #: 885810700

GRANTOR: Port Richmond Dev. VIII, L.P. Dated: July 8, 2019

PROPERTY ADDRESS: 2507 Almond Street, Philadelphia Pennsylvania 19135

ENVIRONMENTAL COVENANT

This Environmental Covenant is executed pursuant to the Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007, 27 Pa. C.S. §§ 6501-6517 (UECA). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. As indicated later in this document, this Environmental Covenant has been approved by the Pennsylvania Department of Environmental Protection (Department).

1. **Property affected.** The property affected (Property) by this Environmental Covenant is located at 2507 Almond Street, Philadelphia County, Pennsylvania 19135.

The postal street address of the Property is: 2507 Almond Street, Philadelphia, Pennsylvania 19135.

The latitude and longitude of the center of the Property affected by this Environmental Covenant are: 39.978028 and -75.120135.

The Property has been known by the following name(s): Formerly known as the Anzon Site; currently known as Lot 8, vacant parcel.

The Property is currently identified by EFACTS No. 618991.

A description of the Property is attached to this Environmental Covenant as **Exhibit A.** A map of the Property is attached to this Environmental Covenant as **Exhibit B.**

2. **Property Owner/GRANTOR/GRANTEE.** Port Richmond Dev. VIII, L.P. is the owner of the Property and the GRANTOR and GRANTEE of this Environmental Covenant.

3. The mailing address of the owner is: 1617 John F. Kennedy Blvd., Suite 1840, Philadelphia, Pennsylvania 19103.

4. **Description of Contamination & Remedy**. Soil was characterized through soil sampling for metals, Volatile Organic Compounds (VOCs) and semi-VOCs (SVOCs). The summary of the characterization of the soil is set forth in the Final Report prepared by RT Environmental Services, Inc. dated November 25, 2003. Groundwater was characterized through groundwater sampling events in 2001 and 2002 for VOCs, SVOCs, and metals. The primary contaminant of concern at the site is lead in soil. The summary of the characterization of the groundwater is set forth in the Final Report prepared by RT Environmental Services, Inc. dated November 25, 2003. No potable wells are located within a half-mile of the Property. The Department approved the November 2003 Final Report on November 23, 2003. As identified in the November 2003 Final Report, a site specific remedial standard was attained for soil and groundwater contamination through implementation of institutional and engineering controls. In accordance with a Consent Order and Agreement (COA) dated November 1, 2017 entered into between Owner and Department, a 2-foot clean fill cap or concrete cap was placed on the landscaped areas of the Property. The Owner submitted an Engineer Completion Report describing the work completed under the November 1, 2017 COA. The Department approved the Engineer Completion Report on April 4, 2019. The administrative record is available at Department's Southeast Regional Office; 2 East Main Street, Norristown, PA 19401.

5. **Activity & Use Limitations.** The Property is subject to the following activity and use limitations, which the then current owner of the Property, and its tenants, agents, employees and other persons under its control, shall abide by.

Property Use Limitations – The use of the Property shall be limited to commercial or industrial activity.

Soil Use Limitations - All landscaped portions of the Property have been capped with an orange woven geotextile fabric demarcation barrier and at least 2-feet of certified clean fill or 5 inches of concrete. No excavation of soil is permitted at the Property without prior notification to the Grantor and Department. Any person disturbing soil for purposes of completing subsurface work at the Property must handle soil in accordance with federal, state, and local regulations, protect the community from exposure to contaminated soils, and restore the cap upon completion of the work.

Groundwater Use Limitations - Groundwater underlying the Property shall not be used for any purpose.

Post-Remediation Care Plan - Because the Property is using institutional and engineering controls to maintain a cap, the following actions will be completed to ensure that the selected attainment standards remain protective to human health and ecology:

The then-current owner of the Property, and its tenants, agents, employees and other persons under its control will (i) inspect the cap on the Property annually to confirm that the cap remains in good condition, (ii) submit to the Department an inspection report as required in Paragraph 7 and (iii) make any repairs as needed to maintain the cap within 30 days of discovery the necessity of the repairs, subject to weather conditions and receipt of permits and approvals.

6. **Notice of Limitations in Future Conveyances.** Each instrument hereafter conveying any interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of this

Environmental Covenant.

7. **Compliance Reporting.** After written request by the Department, the then-current owner of the Property shall submit to the Department and any Holder listed in Paragraph 3, written documentation stating whether the activity and use limitations in this Environmental Covenant are being abided by. Within 1 month of the annual cap inspection, the then-current owner of the Property will submit to the Department documentation of the cap inspection. Subject to the approval of the Department, the aforesaid annual reporting of the cap inspection may discontinue after the first 5 years of the cap inspection. In addition, within 1 month after any of the following events, the then-current owner of the Property shall submit written documentation of compliance to the Department and any Holder listed in Paragraph 3: noncompliance with the activity and use limitations in this Environmental Covenant; transfer of the Property; changes in use of the Property; or filing of applications for building permits for the Property and any proposals for any site work, if the building or proposed site work will affect the contamination on the Property subject to this Environmental Covenant.

8. **Access by the Department.** In addition to any rights already possessed by the Department, this Environmental Covenant grants to the Department a right of reasonable access of the Property in connection with implementation or enforcement of this Environmental Covenant.

9. **Recording & Proof & Notification**. Within 30 days after the date of the Department's approval of this Environmental Covenant, the Grantor shall cause this Environmental Covenant to be filed with the Recorder of Deeds for each County in which the Property is located, and send a file stamped copy of this Environmental Covenant to the Department within 60 days of recording. Within that time period, the Grantor also shall cause a file-stamped copy to be sent to each of the following: Philadelphia County; and any Holder identified in this Environmental Covenant listed in Paragraph 3; each person holding a recorded interest in the Property; and each person in possession of the Property.

10. **Termination or Modification.**

(a) This Environmental Covenant may only be terminated or modified in accordance with 27 Pa. C.S. §§ 6509 or 6510, or in accordance with this paragraph.

(b) This Environmental Covenant may be amended or terminated as to any portion of the Property that is acquired for use as state highway right-of-way by the Commonwealth provided that: (1) the Department waives the requirements for an environmental covenant and for conversion pursuant to 27 Pa. C.S. § 6517 to the same extent that this Environmental Covenant is amended or terminated; (2) the Department determines that termination or modification of this Environmental Covenant will not adversely affect human health or the environment; and (3) the Department provides 30-days' advance written notice to the then current property owner, each holder, and, as practicable, each person that originally signed the Environmental Covenant or successors in interest to such persons.

(c) This Environmental Covenant shall terminate upon attainment, in accordance with 35 P.S. §§ 6026.101 - 6026.908, with an unrestricted use remediation standard for the above-described contamination at the Property. The Department must approve, in writing, of such termination.

(d) In accordance with 27 Pa. C.S. § 6510(a)(3)(i), Grantor hereby waives the right to consent to any amendment or termination of the Environmental Covenant by consent; it being intended that any amendment to or termination of this Environmental Covenant by consent in accordance with this Paragraph requires only the following signatures on the

instrument amending or terminating this Environmental Covenant: (i) the Holder, if any, at the time of such amendment or termination; (ii) the then current owner of the Property and (iii) the Department.

11. **Department's Address.** Communications with the Department regarding this Environmental Covenant shall be sent to: Program Manager, Environmental Cleanup and Brownfields Program, PADEP Southeastern Regional Office, 2 East Main Street, Norristown, PA 19401.

12. **Severability.** The paragraphs of this Environmental Covenant shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

ACKNOWLEDGMENTS by Owner/Grantor, in the following form:

Port Richmond Dev. VIII, L.P.
By: PR Dev. VIII, LLC, its sole general partner

Date: 7/8/19

Jerald Batoff, Member

Neal Rodin, Member

APPROVED, by Commonwealth of Pennsylvania,

Department of Environmental Protection

Date: _____

By: _____
Name: _____
Title: _____

- SEE NEXT PAGE -

Property Owner: Port Richmond Dev. VIII, L.P.

Property Address: 2507 Almond St.
Philadelphia, PA 19135

City of Philadelphia

Philadelphia County

APPROVED, by Commonwealth of Pennsylvania,

Department of Environmental Protection

Date: 9/10/2019 **By:** _____

Name: Ragesh R. Patel

Title: Environmental Cleanup & Brownfields Program Manager

PA DEP – Southeast Regional Office

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF MONTGOMERY

On this 10th **day of** SEPTEMBER, **2019, before me, the undersigned officer, personally appeared Ragesh R. Patel, who acknowledged himself to be the Environmental Cleanup & Brownfields Program Manager of the Commonwealth of Pennsylvania, Department of Environmental Protection, Southeast Regional Office, whose name is subscribed to this Environmental Covenant, and acknowledged that he executed same for the purposes therein contained.**

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Judy Lashley, Notary Public
Norristown Boro, Montgomery County
My Commission Expires July 28, 2020
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

JURAT PAGE

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF Philadelphia) SS:

On this 8 day of July, 2019, before me, the undersigned officer, personally appeared Jerald Batoff, who acknowledged himself to be a member of PR Dev. VIII, LLC, the sole general partner of Port Richmond Dev. VIII, L.P. whose name is subscribed to this Environmental Covenant as the Owner/Grantor, and acknowledged that he as such official, being authorized to do so, executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Todd R. Pilgrim
Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
TODD R. PILGRIM, Notary Public
Lower Merion Township, Montgomery County
My Commission Expires October 30, 2019

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF Philadelphia) SS:

On this 8 day of July, 2019, before me, the undersigned officer, personally appeared Neal Rodin, who acknowledged himself to be a member of PR Dev. VIII, LLC, the sole general partner of Port Richmond Dev. VIII, L.P. whose name is subscribed to this Environmental Covenant as the Owner/Grantor, and acknowledged that he as such official, being authorized to do so, executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Jeffrey Blaker
Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
JEFFREY BLAKER, Notary Public
City of Philadelphia, Phila. County
My Commission Expires May 2, 2020

EXHIBIT A

DESCRIPTION OF PROPERTY

CONTROL POINT
ASSOCIATES, INC.
BOUNDARY & TOPOGRAPHIC SURVEYS • SUBDIVISIONS • CONSTRUCTION STAKEOUT

Gwynedd Corp. Center
1120 Welsh Road
Suite 110
North Wales, PA 19454
215.412.9055
215.412.0861 fax
www.cpasurvey.com

October 6, 2003
Revised October 7, 2003
CP02050

METES AND BOUNDS DESCRIPTION
PHILADELPHIA DISTRICT STANDARD
PART LOT 18, MAP 19 N 20 AND LOT 162, MAP 19 N 22, 31" WARD
CITY & COUNTY OF PHILADELPHIA
COMMONWEALTH OF PENNSYLVANIA
PORT RICHMOND DEVELOPMENT VIII, L.P.

BEGINNING AT A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF ALMOND STREET (50 FOOT WIDE RIGHT-OF-WAY, LEGALLY OPEN), SAID POINT BEING THE FOLLOWING TWO (2) COURSES AND DISTANCES FROM A POINT AT ITS INTERSECTION WITH THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF HUNTINGDON STREET (60 FOOT WIDE RIGHT-OF-WAY, LEGALLY OPEN) AND THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF MOYER STREET (F.K.A. COMMERCE STREET, 40 FOOT WIDE RIGHT-OF-WAY, LEGALLY OPEN):

A. ALONG THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF MOYER STREET, SOUTH 21 DEGREES 03 MINUTES 43 SECONDS WEST, A DISTANCE OF 315.787 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF ALMOND STREET, THENCE;

B. ALONG THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF ALMOND STREET, SOUTH 57 DEGREES 35 MINUTES 34 SECONDS WEST, A DISTANCE OF 41.978 FEET TO THE TRUE POINT AND PLACE OF BEGINNING AND FROM SAID POINT OF BEGINNING RUNNING, THENCE;

1. ALONG THE DIVIDING LINE BETWEEN PORT RICHMOND DEVELOPMENT VIII, LP; PORT RICHMOND DEVELOPMENT VI, L.P.; PORT RICHMOND DEVELOPMENT, V, L.P.; AND PORT RICHMOND DEVELOPMENT IV, L.P., SOUTH 21 DEGREES 03 MINUTES 43 SECONDS WEST, A DISTANCE OF 399.985 FEET TO A POINT, THENCE;

2. ALONG THE DIVIDING LINE BETWEEN PORT RICHMOND DEVELOPMENT VIII, L.P. AND THE REMAINDER OF LOT 17, MAP 19 N 20,M LANDS NOW OR FORMERLY ST. ANNE ROMAN CATHOLIC PARISH, NORTH 31 DEGREES 36 MINUTES 06 SECONDS WEST, A DISTANCE OF 238.117 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF ALMOND STREET, THENCE;

3. ALONG THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF ALMOND STREET, NORTH 57 DEGREES 35 MINUTES 34 SECONDS EAST, A DISTANCE OF 318.055 FEET TO THE POINT AND PLACE OF BEGINNING.

CONTAINING 37,863 SQUARE FEET OR 0.86921 ACRE

THIS PROPERTY SUBJECT TO RESTRICTIONS, COVENANTS AND/OR EASEMENTS, AS CONTAINED IN A TITLE COMMITMENT REPORT PREPARED BY LAWYERS TITLE INSURANCE CORPORATION, CASE NO. SASS10805, WITH AN EFFECTIVE DATE OF 2/20/02.

Property: 2507 Almond St., Philadelphia, PA

Other Office Locations:
■ Watchung, NJ 908.668.0099
■ Towson, MD 410.494.9445
■ Sterling, VA 703.904.9400

A-5

CONTROL POINT ASSOCIATES, INC.

October 6, 2003
Revised October 7, 2003
Cp02050
Philadelphia, PA
Page 2

THIS DESCRIPTION WAS WRITTEN WITH REFERENCE TO A MAP ENTITLED "BOUNDARY SURVEY, PORT RICHMOND DEV IV, L.P., 2301 MOYER STREET – LOT 162, MAP 19 N 22 & LOT 18, MAP 19 N 20, 2511 – 37 ALMOND STREET – LOT 20, MAP 19 N 20, 31st WARD, CITY & COUNTY OF PHILADELPHIA, COMMONWEALTH OF PENNSYLVANIA", PREPARED BY CONTROL POINT ASSOCIATES, INC., PROJECT NO. CP02050, REVISION NO. 5 DATED 9/30/02.

JOSEPH J. WRIGHT, P.L.S.
PENNSYLVANIA PROFESSIONAL
LAND SURVEYOR NO. SU-037826-E
MFDAV
CPA\PROJECT NOS\2002\Cp02050W\2050L13\desc

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JOSEPH JAMES WRIGHT LAND SURVEYOR 37826-E

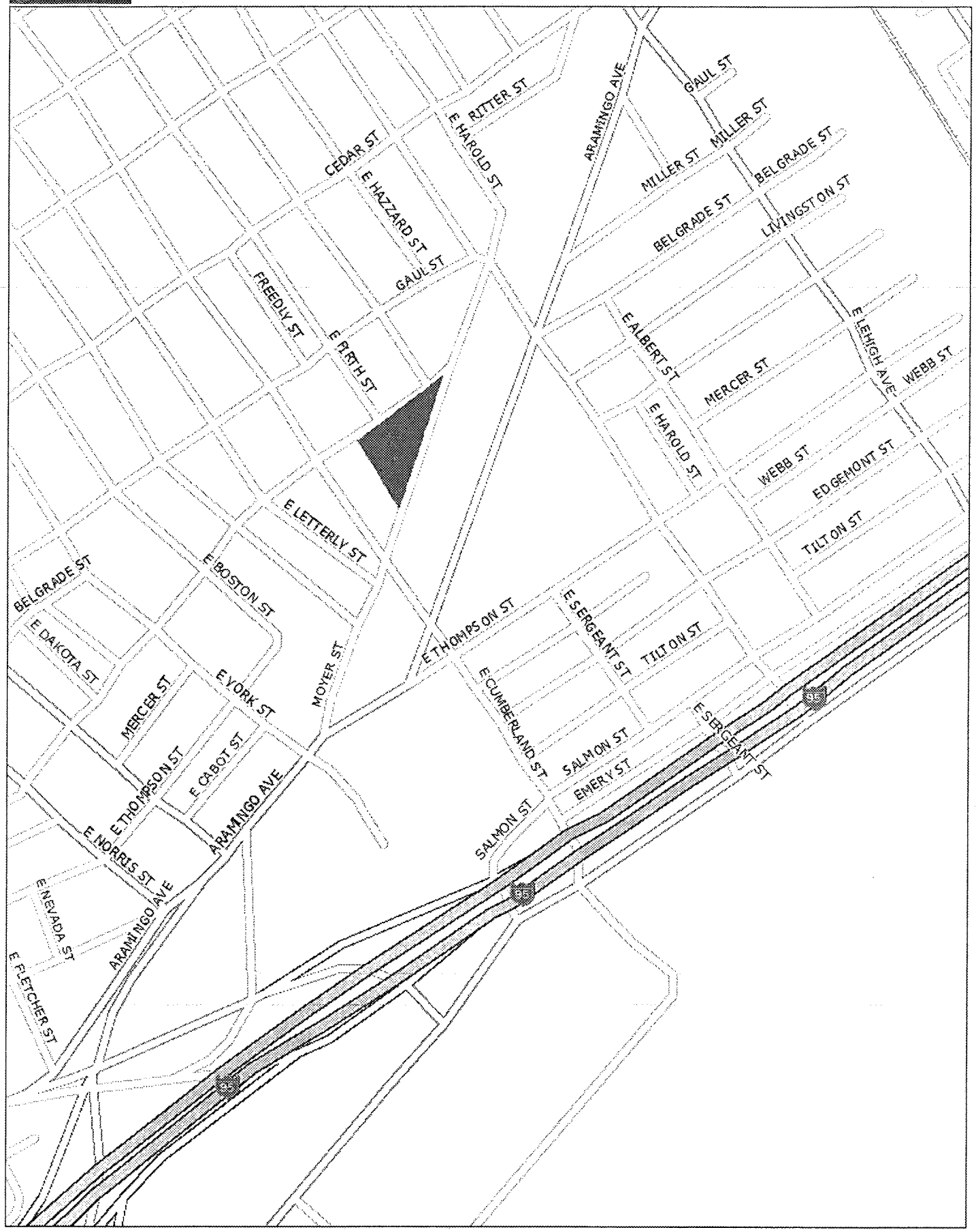
10/7/03

EXHIBIT B

MAP OF PROPERTY

DELORME

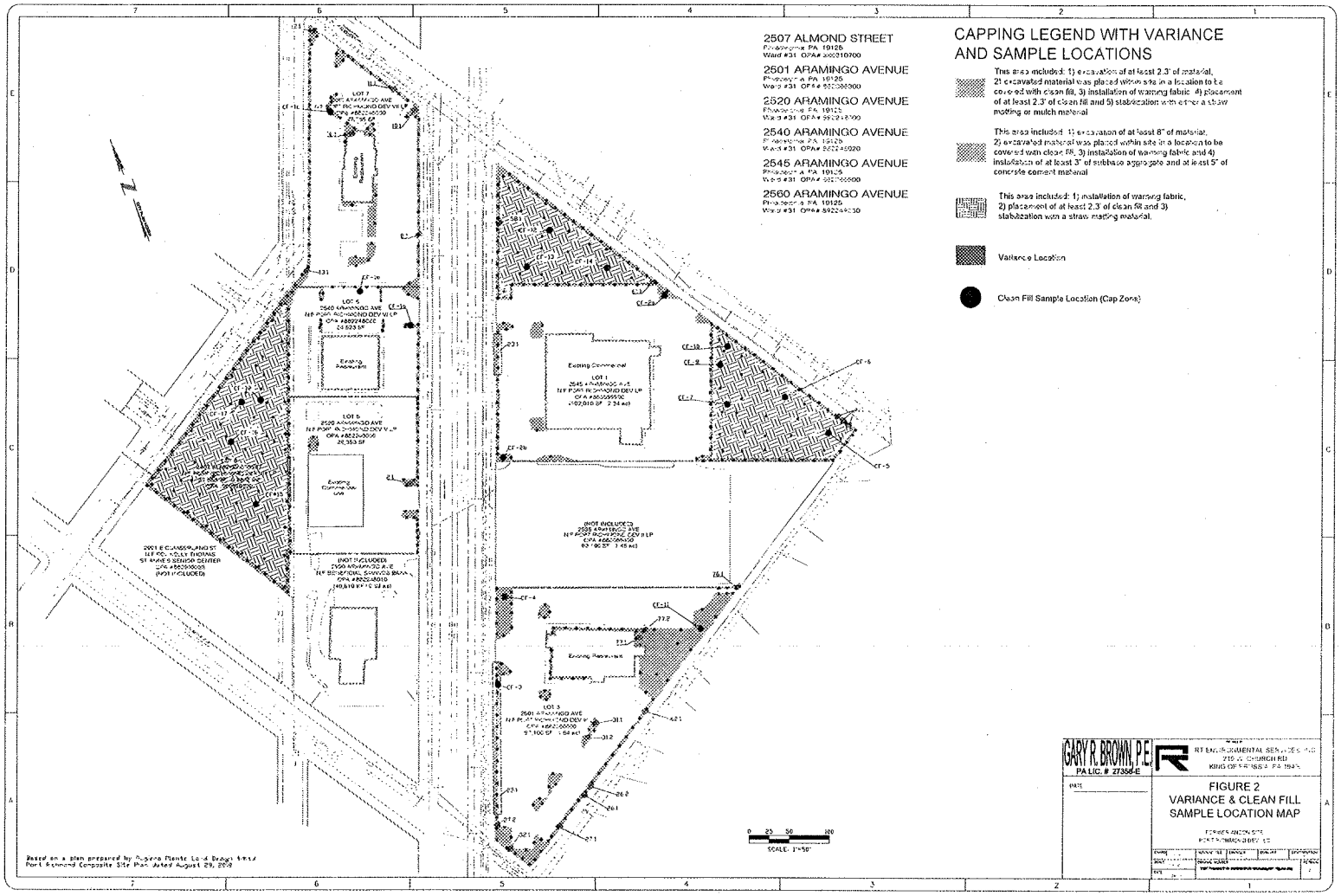
DeLorme Street Atlas USA® 2014

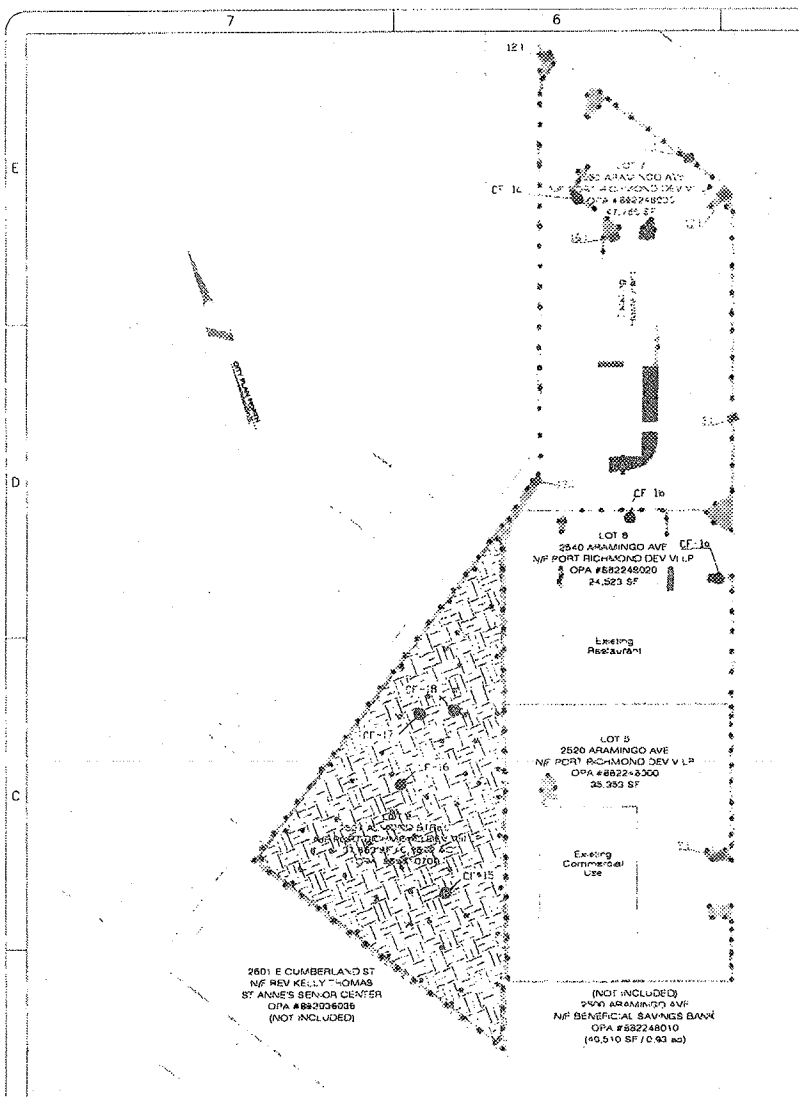


MN (12.2° W)

0 140 280 420 560 700 ft

Data Zoom 15-1


2507 ALMOND STREET
2501 ARAMINGO AVENUE
2520 ARAMINGO AVENUE
2540 ARAMINGO AVENUE
2546 ARAMINGO AVENUE
2560 ARAMINGO AVENUE
CAPPING LEGEND WITH VARIANCE AND SAMPLE LOCATIONS
This area included: 1) excavation of at least 2.3' of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric 4) placement of at least 2.3' of clean fill and 5) stabilization with either a straw matting or mulch material
This area included: 1) excavation of at least 8" of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric and 4) installation of at least 3" of subbase aggregate and at least 5" of concrete cement material
This area included: 1) installation of warning fabric, 2) placement of at least 2.3' of clean fill and 3) stabilization with a straw matting material.
Variance Location
Clean Fill Sample Location (Cap Zone)
Existing Commercial
Existing Residential
SCALE: 1"=50'
GARY R. BROWN, P.E.
PA LIC. # Z7356-E
FIGURE 2
VARIANCE & CLEAN FILL
SAMPLE LOCATION MAP



CAPPING LEGEND WITH VARIANCE AND SAMPLE LOCATIONS

This area included: 1) excavation of at least 2.3' of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric, 4) placement of at least 2.3' of clean fill and 5) stabilization with either a straw matting or mulch material

This area included: 1) excavation of at least 8" of material, 2) excavated material was placed within site in a location to be covered with clean fill, 3) installation of warning fabric and 4) installation of at least 3" of subbase aggregate and at least 5" of concrete cement material

This area included: 1) installation of warning fabric, 2) placement of at least 2.3' of clean fill and 3) stabilization with a straw matting material.

Variance Location

Clean Fill Sample Location (Cap Zone)

APPENDIX E
PADEP COORESPONDENCE
(NIR, MUNICIPAL, LEGAL ADVERTISEMENT, CITY LETTER, REPORT SUBMITTAL NOTICES)

NEWSPAPER NOTICE AND
PROOF OF PUBLICATION

RT Environmental Services, Inc.

January 12, 2022

Ms. Melissa Komar
130 Twinbridge Drive
Cherry Hill, New Jersey

RE: NEWSPAPER NOTICE OF INTENT TO REMEDIATE

Dear Ms. Komar:

Please provide a price to place the following legal ad in the LEGAL NOTICE section of the Star Newspaper. This ad needs only to be run once, and we would like to run the ad in the next edition. Please call to confirm the price, and we will then fax you a purchase order or provide credit card payment. We also require that a proof of publication notice be mailed to us after the ad is published.

NOTICE OF INTENT TO REMEDIATE

Pursuant to the Land Recycling and Environmental Standards Act, the act of May 19, 1995, P.L. #4, No.2., notice is hereby given Riverwards Group has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate for the site located at 2507 Almond Ave, Philadelphia County. This Notice of Intent to Remediate states that the site was formerly a lead facility. The site has been found to be contaminated with lead which has contaminated soil on the site. The lead contaminated soil was remediated with a cap. Riverwards Group has indicated that the proposed remediation measures will demonstrate attainment of a Site-Specific Standard.

Riverwards Group plans to use the site-specific standard at the site. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until 30 days after the newspaper publication date, the City of Philadelphia may submit a request to Riverwards Group to be involved in the development of the remediation and reuse plans for the site. The City of Philadelphia may also submit a request to Riverwards Group during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 2 E Main Street, Norristown, PA.

Please feel free to contact me at (610) 265-1510 extension 238 if you have any questions.

Sincerely,
RT ENVIRONMENTAL SERVICES, INC.

Walter H. Hungarter, III, P.E.
Vice President

215 West Church Road ▪ King of Prussia, PA 19406 ▪ Tel: (610) 265-1510 ▪ Fax: (610) 265-0687
Email: rtenv@rtenv.com ▪ Web Address: www.rtenv.com

PROOF OF PUBLICATION IN THE STAR

Under Act No. 587, Approved May 16, 1929

STATE OF PENNSYLVANIA
COUNTY OF PHILADELPHIA

SS.: Copy of Notice of Publication

LeANN HAUGHNEY being duly sworn, deposes and says that the STAR Newspaper published weekly, in Philadelphia, Pennsylvania, and was established in said county in 1978, since which date said newspaper has been regularly issued in said County and that a copy of the printed notice or publication is attached hereto exactly as the same was printed or published in the regular editions and issues of the said newspapers on the following dates; viz: 26th day of JAN; A.D. 2022.

Affiant further deposed and says that he is an employee of the publisher of said newspaper and has been authorized to verify the foregoing statement and that she is not interested in the subject matter of the aforesaid notice of publication, and that all allegations in the foregoing statement as to time, place and character of publication are true.

LeAnn Haughney

Sworn to and subscribed before me this 26th day of JAN, A.D. 2022.

NOTARY PUBLIC

My Commission Expires 1/20/2025

Commonwealth of Pennsylvania - Notary Seal
Karen M. Morrison, Notary Public
Philadelphia County
My commission expires January 20, 2025
Commission number 1116009
Member, Pennsylvania Association of Notaries

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NO JOB TOO BIG OR TOO SMALL 215-743-1755

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SENIOR CITIZEN DISCOUNT
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R. RHOADS & SONS ROOFING INC.
Over 20 Years Experience - Owner Operated
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FREE ESTIMATES
VETERANS DISCOUNT

REV UP SALES
Put your business on the road to a successful season
The TIMES & STAR WORK!
215.354.3070 - Display Ads
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ADVERTISE
turn your advertising dollars into major profits by placing an ad in...
Times & Star
215.354.3070 - Display Ads
215.355.1234 - Line Ads

LEGAL NOTICES

NOTICE OF INTENT TO REMEDIATE

Pursuant to the Land Recycling and Environmental Standards Act, the act of May 19, 1995, P.L. #4, No.2., notice is hereby given Riverwards Group has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate for the site located at 2507 Almond Ave, Philadelphia County. This Notice of Intent to Remediate states that the site was formerly a lead facility. The site has been found to be contaminated with lead which has contaminated soil on the site. The lead contaminated soil was remediated with a cap. Riverwards Group has indicated that the proposed remediation measures will demonstrate attainment of a Site-Specific Standard.
Riverwards Group plans to use the site-specific standard at the site. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until 30 days after the newspaper publication date, the City of Philadelphia may submit a request to Riverwards Group to be involved in the development of the remediation and reuse plans for the site. The City of Philadelphia may also submit a request to Riverwards Group during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 2 E Main Street, Norristown, PA.

Notice is given that TNS Diamonds Inc. did on December 31st, 2021, submit to the Commonwealth of Pennsylvania, Department of Banking and Securities, an application for renewal licensure of a pawnbroker office at this location as follows: 136 s 8th st Unit A, Philadelphia, PA 19107.
All interested persons may file written comments in favor of or in opposition to the application for renewal with the Pawnbroker Hearing Officer at: PA Department of Banking and Securities Non - Depository Licensing Office17 N 2nd St, Ste 1300 Harrisburg, PA 17101 All comments to be considered must be received by the Department within thirty (30) days from the date of this newspaper publication.

We accept Credit Cards!
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To Advertise, Call
215-354-3070 Display Ads
215-355-1234 Line Ads

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Junk Cars

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WE BUY CARS & TRUCKS up to **10,000 Cash Paid**. Any condition. Same day pick up. **215-605-4429**

$400 & Up For Running Vehicles
Highest Cash Paid for Junk Vehicles
We sell new and used parts. SAME DAY Services
(215) 203-0993

SHOP LOCAL!
Support the Businesses in Your Neighborhood!!

MUNICIPALITY NOTICE
CITY OF PHILADELPHIA

RT Environmental Services, Inc.

Certified Mail – 7012 1010 0002 3230 1270
Return Receipt Requested

December 22, 2021

Ms. Leigh Anne Rainford
Philadelphia Department of Public Health
Environmental Health Services
321 University Ave – 2nd Floor
Philadelphia, PA 19104
LeighAnne.Rainford@Phila.gov

RE: NOTICE OF INTENT TO REMEDIATE
2507 ALMOND STREET
PHILADELPHIA, PA 19125
RT PROJECT #70137-23

Dear Ms. Rainford:

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) be provided to the municipality in which the site is located. Act 2 also provides that when a site is a Special Industrial Area or is being remediated to a Site-Specific Standard, the municipality is afforded a 30-day comment period. In accordance with the provisions of the Act, we are formally notifying you of our client's intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will be published in the Pennsylvania Bulletin, and a summary of the notice will appear in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of the remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to Riverwards Group, the remediator, with copies submitted to the Department of Environmental Protection at 2 E Main Street, Norristown PA (Southeast Regional Office).

Sincerely,
RT ENVIRONMENTAL SERVICES, INC.

cc: Larry McKnight – Riverwards Group

Walter H. Hungarter, III, P.E.
Vice President

215 West Church Road ▪ King of Prussia, PA 19406 ▪ Tel: (610) 265-1510 ▪ Fax: (610) 265-0687
Email: rtenv@rtenv.com ▪ Web Address: www.rtenv.com

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

For DEP Use Only
PF #_____
Rem ID #_____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name _____

Former Name(s) / AKA Former Anzon Site

Address / Location 2507 Almond Street

City Philadelphia Zip Code 19135

Municipality(s) City of Philadelphia County(ies) Philadelphia

Latitude 39 º (deg). 58 ‘ (min) 40.65 “ (sec) Longitude 75 º (deg). 7 ‘ (min) 12.46 “ (sec)

Horizontal Collection Method _____

Horizontal Reference Datum _____ Reference Point _____

☐ Wish to participate in the DEP/EPA MOA. Contact the Land Recycling Program Manager at landrecycling@pa.gov for details.

EPA ID#, if known _____

DEP ID#(s), if known eFACTS # 618991
(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) _____

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

This site was formerly the location of lead manufacturing operations for several decades. Site soils have been found to be impacted by lead. The proposed future use of this property will be for residential purposes.

Provide a general description of proposed remediation measures.

The remediation approach is a Site-Specific Standard for soil. The anticipated reuse of the site will be residential. The proposed remediation measures will be engineering institutional controls to prevent direct contact with lead impacted soils.

Remediation Standard(s) planned (if known at this time):

☐ Unknown at this time	☐ Soil	☐ Groundwater
☐ Background Contaminants:	☐ Soil	☐ Groundwater
☐ Statewide Health - Residential Contaminants:	☐ Soil	☐ Groundwater
☐ Statewide Health – Non-Residential Contaminants:	☐ Soil	☐ Groundwater
☒ Site Specific Contaminants: Lead	☒ Soil	☐ Groundwater
☐ Special Industrial Area* Contaminants:	☐ Soil	☐ Groundwater

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for *each* recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Lawrence McKnight eFACTS Client ID* _____

Relationship to Site Remediator Client Type* _____
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 267-979-4571 Email Address lMcKnight@riverwardsgroup.com

Company Name Riverwards Group EIN or Federal ID # _____

Address (street, city, state, zip) 3020 Richmond Street, Philadelphia, PA, 19134

Property Owner

Contact Person/Title Todd Pilgrim eFACTS Client ID* _____

Relationship to Site Owner Client Type* _____
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 610-747-0800 Email Address _____

Company Name Port Richmond Development. VIII, L.P. EIN or Federal ID # _____

Address (street, city, state, zip) _____

Consultant

Contact Person/Title Walter H. Hungarter, III eFACTS Client ID* _____

Relationship to Site Consultant Client Type* _____
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 610-265-1510 Email Address whungarter@rtenv.com

Company Name RT Environmental Services, Inc. EIN or Federal ID # _____

Address (street, city, state, zip) 215 W Church Road, King of Prussia, PA 19406

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate

Name Kayley Cameron Title Staff Scientist

Phone Number 610-265-1510 Email Address kcameron@rtenv.com

Company Name RT Environmental Services, Inc. eFACTS Client ID _____

Address (street, city, state, zip) 215 W Church Road, King of Prussia, PA 19406

7012 1010 0002 3230 1270

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Postage	$ 0.53
Certified Fee	3.75
Return Receipt Fee (Endorsement Required)	3.05
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 7.33

Postmark Here: 12/23/2022

70137-23

Sent To: Leigh Anne Rainford - PA Health
Street, Apt. No.; or PO Box No.: 321 University Ave - Dept -
City, State, ZIP+4: Philadelphia, PA 19104, 2nd FL -

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Leigh Anne Rainford
Philadelphia Dept. of Public Health
321 University Ave. - 2nd Floor
Philadelphia, PA 19104

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

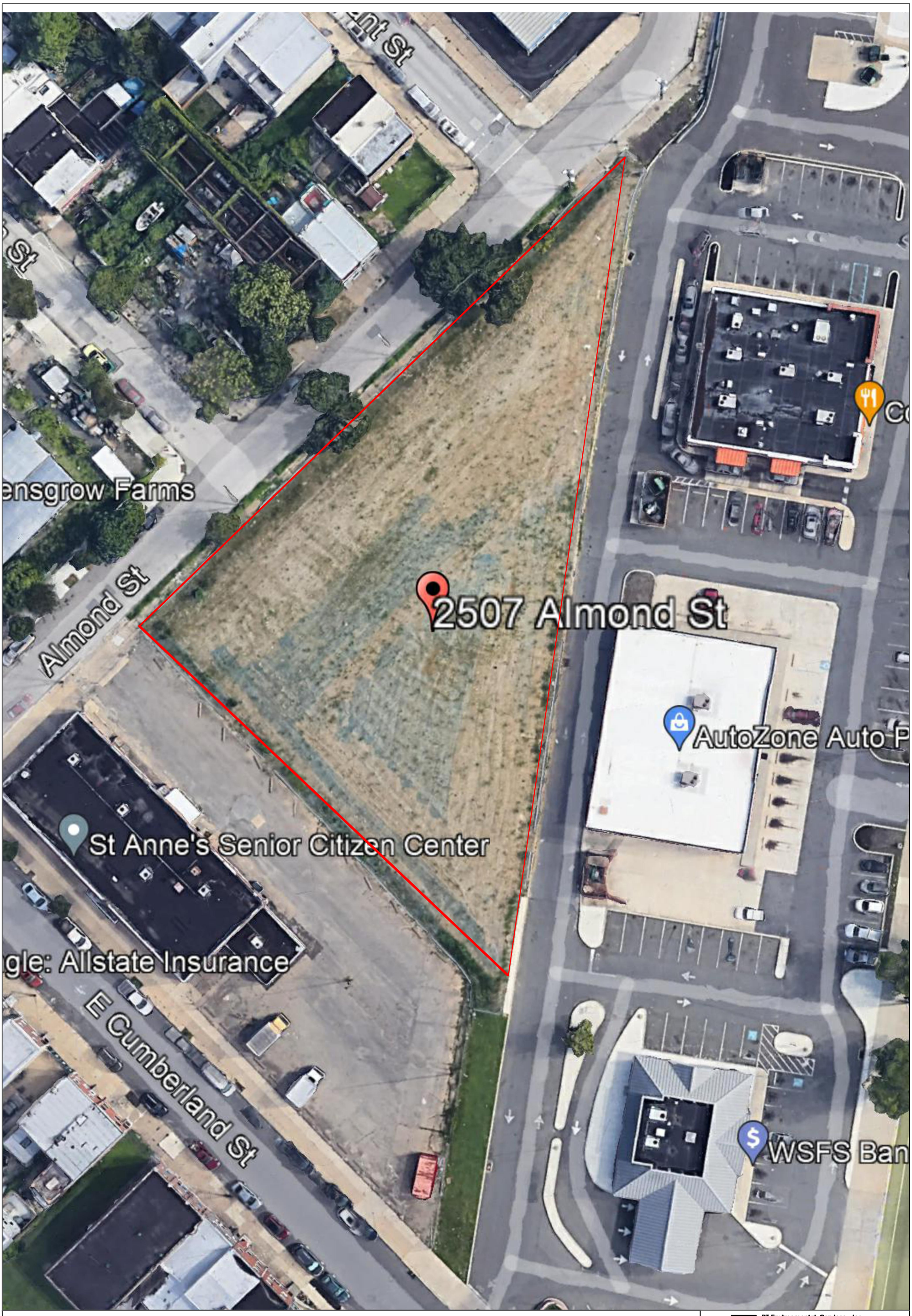
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 1010 0002 3230 1270

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540



SITE LOCATION

0 50 100’

RT Environmental Services, Inc.
215 West Church Road
King of Prussia, PA 19406

Figure 1
SITE LOCATION MAP
2507 Almond Street
Philadelphia, PA

Prepared For:
RiverwardGroup
Mr. Lawrence McKnight
3020 Richmond Street
Philadelphia, PA

CHARGE	70137-23	AUTOCAD FILE	ENGINEER	DESIGNER	DRAFTSPERSON
SCALE	As Shown	DRAWING NUMBER	y:\rt projects\70100 series\70137-23\figure 1.dwg		knc
DATE	12/22/2021				REVISION 1

RT Environmental Services, Inc.

March 22, 2023

Ms. Melissa Komar
130 Twinbridge Drive
Cherry Hill, New Jersey

RE: NEWSPAPER NOTICE OF SUBMITTAL OF REMEDIAL INVESTIGATION REPORT/ CLEANUP PLAN

Dear Ms. Komar:

Please provide a price to place the following legal ad in the LEGAL NOTICE section of the Star Newspaper. This ad needs only to be run once, and we would like to run the ad in the next edition. Please call to confirm the price, and we will then fax you a purchase order or provide credit card payment. We also require that a proof of publication notice be mailed to us after the ad is published.

NOTICE OF SUBMITTAL OF REMEDIAL INVESTIGATION REPORT/CLEAN UP PLAN

Pursuant to the Land Recycling and Environmental Standards Act, the act of May 19, 1995, P.L. #4, No.2., notice is hereby given Riverwards Group has submitted to the Pennsylvania Department of Environmental Protection a Notice of Submittal of the Remedial Investigation Report/ Cleanup Plan (RIR/CP) for the site located at 2507 Almond Ave, Philadelphia County. This Notice of Submittal states that the site was formerly a lead facility. The site has been found to be contaminated with lead which has contaminated soil on the site. The lead contaminated soil was remediated with a soil cap and subsequent redevelopment activities proposed will enhance the cap to include impervious surfaces such as asphalt paving and concrete. Riverwards Group has indicated that the proposed remediation measures will demonstrate attainment of a Site-Specific Standard. In accordance with the public involvement plan, meetings were held with the Olde Richmond Civic Association on June 2, 2022 and August 23, 2022. Two additional meetings were held with the Olde Richmond Civic Association Environmental Committee on January 10, 2023 and February 16, 2023. Olde Richmond Civic Association comments have been presented in the Remedial Investigation Report/Clean Up Plan.

Please feel free to contact me at (610) 265-1510 extension 238 if you have any questions.

Sincerely,
RT ENVIRONMENTAL SERVICES, INC.

Walter H. Hungarter, III, P.E.
Vice President

215 West Church Road ▪ King of Prussia, PA 19406 ▪ Tel: (610) 265-1510 ▪ Fax: (610) 265-0687
Email: rtenv@rtenv.com ▪ Web Address: www.rtenv.com

NORTHEAST TIMES NEWSWEEKLY | LOWER BUCKS TIMES | STAR

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215-354-3070 - DISPLAY ADS
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Star
Classified Display, ***Friday 3pm***
Classified Line Ads, ***Monday Noon***

Northeast Times
Classified Display, ***Monday 3pm***
Classified Line Ads, ***Tuesday Noon***

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FISHTOWN Afford. Rms. furn. kitchenettes $695 includes util. **215-634-7200**

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Room for Rent $575/mo. Available Now **215-634-7200**

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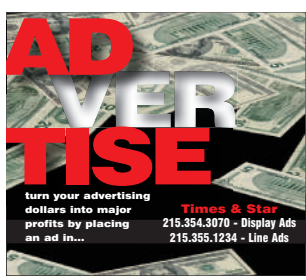
MENTION THIS AD FOR 10% DISCOUNT ON ALL WORK
Emergency Service • City Violations Corrected • Lic#4189 • Lic#4466
NO JOB TOO BIG OR TOO SMALL 215-743-1755
NM-00000240

Legal Notices

Pursuant to the Land Recycling and Environmental Standards Act, the act of May 19, 1995, P.L. #4, No.2., notice is hereby given Riverwards Group has submitted to the Pennsylvania Department of Environmental Protection a Notice of Submittal of the Remedial Investigation Report/ Cleanup Plan (RIR/CP) for the site located at 2507 Almond Ave, Philadelphia County. This Notice of Submittal states that the site was formerly a lead facility. The site has been found to be contaminated with lead which has contaminated soil on the site. The lead contaminated soil was remediated with a soil cap and subsequent redevelopment activities proposed will enhance the cap to include impervious surfaces such as asphalt paving and concrete. Riverwards Group has indicated that the proposed remediation measures will demonstrate attainment of a Site-Specific Standard. In accordance with the public involvement plan, meetings were held with the Olde Richmond Civic Association on June 2, 2022 and August 23, 2022. Two additional meetings were held with the Olde Richmond Civic Association Environmental Committee on January 10, 2023 and February 16, 2023. Olde Richmond Civic Association comments have been presented in the Remedial Investigation Report/Clean Up Plan.



PROOF OF PUBLICATION IN THE STAR

Under Act No. 587, Approved May 16, 1929

STATE OF PENNSYLVANIA
COUNTY OF PHILADELPHIA

SS.: Copy of Notice of Publication

Alice Sanzick being duly sworn, deposes and says that the STAR Newspaper published weekly, in Philadelphia, Pennsylvania, and was established in said county in 1947, since which date said newspaper has been regularly issued in said County and that a copy of the printed notice or publication is attached hereto exactly as the same was printed or published in the regular editions and issues of the said newspapers on the following dates; viz: 29th day of March , A.D. 2023.

Affiant further deposed and says that he is an employee of the publisher of said newspaper and has been authorized to verify the foregoing statement and that she is not interested in the subject matter of the aforesaid notice of publication, and that all allegations in the foregoing statement as to time, place and character of publication are true.

Alice Sanzick

Sworn to and subscribed before me this 29 day of March A.D. 2023.

Maureen M. Rolison

NOTARY PUBLIC

My Commission Expires.....

MAUREEN M. ROLISON
Notary Public, State of New Jersey
Comm. # 50185057
My Commission Expires 2/11/2027

RT Environmental Services, Inc.

March 22, 2023

Ms. Caroline Johnson, MD
Health Commissioner
Philadelphia Department of Public Health
Environmental Engineering Section
321 University Avenue
Philadelphia, PA 19104
(215) 685-7343 / Fax: (215) 382-1210

RE: NOTICE OF SUBMITTAL OF REMEDIAL INVESTIGATION REPORT/CLEANUP PLAN
2507 ALMOND STREET
PHILADELPHIA, PA 19125
RT PROJECT #70137-23

Dear Ms. Johnson:

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that notice of submittal of a Remediation Investigation Report/ Cleanup Plan (RIR/CP) be provided to the municipality in which the site is located.

Riverwards Group has submitted to the Pennsylvania Department of Environmental Protection a Remedial Investigation Report/ Cleanup Plan (RIR/CP) for the site located at 2507 Almond Ave, Philadelphia County. This RIR/CP states that the site was formerly a lead facility. The site has been found to be contaminated with lead which has contaminated soil on the site. The lead contaminated soil was remediated with a soil cap and subsequent redevelopment activities proposed will enhance the cap to include impervious surfaces such as asphalt paving and concrete. Riverwards Group has indicated that the proposed remediation measures will demonstrate attainment of a Site-Specific Standard. In accordance with the public involvement plan, meetings were held with the Olde Richmond Civic Association on June 2, 2022 and August 23, 2022. Following these meetings, Olde Richmond Civic Association provide a letter of support for the development to the City Zoning Board (see attached). Olde Richmond Civic Association formed an Environmental Committee in accordance with the letter of support. Two additional meetings were held with the Olde Richmond Civic Association Environmental Committee on January 10, 2023 and February 16, 2023. Olde Richmond Civic Association comments have been presented in the Remedial Investigation Report/Clean Up Plan.

In accordance with the provisions of the Act, we are formally notifying you of our client's submittal of the RIR/CP. This notice will be published in the local newspaper.

Sincerely,
RT ENVIRONMENTAL SERVICES, INC.

Walter H. Hungarter, III, P.E.
Vice President

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z0WX4022453782616

Service

UPS Next Day Air®

Shipped / Billed On

03/23/2023

Additional Information

Signature Required

Delivered On

03/24/2023 3:04 P.M.

Delivered To

321 S UNIVERSITY AVE
PHILADELPHIA, PA, 19104, US

Received By

miller

Left At

Office

Reference Number(s)

70137-23

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 03/30/2023 1:13 P.M. EST

APPENDIX F
PRELIMINARY PLAN FOR SOIL MANAGEMENT

2507 Almond Street (Lot 8)

Preliminary Plan for Soil Management

As documented in the Environmental Covenant for the property dated July 9, 2019, lead is present in site soils. The lead impacted soils where capped with a 2-foot clean fill cap. In accordance with the Environmental Covenant, no excavation work is permitted without prior notification to the PA DEP. Further, work to handle the lead impacted soil must be completed in accordance with federal, state and local regulations, protect the community from exposure to contaminated soil and is required to restore the cap upon completion of the work.

To facilitate the redevelopment of the site, RT Environmental Services, Inc. (RT) has developed this Preliminary Plan for Soil Management which documents key aspects which will be implemented to achieve the requirements set forth in the Environmental Covenant.

- Notification to PA DEP of cap disturbance. The developer of the property will submit to the PA DEP a Notice of Intent to Remediate and a Remedial Investigation Report/Cleanup Plan which will document the proposed cap changes (the developed condition – concrete, asphalt, and minimum 2-foot clean fill soil caps) for the site as well as the soil management protocols which will protect the community from exposure to contaminated soil.

- Soil management protocols which will be included as are follows:

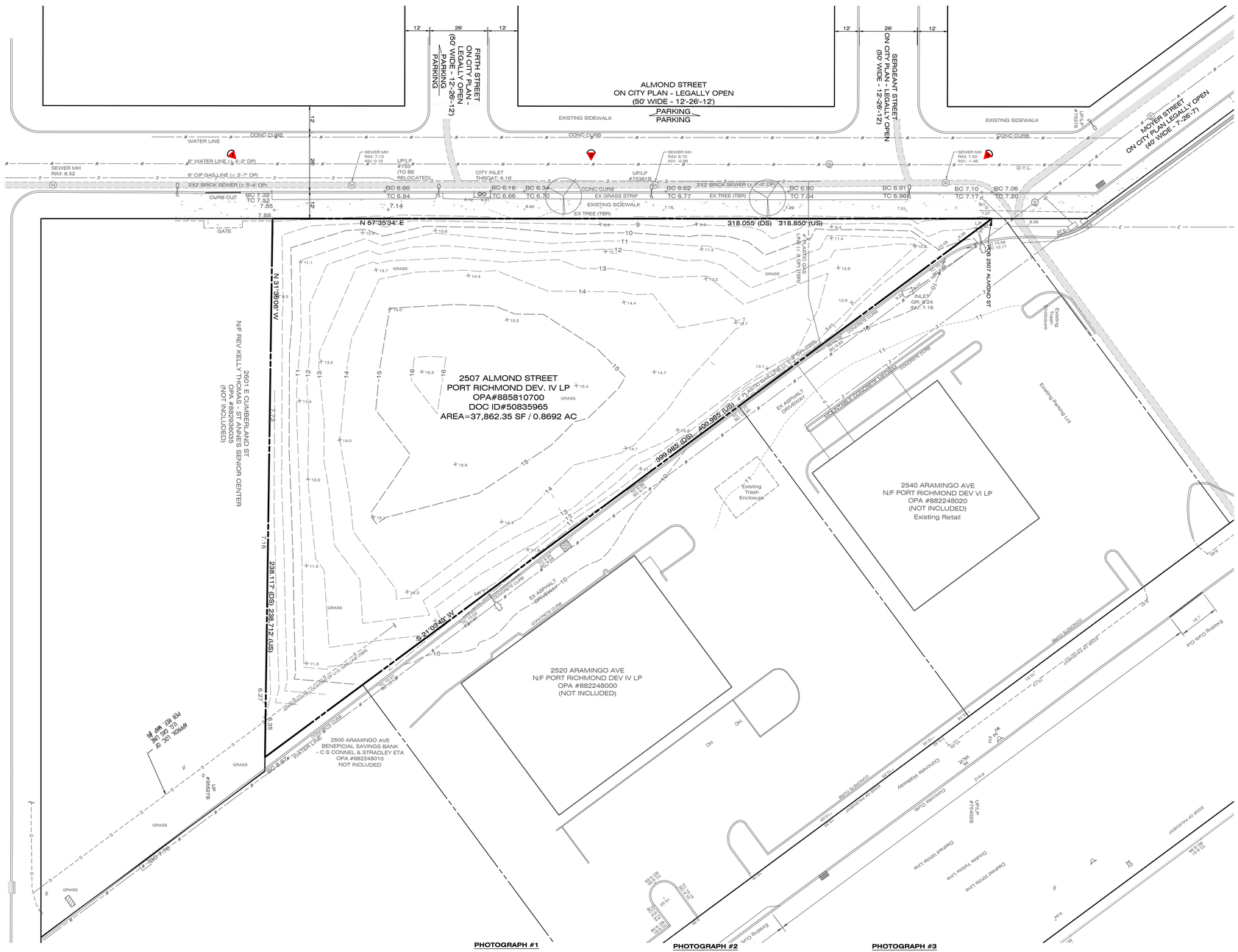
    - Implementation of Erosion and Sediment Control (E&S) features to prevent impacted soil from leaving the Site. The E&S controls will include a construction entrance for trucks which enter the Site that are used for transportation and disposal of the impacted soil. Best management practices will be implemented during construction to prevent wheel contact with the impacted soil while trucks are onsite. Any construction equipment used on the site will be decontaminated of impacted soil prior to being moved from the Site. Equipment speed during construction activities will be reduced to prevent the generation of dust during the work. Wind-screening materials will be used at the perimeter of the Site to preclude visible dust emission from the work area from being spread off of the Site. The E&S plan will include the use of water to control dust emissions from the Site. Prior to trucks leaving the Site, the soil in the bed of the truck will be wetted and the truck tarp will be placed over the material. Routine inspections will be completed during construction activities such that if dust is adequately controlled to prevent exposure to contaminated soil.

    - Air monitoring at the perimeter of the Site will be implemented during construction activities which disturbed impacted soil. Air monitoring locations will be established in the upwind and downwind direction each workday. Air samples will be analyzed for both total dust concentrations and total lead concentrations. Sample results will be reviewed upon receipt and evaluated (comparisons of upwind to downwind sample locations) to determine if modifications of dust control

procedures are necessary. Any modifications to the dust control procedures will be documented in the Final Report. Additionally, a field dust monitoring system will be used onsite and dust measurements will be collected throughout the work activities. These field dust measurements will also be used to determine if modifications to the dust control procedures are necessary. The field dust measurements and any modifications to the procedures will be documented in the Final report.

- A Final Act 2 Report will be submitted to PA DEP upon completion of the soil disturbance activities and the final cap installation. The Final Report will document the air monitoring results analyzed by the laboratory and the field dust measurements; any modifications to dust control protocols which were implemented during the construction will be discussed as well.

APPENDIX G
EROSIION AND SEDIMENTATION PLAN



LEGEND

EXISTING FEATURES

- TELECOMMUNICATION MANHOLE
- WATER MANHOLE
- ELECTRICAL MANHOLE
- SANITARY MANHOLE
- CITY INLET
- FIRE HYDRANT
- WATER VALVE
- UTILITY POLE
- SIGN
- LIGHT STANDARD
- DRILL HOLE
- SANITARY SEWER
- COMBINED SEWER
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD AERIAL LINE
- FENCE LINE
- EXISTING BUILDINGS
- ZONING BOUNDARY LINE
- BENCHMARK
- PHOTO LOCATION

CA-2 AUTO-ORIENTED COMMERCIAL DISTRICT ZONING CRITERIA

	Required
LOT REQUIREMENTS	
Min. District Area	80,000 S. FT.
Min. Street Frontage	100'
Min. Lot Area	15,000 S. FT.
Max. Occupied Area	100%
BUILDING DIMENSIONS	
Front Yard Setback	N/A
Side Yard Setback	N/A
Rear Yard Setback	N/A
Building Height	38'

UTILITY OWNERS

DATE CONTACTED: November 17, 2022

SERIAL NUMBER: 20223211140-000

COMPANY: COMCAST
ADDRESS: 4400 WAYNE AVENUE
PHILADELPHIA, PA. 19140
CONTACT: ROBERT HARVEY
EMAIL: bob_harvey@cable.comcast.com

COMPANY: PECO ENERGY C/O USIC
ADDRESS: 450 S HENDERSON RD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: PHILADELPHIA CITY WATER DEPARTMENT
ADDRESS: 1101 MARKET STREET
2ND FLOOR ARA TOWER
PHILADELPHIA, PA. 19107
CONTACT: ERIC PONERT
EMAIL: eric.ponert@phila.gov

COMPANY: CITY OF PHILADELPHIA
ADDRESS: 4501 Q ST
PHILADELPHIA, PA. 19120
CONTACT: KEVIN MCGINLEY
EMAIL: kevin.mcginley@phila.gov

COMPANY: PHILADELPHIA GAS WORKS
ADDRESS: 800 W MONTGOMERY AVE
PHILADELPHIA, PA. 19122
CONTACT: JAMES CUMMINGS
EMAIL: james.cummings@pgworks.com

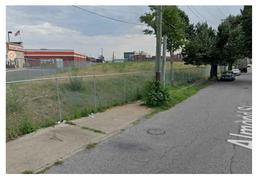
COMPANY: SOUTHEASTERN PA TRANSPORTATION AUTHORITY
ADDRESS: 1234 MARKET ST 12TH FL
PHILADELPHIA, PA. 19107
CONTACT: DAVID MONTVYDAS
EMAIL: dmontvydas@septa.org

COMPANY: VERIZON PENNSYLVANIA LLC
ADDRESS: 1050 VIRGINIA DR
FORT WASHINGTON, PA. 19034
CONTACT: DARLINE LEPPERD JOHNSON

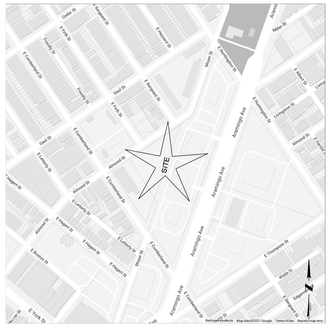
PHOTOGRAPH #1

PHOTOGRAPH #2

PHOTOGRAPH #3



APPLICATION REFERENCE NUMBERS
PWD STORMWATER TRACKING #: FY22-ALMO-6865-01
STREETS DEPT. ROW LOG #: SR-2022-TBD
STREETS DEPT. ADA LOG #: N/A



LOCATION MAP

SCALE N.T.S.

The property lies within the DELAWARE DIRECT WATERSHED

NOTES

1. Boundary and Location information is based on a field survey performed by Ruggiero Plante Land Design on November 8, 2021.
2. Boundary dimensions are identified in Philadelphia District Standard feet. Other stated dimensions are in U.S. standard feet.
3. The change from inches to the more precise decimal expression may result in minor changes in the second and third decimal places. These are not mistakes or oversights but more precise values.
4. The elevations for this plan are based on City Plan No. 195 Datum.
5. The bearings shown hereon are referenced from City Plan No. 195.
6. FEMA FIRM map #42075702016 effective January 17, 2007 designates the site as Zone X, areas outside the 500 yr. floodplain.
7. Some off site improvements such as buildings, curbing, and parking have been taken from aerial photographs, other plans and from public GIS sources.
8. Only above ground visible improvements have been located. The location of the underground utilities must be field verified by contractor before commencement of any construction.
9. The property is identified as within the Auto-Oriented Commercial (CA-2) Zoning District.
10. At the time of the survey no encroachments were observed.
11. The property has access to public streets, as shown on the survey. The property has direct access to Almond Street.
12. This survey does not address the presence or absence of freshwater wetlands.
13. At the time of the survey no evidence of any proposed changes to the street right-of-way lines were noted.

SOURCE OF TITLE

Deed from Port Richmond Dev. IV, L.P. to Port Richmond Dev. IV, L.P., dated November 21, 2003, being recorded in the City of Philadelphia on January 6, 2004 as Document ID 50835965.

PLAN REFERENCES

1. An 'ALTA/NSPS' survey made by American Control Point Associates Inc. dated May 3, 2002.

SOIL TYPE

Ub Urban land - too variable to be rated.

OWNER OF RECORD
2507 ALMOND STREET
RODIN GROUP
1616 Walnut Street, Suite 2400
Philadelphia, PA 19103

NOTE:
PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 REQUIRES THAT CONTRACTORS DETERMINE THE LOCATION OF ALL UTILITY, SEWER AND WATER LINES BEFORE COMMENCING CONSTRUCTION.

REVISIONS				

2507 ALMOND ST

PHILADELPHIA, PA 19125
Ward #31 OPA# 885810700

prepared for:
The Riverwards Group
Atten: Mo Rushdy
3020 Richmond Street (267) 970-4579
Philadelphia, PA, 19134
prepared by:

DAVID J. PLANTE, Professional Engineer PA. No. PE-043820-E

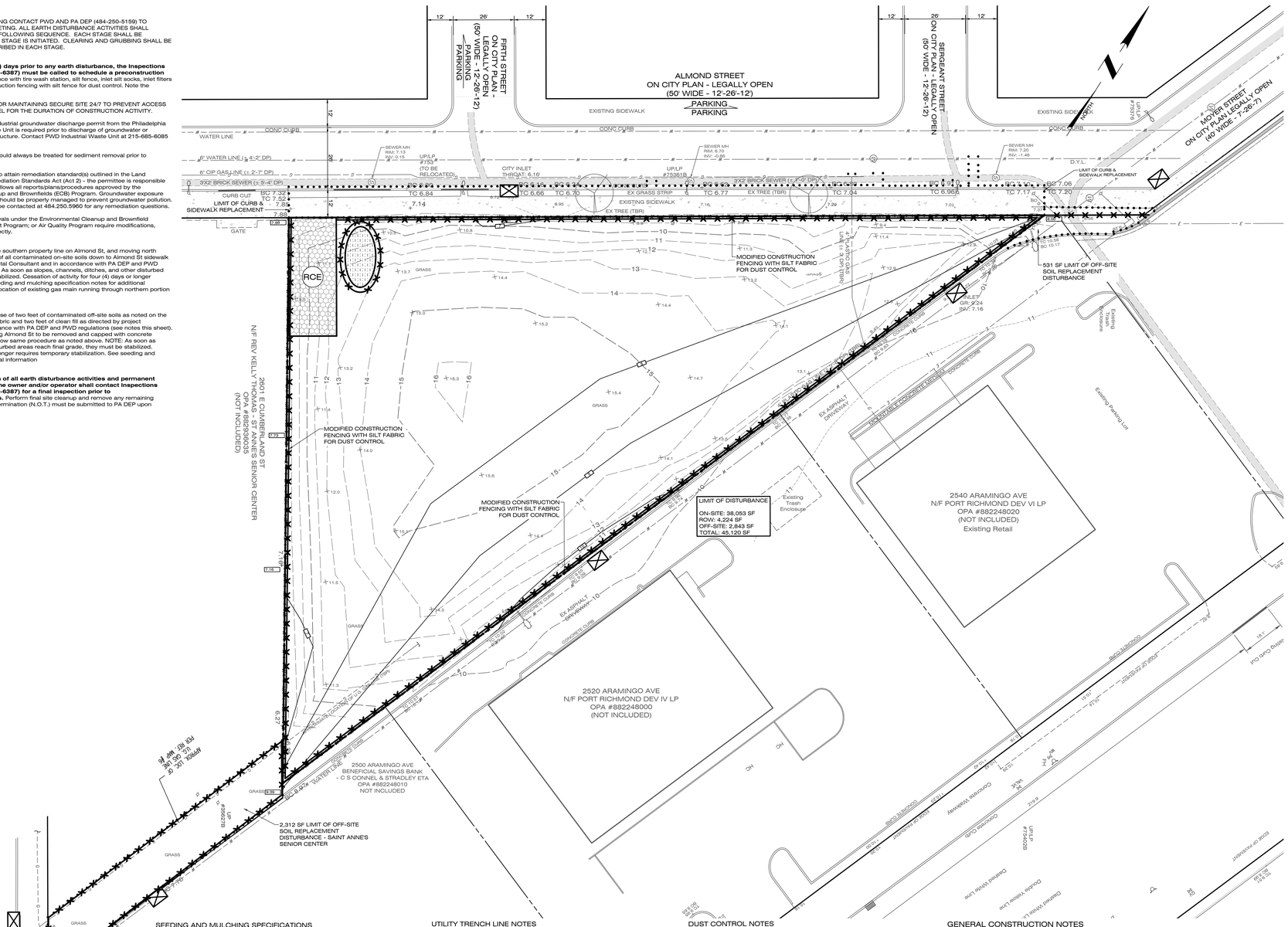
Ruggiero Plante Land Design
5900 Ridge Avenue Philadelphia, PA 19128
phone 215.508.3900 fax 215.508.3800 www.ruggieroplante.com

Plan Date: March 14, 2023
Scale: 1" = 20'

DEP E&S SUBMISSION
PWD TRACKING # FY22-ALMO-6865-01

EXISTING FEATURES PLAN

1 of 3



CONSTRUCTION SEQUENCE

PRIOR TO CONSTRUCTION COMMENCING CONTACT PWD AND PA DEP (484-250-5159) TO SCHEDULE A PRE-CONSTRUCTION MEETING. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

STAGE 1

CRITICAL STAGE 1: At least seven (7) days prior to any earth disturbance, the Inspections Coordinator of PWD (Office: 215-685-6387) must be called to schedule a preconstruction meeting. Install rock construction entrance with tire wash station, silt fence, inlet silt socks, inlet filters in adjoining streets, and modified construction fencing with silt fence for dust control. Note the following:

1. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SECURE SITE 24/7 TO PREVENT ACCESS FROM UNAUTHORIZED PERSONNEL FOR THE DURATION OF CONSTRUCTION ACTIVITY.
2. Contractor must determine if an industrial groundwater discharge permit from the Philadelphia Water Department Industrial Waste Unit is required prior to discharge of groundwater or stormwater into City-owned infrastructure. Contact PWD Industrial Waste Unit at 215-685-6085 for information.
3. Water pumped from work areas should always be treated for sediment removal prior to discharging to a "surface water."
4. For contaminated sites proposing to attain remediation standard(s) outlined in the Land Recycling and Environmental Remediation Standards Act (Act 2) - the permittee is responsible for assuring that the remediation follows all reports/plans/procedures approved by the Department's Environmental Cleanup and Brownfields (ECB) Program. Groundwater exposure pathways and contaminated soils should be properly managed to prevent groundwater pollution. The regional ECB program should be contacted at 484.250.5960 for any remediation questions.
5. If any of the requirements or approvals under the Environmental Cleanup and Brownfield Program; Solid Waste Management Program; or Air Quality Program require modifications, please contact those programs directly.

STAGE 2

CRITICAL STAGE 2: Beginning from the southern property line on Almond St, and moving north towards Moyer St, remove and dispose of all contaminated on-site soils down to Almond St sidewalk grade as directed by project Environmental Consultant and in accordance with PA DEP and PWD regulations (see notes this sheet). NOTE: As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized. Cessation of activity for four (4) days or longer requires temporary stabilization. See seeding and mulching specification notes for additional information. Contractor to coordinate relocation of existing gas main running through northern portion of site with PGW.

STAGE 3

CRITICAL STAGE 3: Remove and dispose of two feet of contaminated off-site soils as noted on the E&S Plan and replaced with geotextile fabric and two feet of clean fill as directed by project Environmental Consultant and in accordance with PA DEP and PWD regulations (see notes this sheet). Existing landscaping strip and trees along Almond St to be removed and capped with concrete sidewalk. Proposed street tree pits to follow same procedure as noted above. NOTE: As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized. Cessation of activity for four (4) days or longer requires temporary stabilization. See seeding and mulching specification notes for additional information

STAGE 4

CRITICAL STAGE 4: Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact Inspections Coordinator of PWD (Office: 215-685-6387) for a final inspection prior to removal/conversion of the E&S BMPs. Perform final site cleanup and remove any remaining control facilities. The NPDES Notice of Termination (N.O.T.) must be submitted to PA DEP upon completion of construction.

LEGEND

EXISTING FEATURES

- TELECOMMUNICATION MANHOLE
- WATER MANHOLE
- ELECTRICAL MANHOLE
- SANITARY MANHOLE
- CITY INLET
- FIRE HYDRANT
- WATER VALVE
- UTILITY POLE
- SIGN
- LIGHT STANDARD
- DRILL HOLE
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- COMBINED SEWER
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD AERIAL LINE
- FENCE LINE
- EXISTING BUILDINGS
- ZONING BOUNDARY LINE
- BENCHMARK

E & S

- CONSTRUCTION FENCE
- SILT FENCE / SILT SOXX
- INLET FILTER
- GREEN ROOF DRAIN FILTER
- ROCK CONSTRUCTION ENTRANCE
- TEMPORARY STOCKPILE
- CONCRETE WASHOUT
- LIMIT OF DISTURBANCE

LOCATION MAP SCALE N.T.S.

The property lies within the
DELAWARE DIRECT WATERSHED

NOTES

1. Boundary and Location information is based on a field survey performed by Ruggiero Plante Land Design on November 8, 2021.
2. Boundary dimensions are identified in Philadelphia District Standard feet. Other stated dimensions are in U.S. standard feet.
3. The change from inches to the more precise decimal expression may result in minor changes in the second and third decimal places. These are not mistakes or oversights but more precise values.
4. The elevations for this plan are based on City Plan No. 195 Datum.
5. The bearings shown hereon are referenced from City Plan No. 195.
6. FEMA FIRM map #4207570201G effective January 17, 2007 designates the site as Zone X, areas outside the 500 yr. floodplain.
7. Some off site improvements such as buildings, curbing, and parking have been taken from aerial photographs, other plans and from public GIS sources.
8. Only above ground visible improvements have been located. The location of the underground utilities must be field verified by contractor before commencement of any construction.
9. The property is identified as within the Auto-Oriented Commercial (CA-2) Zoning District.
10. At the time of the survey no encroachments were observed.
11. The property has access to public streets, as shown on the survey. The property has direct access to Almond Street.
12. This survey does not address the presence or absence of freshwater wetlands.
13. At the time of the survey no evidence of any proposed changes to the street right-of-way lines were noted.

UTILITY OWNERS

DATE CONTACTED: November 17, 2022

SERIAL NUMBER: 20223211140-000

COMPANY: COMCAST
ADDRESS: 4400 WAYNE AVENUE
PHILADELPHIA, PA. 19140
CONTACT: ROBERT HARVEY
EMAIL: bob_harvey@cable.comcast.com

COMPANY: PECO ENERGY C/O USIC
ADDRESS: 450 S HENDERSON RD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: PHILADELPHIA CITY WATER DEPARTMENT
ADDRESS: 1101 MARKET STREET
2ND FLOOR ARA TOWER
PHILADELPHIA, PA. 19107
CONTACT: ERIC PONERT
EMAIL: eric.ponert@phila.gov

COMPANY: CITY OF PHILADELPHIA
ADDRESS: 4501 G ST
PHILADELPHIA, PA. 19120
CONTACT: KEVIN MCGINLEY
EMAIL: kevin.mcginley@phila.gov

COMPANY: PHILADELPHIA GAS WORKS
ADDRESS: 800 W MONTGOMERY AVE
PHILADELPHIA, PA. 19122
CONTACT: JAMES CUMMINGS
EMAIL: james.cummings@pgworks.com

COMPANY: SOUTHEASTERN PA TRANSPORTATION AUTHORITY
ADDRESS: 1234 MARKET ST 12TH FL
PHILADELPHIA, PA. 19107
CONTACT: DAVID MONTVYDAS
EMAIL: dmontvydas@septa.org

COMPANY: VERIZON PENNSYLVANIA LLC
ADDRESS: 1050 VIRGINIA DR
FORT WASHINGTON, PA. 19034
CONTACT: DARLINE LEPPERD JOHNSON

SOIL TYPE

Ub Urban land - too variable to be rated.

OWNER OF RECORD

2507 ALMOND STREET
RODIN GROUP
1616 Walnut Street, Suite 2400
Philadelphia, PA 19103

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP-CALL BEFORE YOU DIG!

NOTE:
PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 REQUIRES THAT CONTRACTORS DETERMINE THE LOCATION OF ALL UTILITY, SEWER AND WATER LINES BEFORE COMMENCING CONSTRUCTION.

REVISIONS					

SEEDING AND MULCHING SPECIFICATIONS

SEEDBED PREPARATION for both Temporary and Permanent Conditions Apply limestone and fertilizer (if required) according to soil test recommendations. Topsoil required - min. 5" depth of topsoil free of objectionable debris. The contractor should be aware of the possibility, depending upon the site conditions, that may have to be provided from an off-site source. Topsoil should be handled only when dry enough to work without damaging soil structure. Apply a uniform 5 inches (unsettled) of topsoil over all disturbed areas.

TEMPORARY SEEDING SPECIFICATIONS

Apply 10-10-10 fertilizer at a rate of 500 lbs. per acre or 11 lbs. per 1,000 s.f. Apply limestone at a rate of 1 tons per acre or 90 lbs per 1,000 s.f.
Apply annual ryegrass & perennial ryegrass at rates of 100 lbs. per acre (Mar. 1 to May 15 & Aug. 15 to Oct. 1).
Apply 64 lbs. per acre of oats (in spring before May 1 and Aug. 15 to Oct.1), 112 lbs per acre of grain rye from Sept. 1 to Oct. 20), 96 lbs. per acre of barley (from Mar. 1 to May 15 and Aug. 15 to Oct. 1).
Apply straw or hay mulch at a rate of 3 tons per acre and anchor immediately after placement. This is to be done using the "Penn State Erosion Control & Conservation Plantings on Noncropland".

SEEDBED PREPARATION for Permanent Conditions
Apply limestone and fertilizer according to soil test recommendations or lime applied at a rate of 6 tons per acre and 10-20-20 fertilizer (if required) at a rate of 1000 lbs. per acre. Apply straw or hay mulch at a rate of 3 tons per acre and anchor immediately after placement. This is to be done using the "Penn State Erosion

PERMANENT SEEDING SPECIFICATIONS
Apply seed mixture for general seeding: 20% PLS Flatpea at a rate of 30 lbs per acre
Plus 20% PLS Tall Fescue at a rate of 30 lbs per acre
(Or 20% PLS perennial ryegrass at a rate of 25 lbs per acre)
Apply seed mixture for critical areas: 15% PLS Switchgrass (or Big Bluestem) at a rate of 20 lbs per acre, 6% PLS Birdsfoot trefoil at a rate of 10 lbs per acre

Any changes to the rate or mixtures as shown on the certified plan must be approved by the district prior to application. No final reports of compliance will be issued without verification requirements as explained above.

UTILITY INSTALLATION NOTE

WHERE UTILITY INSTALLATIONS CROSS SILT FENCE, REMOVE ONLY SILT FENCE NECESSARY TO INSTALL UTILITY LINE AND REPLACE SILT FENCE IMMEDIATELY AFTER BACK FILLING UTILITY TRENCH (prior to end of workday)

MANAGEMENT OF FILL

IF FILL MATERIAL WILL BE REUSED ON-SITE. APPLICANT WILL PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE THE CONDITION OF THE FILL MATERIAL AS PER PA DEP BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT.

CLEAN FILL - UNCONTAMINATED, NONWATER-SOLUBLE, NON-DECOMPOSABLE INERT SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND RECOGNIZABLE AS SUCH. (25 PA. CODE SECTION 287.1.271.1) THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATER OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED.

ENVIRONMENTAL DUE DILIGENCE - INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF OWNERSHIP AND USE HISTORY OF PROPERTY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS AND AUDITS.

UTILITY TRENCH LINE NOTES

1. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO LINES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
2. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE. PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
3. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
4. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
5. WATER THAT ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.
6. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
7. ALL UTILITY SERVICE LINES THAT PASS THROUGH THE EXISTING FRONT WALL SHALL BE INSTALLED EITHER BENEATH THE WALL FOOTER OR CORED THROUGH THE WALL ALONG FOUNTAIN STREET. EXTREME CARE SHALL BE TAKEN TO PROTECT THE INTEGRITY OF THE STRUCTURAL FOUNDATION.

DUST CONTROL NOTES

The following methods should be considered for controlling dust:

Spray-on Adhesives - On mineral soils (not effective on muck soils). Keep traffic off these areas.

Dust Control Materials

Material	Water Dilution	Nozzle Type
Anionic asphalt emulsion	7:1	Coarse Spray
Latex emulsion	12.5:1	Fine Spray
Resin in water	4:1	Fine Spray
Polyacrylamide (PAM)-spray on	Apply according to manufacturer's instructions.	
Polyacrylamide (PAM)-dry spray colloids.	to flocculate and precipitate suspended	
Acidulated Soy Bean Soap Stick	None	Coarse Spray

Tillage - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, and spring-toothed harrows are examples of equipment which may produce the desired effect.

Sprinkling - Site is sprinkled until the surface is wet.

Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay, and similar material can be used to control air currents and soil blowing.

Calcium Chloride - Shall be in form of loose, dry granulates of flakes fine enough to feed through commonly used spreaders at a rate that will keep surface moist but not cause pollution or plant damage. If used on steeper slopes, then use other practices to prevent washing into streams, or accumulation around plants.

Stone - Cover surface with crushed stone or coarse gravel.

DUST CONTROL NOTES

Dust Control Permits

1. Notwithstanding the public notification requirements set forth in the Air Management Regulations I, II, III of the Air Pollution Control Board, no person shall -
   - 1.1. Completely demolish any building or structure that is more than three stories, greater than forty (40) feet tall or encompasses more than ten thousand (10,000) square feet;
   - 1.2. completely or partially demolish any building or structure by implosion; or
   - 1.3. engage in earthworks as defined in Air Management Regulation I; without first obtaining a permit from the Department.
2. The Department will not issue a permit pursuant to Section IX.B. of this Regulation unless and until the applicant has met all of the following requirements:
   - 2.1. For demolitions and earthworks specified in Sections IX.B.1.a. and of this Regulation, applicant must submit to the Department a permit application accompanied by the fee required pursuant to Section 3-307(f) of the Air Management Code.
3. A copy of any Dust Control Permit issued pursuant to Section IX.B. of this Regulation must be retained at the worksite and be available for inspection by the Department.

General Work Practice Standards

1. Emission of dust into the outdoor atmosphere from construction, demolition, and earthworks worksites, where such dust is visible at the point that it passes beyond the property line of said worksites, is prohibited.
2. No person shall engage in any cutting, sawing, grinding, wrecking, smashing, or mechanical breaking of construction materials on a worksite open to the outdoor air, absent use of one or more of the following dust control methods:
   - 2.1. Use of grinders, saws, or other power tools equipped with Dust Collection / Extraction Systems. All such tools and Dust Collection / Extraction Systems must be used in accordance with manufacturer recommendations.
   - 2.2. Ensuring that construction materials or structure surfaces are adequately wetted, weather permitting (e.g. > thirty two (32) Degrees Fahrenheit at source of dust emission).
3. The requirements of Section IX.C.2.a. of this Regulation notwithstanding, dry abrasive blasting of exterior surfaces, building facades, and other surfaces open to the outdoor air is prohibited when the temperature at point of abrasive blasting is > thirty two (32) Degrees Fahrenheit. When the temperature at point of abrasive blasting is < thirty two (32) Degrees Fahrenheit, dry abrasive blasting of exterior surfaces, building facades, and other surfaces open to the outdoor air will only be permitted if a temporary enclosure, maintained under negative air pressure and equipped with a Dust Collection / Extraction System, is erected around the immediate work area.
4. No construction material or debris shall be dropped more than twenty (20) feet to any point lying outside of the exterior walls of a building or outside of a structure, except through the use of a materials chute. All materials chutes, or sections thereof, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. At all stories below the top floor, such openings shall be kept closed when not in use. Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein. To prevent dust emissions at the exit of the materials chute, all construction material or debris dropped through a materials chute must be adequately wetted to prevent dust emissions. Alternatively, the material chute exit must be sealed against the top of an appropriate container to prevent dust emissions.
5. Water, or other dust suppressants approved by the Department, must be applied to all worksites with ongoing filling, grading, excavation, land clearing, grubbing, or earthworks activities open to the outdoor air to prevent dust emissions. Application of water as the sole dust suppression agent is prohibited when the temperature drops below thirty two (32) Degrees Fahrenheit at source of dust emission.
6. Dust control fabric must be securely attached to any temporary worksite perimeter fencing. The dust control fabric material shall be a minimum of five feet in height as measured from the bottom of the perimeter fence, and have a minimum blockage of 50%.
7. Debris generated from earthworks, construction, and demolition activities must be adequately wetted and covered before being transported from the worksite.
8. Any soil, sand, aggregate, or other similar construction materials that are stored on a worksite open to the outdoor air must be adequately wetted and covered when possible to prevent dust emissions.
9. Sufficient drainage must be provided to prevent the uncontrolled discharge of water or other liquid applied to the site for dust control.
10. A 10-mph speed limit shall be observed by all equipment and trucks traveling within the worksite.
11. All roadways on the worksite, and all vehicle access points to the site, must be adequately wetted and swept of materials that will give rise to dust emissions. Vehicle access points must be equipped with dust track out prevention measures (e.g. wheel wash systems, rumble grates, and / or gravel pads).
12. The Department may promulgate Guidelines to establish new work practice requirements, or to clarify existing work practice requirements outlined in this Regulation.

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PHILADELPHIA WATER DEPARTMENT AND PHILADELPHIA STREETS DEPARTMENT STANDARDS, AS WELL AS PA DOT PUBLICATIONS 408 AND 72.
2. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, BUT NOT LIMITED TO THE LANDOWNER AND PWD EROSION AND SEDIMENT CONTROL DIVISION, TO AN ON-SITE MEETING.
3. AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO THE CITY-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION.
4. INLET PROTECTION SHALL BE PROVIDED FOR ALL CITY-OWNED INLETS WITHIN ONE BLOCK OF THE PROJECT AREA.
5. PWD IS NOT RESPONSIBLE FOR ANY CLEARING OR REPAIRS NEEDED ON CITY-OWNED INFRASTRUCTURE DUE TO FAILURE OF ANY EROSION AND SEDIMENT CONTROL PRACTICES. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUCH WORK.
6. INVERTS SPECIFIED FOR PROPOSED INLETS AND MANHOLES ARE PIPE INVERTS. ALL INLETS AND MANHOLES SHALL PROVIDE A SUMP IN ACCORDANCE WITH THE DETAIL DRAWINGS.
7. ALL EXISTING MANHOLE RIMS, VALVES, CLEANOUTS, ETC. THAT WILL REMAIN SHALL BE RAISED TO MATCH THE PROPOSED GRADE.
8. THE MINIMUM HOUSE TRAP SIZE IS 5" DIAMETER. THE MINIMUM CONNECTION TO PWD OWNED SEWERS IS 5" DIAMETER FOR ALL SANITARY SEWER LATERALS PER PHILADELPHIA PLUMBING CODE.
9. TRAFFIC PAINT AND SIGNAGE SHALL BE IN CONFORMANCE WITH PA DOT PUBLICATION 408 AND MUTCD.
10. RECYCLED BITUMINOUS AND P.C. CONCRETE MAY BE USED FOR BASE AND AGGREGATE MATERIAL IN ACCORDANCE WITH PA DOT PUBLICATION 408.

CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SECURE SITE 24/7 TO PREVENT ACCESS FROM UNAUTHORIZED PERSONNEL FOR THE DURATION OF CONSTRUCTION ACTIVITY.

ANY INTRUSIVE WORK REQUIRES A HEALTH AND SAFETY PLAN (HASP) TO BE APPROVED IN ADVANCE BY THE ENVIRONMENTAL ENGINEER; RT ENVIRONMENTAL SERVICES, INC.

CLEAN FILL AND SITE CONTAMINATION NOTES

1. With the exception of sites enrolled in DEP's Land Recycling and Environmental Remediation Standards (Act 2) program and sites with DEP Waste Management General Permit (WMGR096) approval to use regulated fill, all fill material imported to the site must meet the definition of clean fill, as defined in the NPDES Stormwater Construction Permit. Regulated fill may only be used on Act 2 sites, in accordance with standards established by that program, and on sites with DEP General Permit WMGR096 approval.

2. The permittee shall conduct environmental due diligence to verify that soils excavated on-site that is used to establish final grade and fill imported to the project site is considered clean fill. If due diligence results in evidence of a release, as defined in DEP's Management of Fill Policy (285-2182-773), that has affected the fill material, the permittee shall test the material to determine whether the material qualifies as clean fill, and DEP's electronic Form FP-001 (Certification of Clean Fill) must be completed, retained by the permittee or the property owner on-site, and be made available to DEP/PWD upon request.

3. If the permittee becomes aware during earth disturbance activities that soils in the area of earth disturbance contain concentrations of regulated substances exceeding the residential medium-specific concentrations for soil in 25 Pa. Code Chapter 250, that were not previously disclosed to DEP/CCD, the permittee shall notify DEP/CCD in accordance with the Standard Condition Part A III.D of the NPDES Stormwater Construction permit and cease earth disturbance activities in areas of know soil contamination until authorized to resume by DEP/PWD.

4. If the permittee encounters groundwater during excavation that the permittee knows or has reason to believe is contaminated by one or more pollutants at concentrations exceeding water quality criteria contained in 25 Pa. Code Chapter 93, that were not previously disclosed to DEP/CCD, the permittee shall notify DEP/CCD in accordance with the Standard Condition Part A III.D of the NPDES Stormwater Construction permit. Contaminated groundwater may not be pumped or otherwise diverted to surface waters unless specifically authorized by DEP/PWD.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

2507 ALMOND ST

PHILADELPHIA, PA 19125
Ward #31 OPA# 885810700

prepared for:
The Riverwards Group
Atten: Mo Rushdy
3020 Richmond Street (267) 970-4579
Philadelphia, PA, 19134
prepared by:

DAVID J. PLANTE, Professional Engineer PA. No. PE-043820-E

DAVID J. PLANTE
PE043820-E

Ruggiero Plante Land Design
5900 Ridge Avenue Philadelphia, PA 19128
phone 215.508.3900 fax 215.508.3800 www.ruggieroplante.com

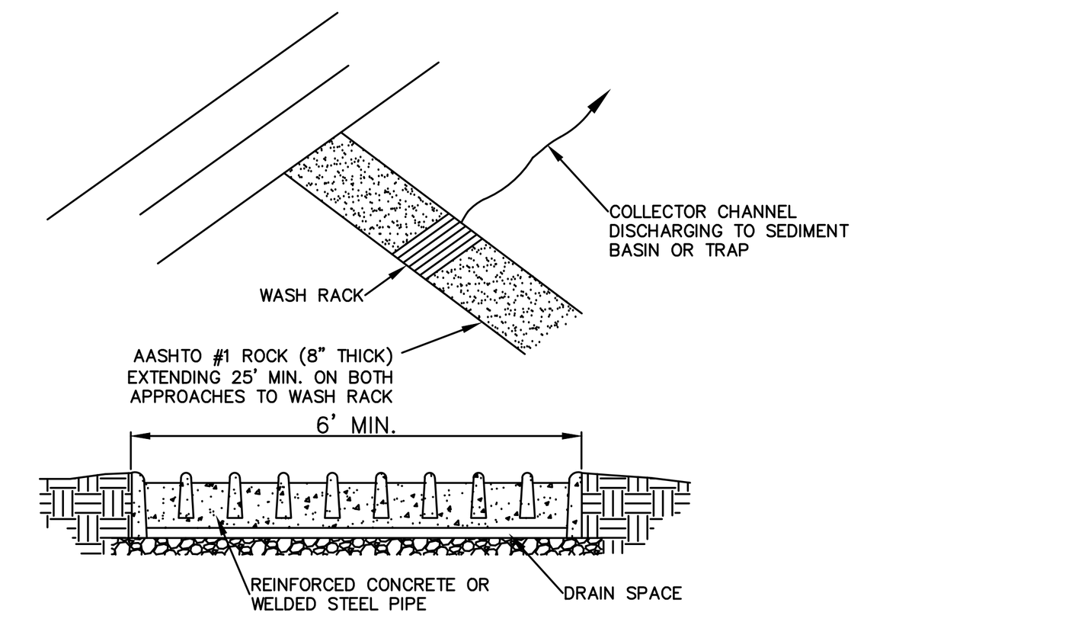
Plan Date:
March 14, 2023

Scale: 1" = 20'
20' 10' 0 20'

PWD ERSA SUBMISSION
PWD TRACKING # FY22-ALMO-6865-01

EROSION & SEDIMENT CONTROL PLAN

2 of 3



NOTES:

WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS.

WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.

A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

ROCK CONSTRUCTION ACCESS WITH WASH RACK SCD #3-2

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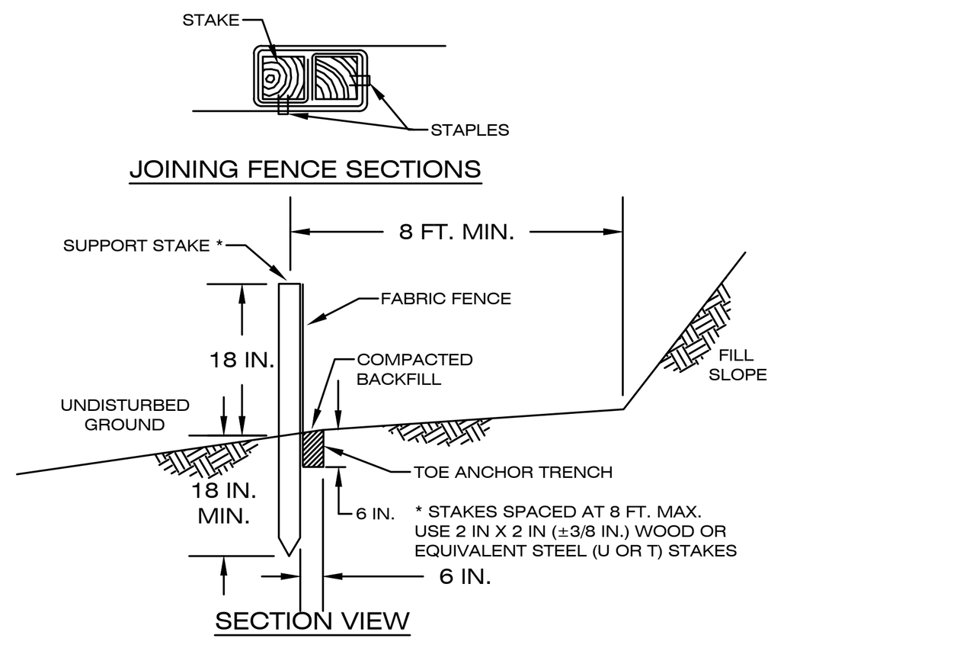

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD SILT FENCE DETAIL (18" HIGH)

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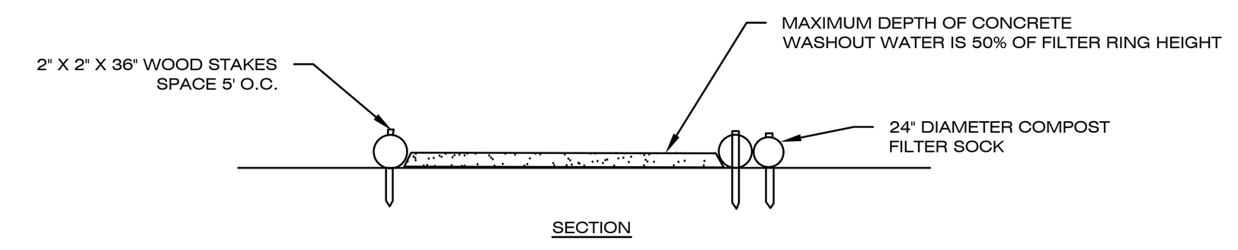
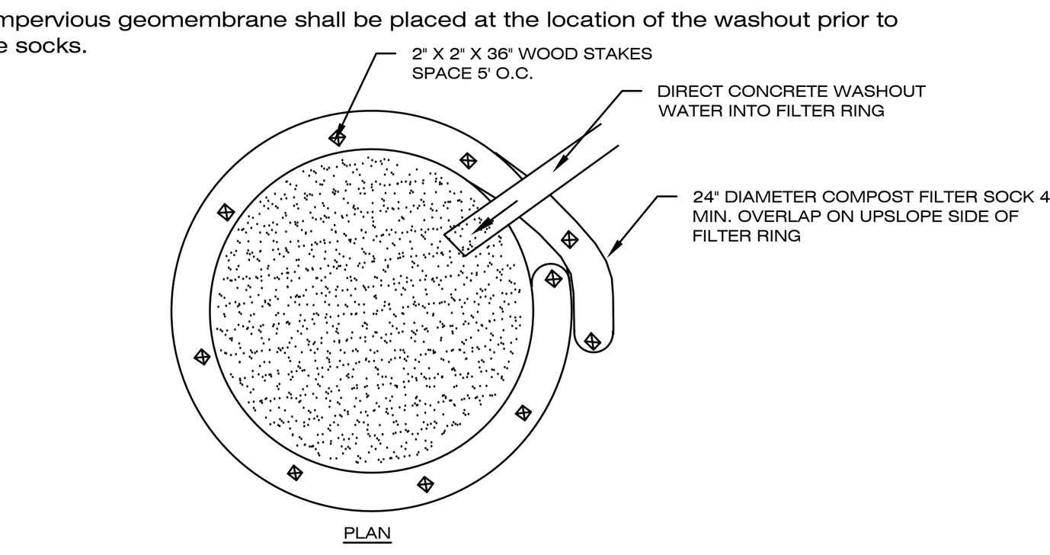


A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

CONCRETE WASHOUT

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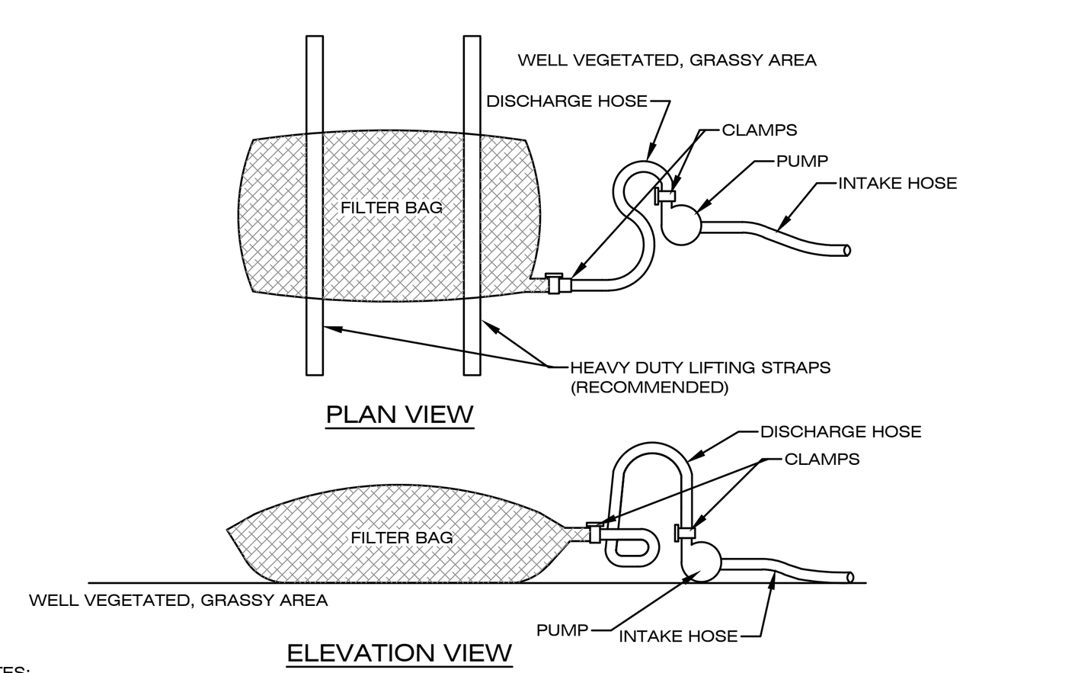


NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

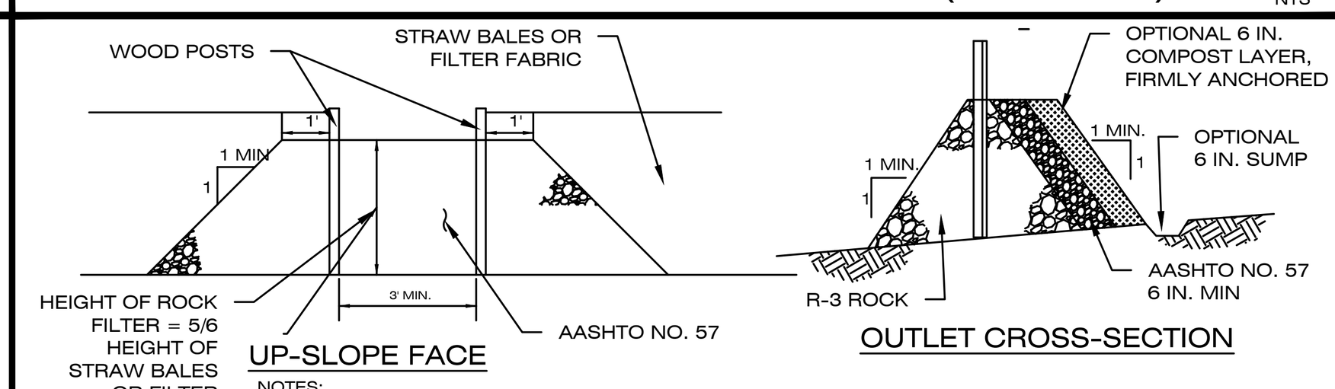
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

PUMPED WATER FILTER BAG DETAIL

N.T.S.



NOTES:
1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

ROCK FILTER OUTLET

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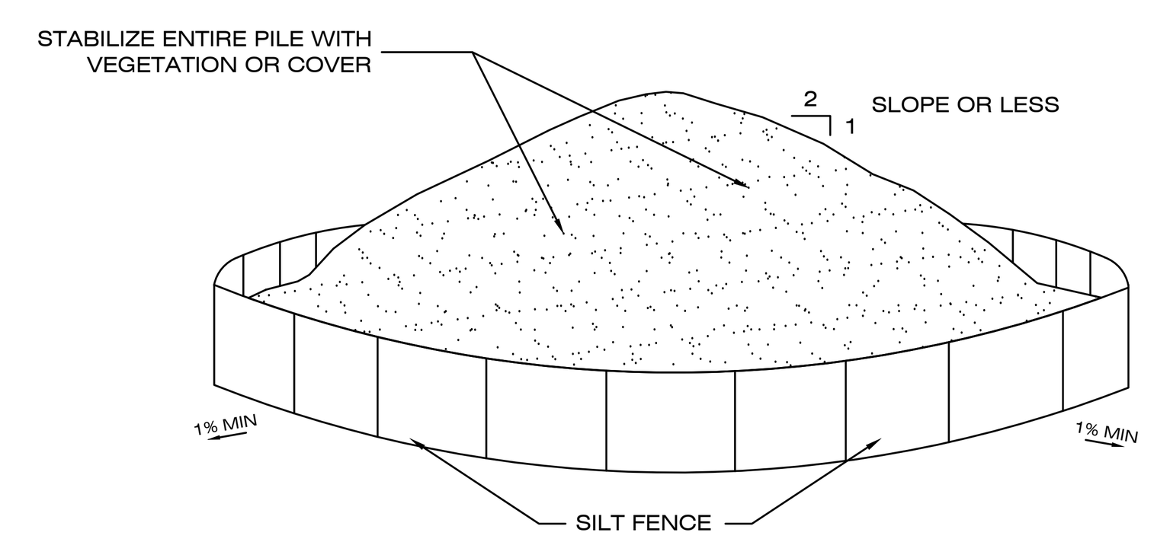
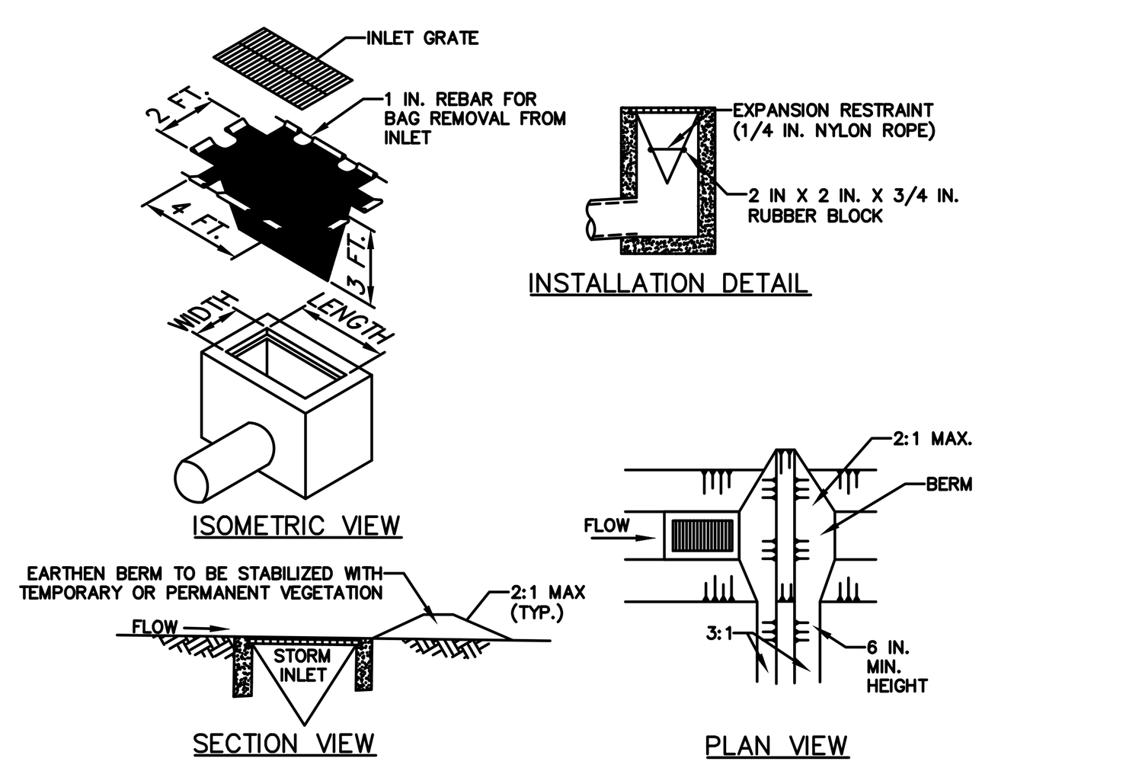


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1. MAXIMUM HEIGHT SHALL NOT EXCEED 20 FEET.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH REINFORCED SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILE DETAIL

NTS



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

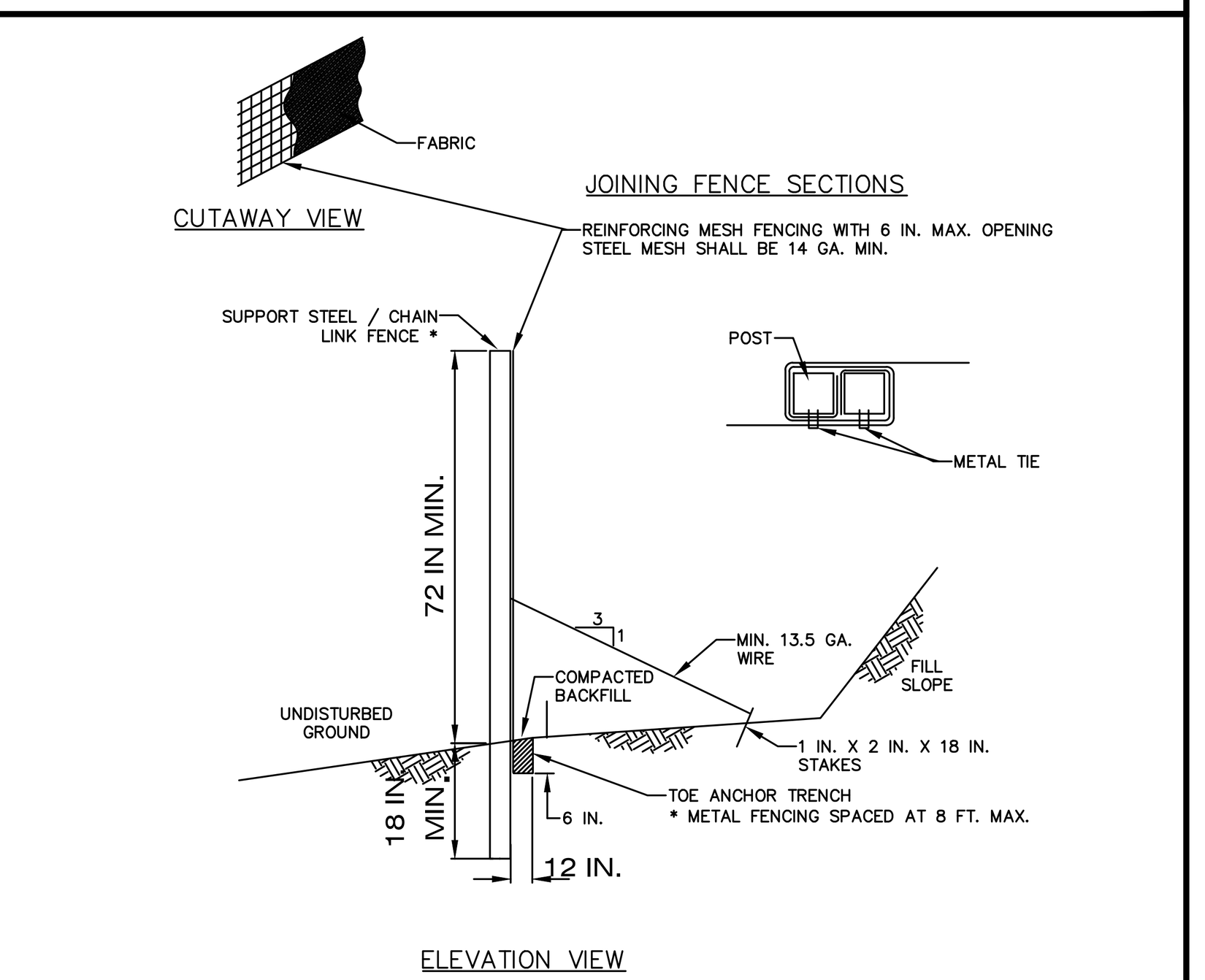
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

FILTER BAG INLET PROTECTION - TYPE M INLET DETAIL SCD #4-16

N.T.S.



NOTES:

SEE STANDARD PA DEP DETAIL FOR REINFORCED SILT FENCING FOR REFERENCE,

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 42 IN. MINIMUM. FENCE POST SHALL BE STEEL AND AN 72 IN. MINIMUM HEIGHT. POST SHALL BE DRIVEN 18 IN. MINIMUM INTO UNDISTURBED GROUND.

FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

STRUCTURAL ENGINEER SHOULD APPROVE ANCHORING DESIGN FOR MODIFIED FENCING.

MODIFIED CONSTRUCTION FENCE DETAIL

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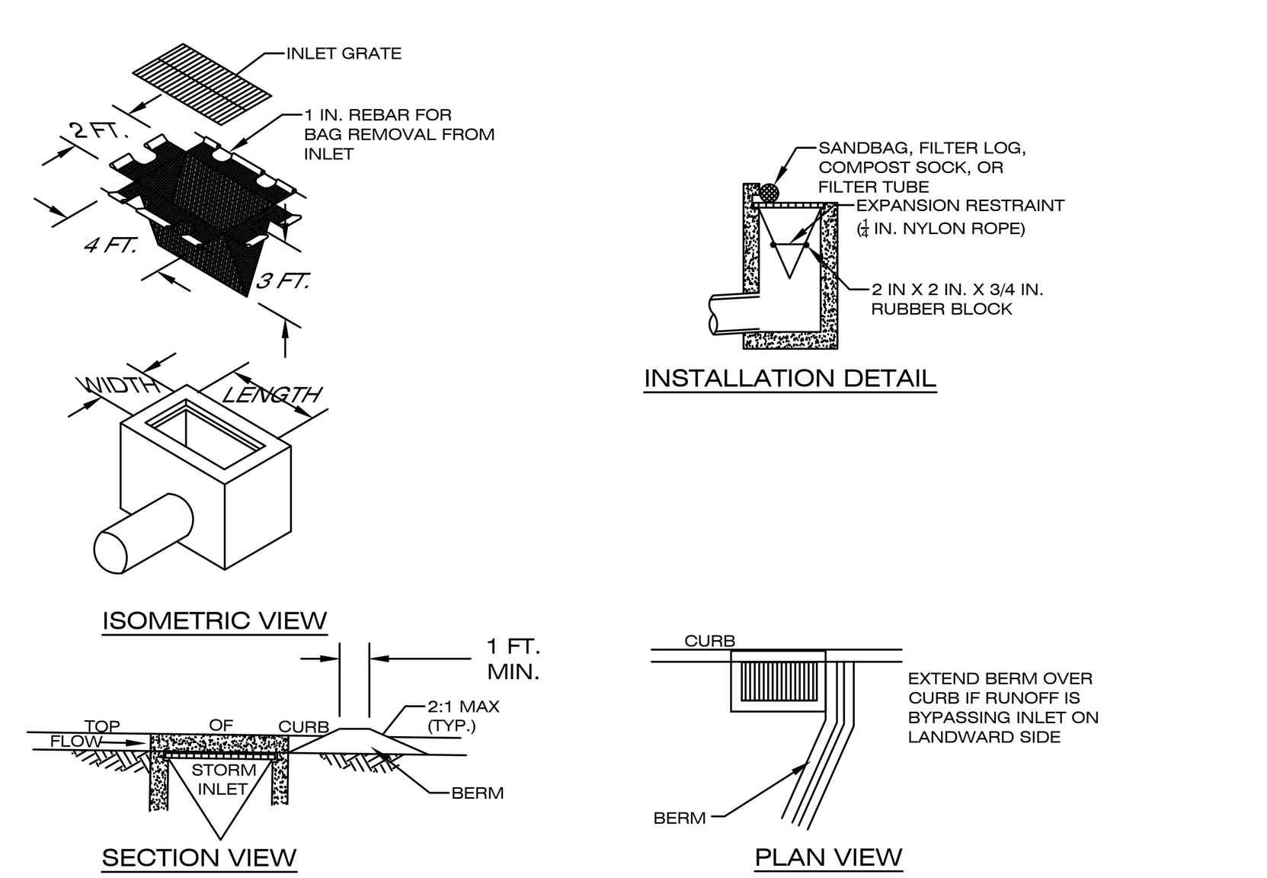


NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

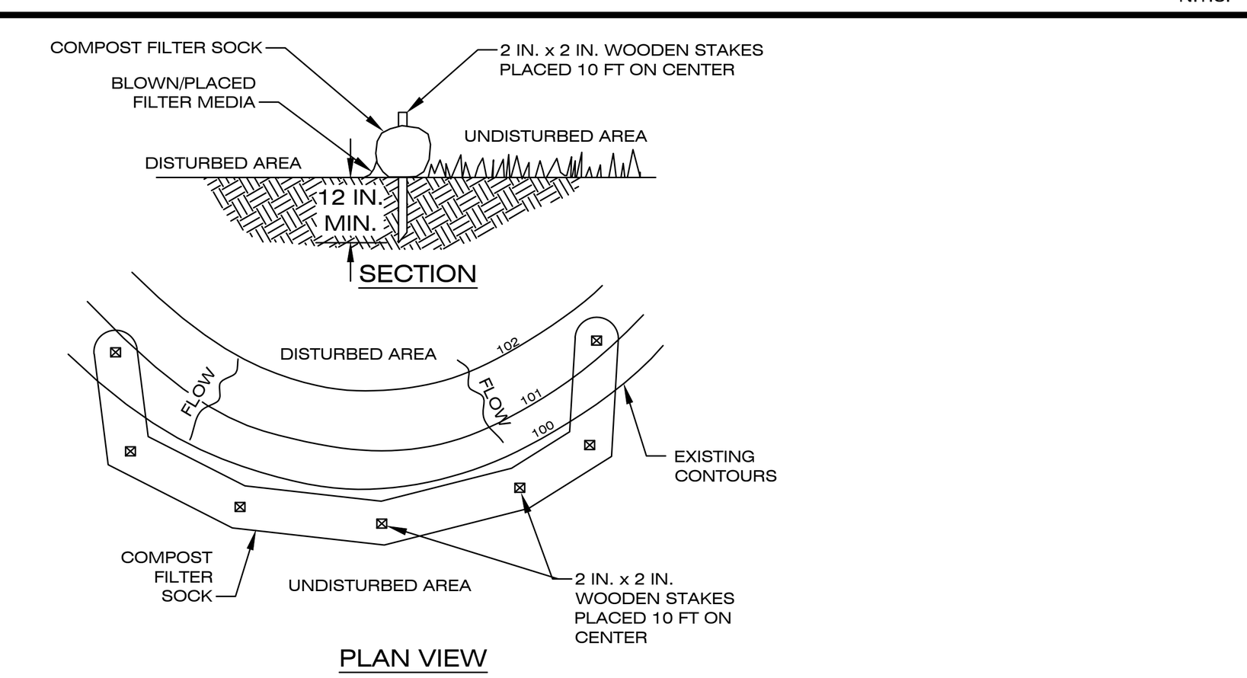
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

FILTER BAG INLET PROTECTION - TYPE C INLET

NTS



1. NOTES:
2. Sock fabric shall meet standards of Table 4.1 of the PA DEP Erosion Control Manual. Compost shall meet the standards of Table 4.2 of the PA DEP Erosion Control Manual.
3. Compost filter sock shall be placed at existing level grade. Both ends of the barrier shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment. Maximum slope length above any barrier shall not exceed that specified for the size of the sock and the slope of its tributary area.
4. Traffic shall not be permitted to cross compost filter socks.
5. Accumulated sediment shall be removed when it reaches 1/2 the above ground height of the barrier and disposed in the manner described elsewhere in the plan.
6. Compost filter socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.
7. Biodegradable compost filter socks shall be replaced after 6 months; photodegradable socks after 1 year. polypropylene socks shall be replaced according to manufacturer's recommendations.
8. Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. in the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

COMPOST FILTER SOCK DETAIL

NTS

PWD SEDIMENT & EROSION CONTROL NOTES

From PWD SWM Guidance Manual 3.1, Table E-5.

1. An Industrial Waste Permit will be required should pumping to City-owned infrastructure become necessary during construction. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
2. Inlet protection should be provided for all inlets owned by PWD that are located within one block of the project site.
3. PWD is not responsible for any cleaning or repairs needed on City-owned infrastructure due to failure of any erosion and sediment control practices. (applicant to indicate responsible party)
4. Inspection and maintenance of all erosion and sediment control best management practices shall occur on a weekly basis, before any anticipated precipitation events, and after all precipitation events.
5. The maximum height for stockpiles areas shall be 20 feet. The maximum side slope for stockpile areas shall not exceed 2:1.
6. The rock construction entrance thickness shall be constantly maintained on-site. A stockpile shall be maintained on-site for this purpose. At the end of each construction day, all sediment deposited on paved roadways shall be removed and returned to the construction site. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
7. Filter fabric fence should be installed at level grade. Both ends of each fence section should be extended at least 8 feet upslope at 45 degrees to the main barrier alignment. Support stakes shall be spaced at a maximum of 8 feet. Sediment must be removed when accumulations reach ½ the above ground height of the filter fence.
8. Any fence section which has been undermined or topped must be immediately replaced with a rock filter outlet. Sediment must be removed when accumulations reach 1/3 the height of the outlet.
9. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
10. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify PWD and PA DEP.
11. Until the site is stabilized, all E&S BMPs shall be maintained properly. Maintenance shall include inspections of all E&S BMPs prior to any anticipated storm event, after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching, and renetting, must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed, will be required.
12. All earth disturbances, including clearing and grubbing, as well as cuts and fills, shall be done in accordance with the approved E&S Plan. A copy of the approved drawings must be available at the project site at all times. PWD shall be notified of any changes to the approved plan prior to implementation of those changes. PWD may require a written submittal of those changes for review and approval at its discretion.
13. At least three (3) days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
14. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing by PWD and the PA DEP prior to implementation.
15. Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots, and other objectionable material.
16. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing, and topsoil stripping may not commence in any stage of the project until the E&S BMPs specified by the BMP sequence for that stage have been installed and are functioning as described in this E&S Plan.
17. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
18. A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to PWD at the time of inspection.
19. All sediment removed from BMPs shall be disposed of in the following manner: (applicant to describe disposal method)
20. Areas which are to be topsoiled shall be scarified to a minimum depth of three to five inches — six to 12 inches on compacted soils — prior to placement of topsoil. Areas to be vegetated shall have a minimum four inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of two inches of topsoil.
21. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence, or other related problems. Fill intended to support buildings, structures, and conduits, etc. shall be compacted in accordance with local requirements or codes.
22. All earthen fills shall be placed in compacted layers not to exceed nine inches in thickness.
23. Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
24. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
25. Fill shall not be placed on saturated or frozen surfaces.
26. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
27. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
28. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within one year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within one year shall be stabilized in accordance with the permanent stabilization specifications.
29. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
30. E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by PWD and PA DEP.
31. After final site stabilization has been achieved, temporary E&S BMPs must be removed or converted to permanent post-construction stormwater management practices. Areas disturbed during removal or conversion of the E&S BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.
32. Sediment basins and/or traps shall be kept free of all construction waste, wash water, and other debris having potential to clog the basin/trap outlet structures and/or pollute the surface waters. (when applicable)
33. During construction, the selected contractor is expected to follow the PCSMP approved by PWD. No change or deviation from the Approved PCSMP is permitted without prior approval from PWD.
34. All work associated with PWD water conveyance and sewer infrastructure shall be done in accordance with the City of Philadelphia Water Department "Water Main Standard Details and Corrosion Control Specifications", 1985 edition, and "Standard Details and Standard Specifications For Sewers", 1985 edition.
35. Contact PWD Water Transport Records (1101 Market Street, 2nd Floor, Phone: 215-685-6271) for additional approvals and permits required for all water services, meters, and connections to the existing and/or proposed PWD facilities.
36. All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the PADEP's Solid Waste Management Regulations at 25 PA Code 260.1 et seq., 271.1, and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
37. A Dust Control Permit will be required when completely demolishing a building or structure that is more than three (3) stories, greater than forty (40) feet tall, or encompasses more than ten thousand (10,000) square feet; completely or partially demolishing any building or structure by implosion; or engaging in earthworks, defined as "clearing, grubbing, or earth disturbance of any land in excess of 5,000 square feet."

UTILITY INSTALLATION NOTE

WHERE UTILITY INSTALLATIONS CROSS SILT FENCE, REMOVE ONLY SILT FENCE NECESSARY TO INSTALL UTILITY LINE AND REPLACE SILT FENCE IMMEDIATELY AFTER BACK FILLING UTILITY TRENCH (prior to end of workday)

NOTE:
PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 REQUIRES THAT CONTRACTORS DETERMINE THE LOCATION OF ALL UTILITY, SEWER AND WATER LINES BEFORE COMMENCING CONSTRUCTION.

REVISIONS

2507 ALMOND ST
PHILADELPHIA, PA 19125
Ward #31 OPA# 885810700

prepared for:
The Riverwards Group
Atten: Mo Rushdy
3020 Richmond Street (267) 970-4579
Philadelphia, PA, 19134
prepared by:

DAVID J. PLANTE, Professional Engineer PA. No. PE-043820-E

Ruggiero Plante Land Design
5900 Ridge Avenue Philadelphia, PA 19128
phone 215.508.3900 fax 215.508.3800 www.ruggieroplante.com

Plan Date: March 14, 2023
Scale:

DEP E&S SUBMISSION
PWD TRACKING # FY22-ALMO-6865-01

EROSION AND SEDIMENT CONTROL DETAILS

3 of 3

APPENDIX H
ZONING DOCUMENTS RESIDENTAL USE

ZONING BOARD OF ADJUSTMENT
REVISED PROVISO PLANS

PROPERTY ADDRESS:	APPLICATION NUMBER:	CALENDAR NUMBER:
2507 Almond Street	**ZP-2021-016667**	**MI-2022-001494**

OWNER/OWNERS REPRESENTATIVE (APPELLENT, ATTORNEY, DESIGN PROFESSIONAL):

Adam E. Laver, Esquire, Blank Rome LLP

PROPOSED CHANGES:
ALL CHANGES TO THE APPLICATION REVIEWED BY THE DEPARTMENT OF LICENSES AND INSPECTIONS MUST BE LISTED (USE ADDITIONAL SHEETS IF NECESSARY) AND HIGHLIGHTED ON REVISED PLAN

- **Removal of top floor from originally–proposed development**
- **10' reduction in proposed height (from 72' to 62')**
- **25,129.30 sq. ft. reduction in proposed gross floor area (from 154,676.96 sq. ft. to 129,547.66 sq. ft.)**

APPROVED

Revised plans, 2 pages, stamped by ZBA on September 28, 2022.

Hilary J. Emerson

Hilary J. Emerson, Esquire
Counsel for ZBA

INSTRUCTIONS AND PLAN REQUIREMENTS

1. THE SITE PLAN MUST BE DRAWN TO ONE OF THE FOLLOWING:SCALES:

   ENGINEER: 1"=10'; 20'; 30'; 40': 50'; 60' 100'
   ARCHITECT: 1/16; 1/8; 1/4; 3/16

2. THE SITE PLAN AND ELEVATION DRAWINGS MUST BE ON A MINIMUM 11" X 17" SIZE SHEET

3. THE SITE PLAN MUST INCLUDE THE FOLLOWING:

   IDENTIFICATION OF NORTH POINT;

   EXISTING LOT LINES AND DIMENSIONS AS RECORDED IN THE PROPERTY DEED OR ASSOCIATED LOT ADJUSTMENT PLAN; ALL STRUCTURES WITH EXTERIOR DIMENSIONS, BUILDING HEIGHTS, AND NUMBER OF STORIES;
   THE LENGTH AND WIDTH OF ALL FRONT, SIDE, AND REAR YARDS AND DIMENSIONS OF ALL OTHER OPEN AREAS; STREETS, ALLEYS, AND/OR DRIVEWAYS BORDERING PROPERTY;
   LOCATION AND DIMENSIONS OF ALL OFF-STREET PARKING, BICYCLE SPACES AND LOADING SPACES, INCLUDING AISLES AND DRIVEWAYS, AND THE DISTANCES FROM THE LOT LINES;

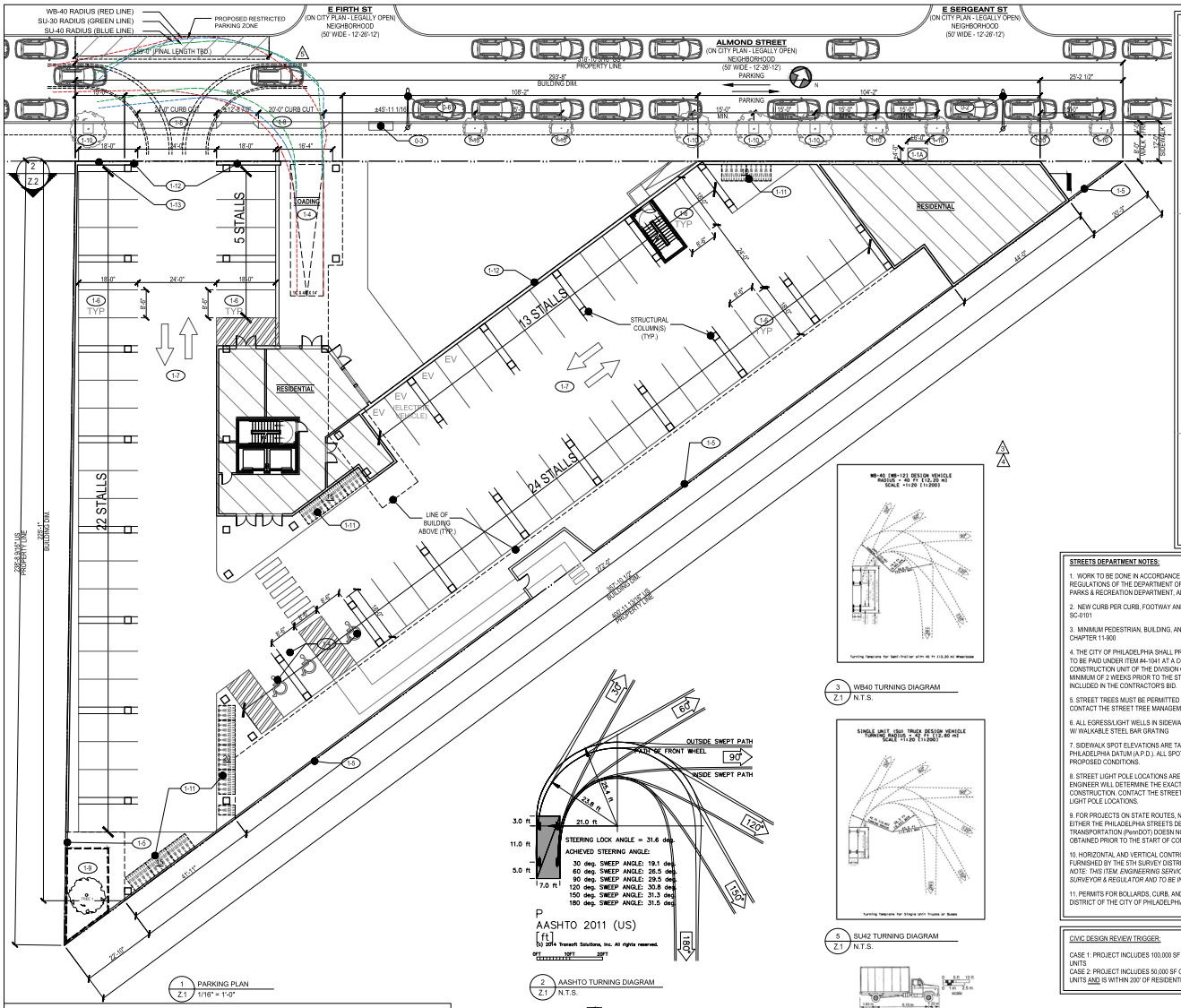
   NEW LANDSCAPING AND STREET TREES, HERITAGE STREET WHERE APPLICABLE

   THE EXACT LOCATION, SIZES TYPES AND ILLUMINATION OF ALL EXISTING AND PROPOSED SIGNS, IF APPLICABLE;

NOTE: FOUR (4) COPIES OF PLAN (S) APPROVED BY THE ZBA WITH ALL REQUIRED PRE-REQUISITE APPROVALS MUST BE PROVIDED WITH THE DECISION LETTER TO THE DEPARTMENT OF LICENSES AND INSPECTIONS.

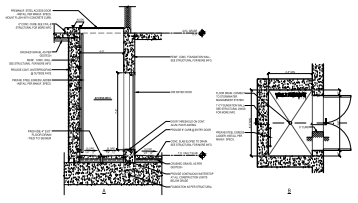
I CERTIFY THAT ALL SIGNIFICANT CHANGES TO THE APPLICATION HAVE BEEN FULLY AND ACCURATELY DOCUMENTED.

SIGNATURE OF OWNER/OWNERS REPRESENTATIVE: Adam E. Laver



1 PARKING PLAN
Z1 1/16" = 1'-0"

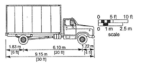
2 AASHTO TURNING DIAGRAM
Z1 N.T.S.

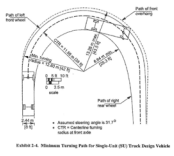


4 PECO VAULT DETAIL
Z1 N.T.S.

3 WB40 TURNING DIAGRAM
Z1 N.T.S.

5 SU42 TURNING DIAGRAM
Z1 N.T.S.





6 SU30 TURNING DIAGRAM
Z1 N.T.S.

ZONING KEYED NOTES

3 - ROOF

5-1 42" HIGH GUARDRAIL / PARAPET
5-2 [redacted]
5-3 GREEN ROOF: NOT TO BE OCCUPIED
5-4 ROOF DECK
5-5 ELEVATOR W/ OVERRUN & LOBBY PENTHOUSE
5-6 [redacted]
5-7 ROOF ACCESS STRUCTURE

2 - FACADE

2-1 [redacted]
2-2 [redacted]
2-3 [redacted]
2-4 [redacted]
2-5 BALCONIES 2ND - 5TH FLOORS (3' X 8')
2-6 BALCONIES 2ND - 5TH FLOORS (3' X 7.5')

1 - SITE

1-1 [redacted]
1-1A AREA WAY - PECO ACCESS WELL
1-2 [redacted]
1-3 [redacted]
1-4 PROPOSED 10'X40'X14' LOADING ZONE
1-5 6'-0"h FENCE (AT PROPERTY LINE, TYPE)
1-5A [redacted]
1-6 AUTOMOBILE PARKING STALL (8'-6" x 18'-0", TYP.)
1-7 DRIVE AISLE
1-8 PROPOSED CURBCUT, REFER TO DETAIL
1-9 LANDSCAPED AREA
1-10 PROPOSED STREET TREE (3'x8' PIT TYP.)
1-11 CLASS 1A BIKE STALL(S)
1-12 FACADE SCREENING IN COMPLIANCE WITH 14-803(4)(b)(.2)
1-13 DECORATIVE WALL IN COMPLIANCE WITH 14-803(5)(d)(.2)(.a)

0 - EXISTING

0-1 STREET TREE
0-2 UTILITY POLE
0-3 STORMWATER INLET
0-4 [redacted]
0-5 [redacted]
0-5A [redacted]
0-6 STREET LIGHT TO BE RELOCATED

STREETS DEPARTMENT NOTES:

1. WORK TO BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS, APPROVED DRAWINGS, AND REGULATIONS OF THE DEPARTMENT OF STREETS, PHILADELPHIA WATER DEPARTMENT, PHILADELPHIA PARKS & RECREATION DEPARTMENT, AND SPECIAL PROVISIONS OF THE PROPOSAL.
2. NEW CURB PER CURB, FOOTWAY AND ROADWAY RESTORATION STANDARD DRAWING NUMBER SC-0101
3. MINIMUM PEDESTRIAN, BUILDING, AND FURNISHING ZONES PER COMPLETE STREETS POLICY, CHAPTER 11-900
4. THE CITY OF PHILADELPHIA SHALL PROVIDE INSPECTION SERVICES FOR PAVING AND RELATED WORK, TO BE PAID UNDER ITEM #4-1041 AT A COST OF $345 PER DAY. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION UNIT OF THE DIVISION OF SURVEYS, DESIGN & CONSTRUCTION AT (215) 686-5539, A MINIMUM OF 2 WEEKS PRIOR TO THE START OF WORK. THIS ITEM, INSPECTION SERVICES, SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
5. STREET TREES MUST BE PERMITTED BY THE PHILADELPHIA DEPARTMENT OF PARKS & RECREATION. CONTACT THE STREET TREE MANAGEMENT DIVISION AT (215) 685-4363.
6. ALL EGRESS/LIGHT WELLS IN SIDEWALK SHALL BE CAPPED FLUSH W/ FINISHED SIDEWALK SURFACE W/ WALKABLE STEEL BAR GRATING
7. SIDEWALK SPOT ELEVATIONS ARE TAKEN FROM PUBLIC RECORD. MEASUREMENTS ARE SET ABOVE PHILADELPHIA DATUM (A.P.D.). ALL SPOT ELEVATIONS ARE EXISTING AND DO NOT NECESSARY REFLECT PROPOSED CONDITIONS.
8. STREET LIGHT POLE LOCATIONS ARE NOT FINAL. THE STREETS DEPARTMENT STREET LIGHTING ENGINEER WILL DETERMINE THE EXACT LOCATIONS OF THE STREET LIGHT POLES DURING CONSTRUCTION. CONTACT THE STREET LIGHTING ENGINEER AT (215) 686 5517 TO COORDINATE STREET LIGHT POLE LOCATIONS.
9. FOR PROJECTS ON STATE ROUTES, NOTICE IS HEREBY GIVEN THAT THE RECEIPT OF A PERMIT FROM EITHER THE PHILADELPHIA STREETS DEPARTMENT, OR THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PennDOT) DOESN NOT IMPLY A PERMIT FROM THE OTHER. ALL PERMITS MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
10. HORIZONTAL AND VERTICAL CONTROL, LINE AND GRADE STAKES FOR CURB, PAVING, ETC. WILL BE FURNISHED BY THE 5TH SURVEY DISTRICT OF THE CITY OF PHILADELPHIA BASED ON ITEM #4-1040. *NOTE: THIS ITEM, ENGINEERING SERVICES, IS A PRE-DETERMINED AMOUNT TO BE DETERMINED BY THE SURVEYOR & REGULATOR AND TO BE INCLUDED IN THE CONTRACTOR'S BID.*
11. PERMITS FOR BOLLARDS, CURB, AND SIDEWALK PAVING WILL BE FURNISHED BY THE 3RD HIGHWAY DISTRICT OF THE CITY OF PHILADELPHIA.

CIVIC DESIGN REVIEW TRIGGER:

CASE 1: PROJECT INCLUDES 100,000 SF OR MORE OF GROSS FLOOR AREA OR 100 OR MORE DWELLING UNITS
CASE 2: PROJECT INCLUDES 50,000 SF OR MORE OF GROSS FLOOR AREA OR 50 OR MORE DWELLING UNITS AND IS WITHIN 200' OF RESIDENTIAL DISTRICTS

PROJECT SUMMARY: 2507 ALMOND STREET
ZONING: CA-2
OVERLAY DISTRICT: NCA Neighborhood Commercial Area Overlay District - North Delaware Avenue 14-503(8)
ABUTTING ZONING DISTRICT: CA-2
ZONING DISTRICT ACROSS STREET: ICMX, RSA-5
LOT AREA: 38,052.9 US SF (37,862.35 DS SF)

USE: RESIDENTIAL

	ALLOWED	PROPOSED
DWELLING UNITS	NOT PERMITTED	155

DIMENSIONAL STANDARDS

	REQUIRED / ALLOWED	PROPOSED
OPEN AREA	0 SF (0%)	8,878.44 SF (23.33%)
OCCUPIED AREA	38,052.9 SF (100%)	29,174.46 SF (76.67%)
FRONT YARD SETBACK	NA	0'
SIDE YARD	NA	0'
REAR YARD	[redacted]	[redacted]
HEIGHT	38'	±62'-0"

TOTAL GFA:129,547.66 SF

ZONING NOTES:

1. PILOT HOUSES ARE TO CONTAIN STAIRS AND LANDINGS ONLY. (NOT TO EXCEED 125 SF MAX)
2. PROPOSED ROOF DECKS ARE TO BE SETBACK MIN. 5'-0" FROM RIGHT OF WAYS.
3. GUARD RAILS/TYPICAL PARAPETS ARE 42" AFF
4. 6' TALL FENCE PROPOSED AT REAR AND SIDE YARDS WHERE APPLICABLE

LANDSCAPING SUMMARY
PARKING LOT OPEN TO SKY: 2813.98 SF.

	REQUIRED	PROPOSED
LANDSCAPED AREA	281.40 SF(10%)	299.43 SF(10.64%)
REQUIRED PLANTING (1 TREE PER 300 SF)	1 TREES	1 TREES
LANDSCAPE BUFFER ZONE	5' WIDE OR SCREEN WALL	SCREEN WALL

STREET TREE FRONTAGE	COMPLIANT TREE FRONTAGE	PROPOSED
ALMOND ST	318 '- 10"	-
TOTAL ALLOW. TREE FRONTAGE:	318' - 10"	-
STREET TREES (318-10" / 35')	10 REQUIRED	(10) TOTAL

(STREET TREE DEDUCTIONS INCLUDE MINIMUM SIDEWALK SIZE TO ALLOW FOR WALKING CLEAR AREA & DEDUCTION OF FRONTAGE NOT ALLOWED FOR STREET TREES DUE TO MINIMUM DISTANCES FROM INTERSECTIONS FINAL COUNTS TO BE DETERMINED BY FAIRMOUNT PARK COMMISSION)

LANDSCAPE NOTES:

1. LANDSCAPING SHALL COMPLY WITH ON-SITE LANDSCAPE AND TREE REQUIREMENTS OF THE ZONING CODE, SECTION 705.1.
2. ALL PLANTS, TREES, SHRUBS AND GRASS SHALL BE ON THE COMMISSION'S APPROVED PLANTINGS LIST.
3. TREES SHALL HAVE A MINIMUM CALIPER OF 2.0 INCHES.
4. SHRUBS SHALL BE PLANTED AT AN INTERVAL SUCH THAT THERE ARE NOT LESS THAN THREE (3) SHRUBS PER 25' OF LINEAR PARKING LOT FRONTAGE ALONG PUBLIC STREET AND HAVE A MATURE HEIGHT OF NOT LESS THAN 2'-0".
5. PROJECTS WITH PARKING ADJACENT TO A RESIDENTIAL DISTRICT OR PUBLIC STREETS SHALL HAVE A LANDSCAPE BUFFER OR ORNAMENTAL FENCE/WALL.
6. STREET TREES SHALL BE REQUIRED WHEN PROJECT INCLUDES 3 LOTS AND/OR A LOT AREA OF 5,000 SF , USED FOR MORE THAN A 1,2 FAMILY DWELLING.
7. STREET TREES TO BE PLANTED AT 1 PER 35' OF BUILDING FRONTAGE. SPACING BETWEEN TREES SHOULD BE AT LEAST 15' APART.

TYPICAL ENCROACHMENTS INTO RIGHT OF WAYS:
PEDESTRIAN ZONE 8'-6"
FURNISHING ZONE 3'-6"
BUILDING ZONE 0'-0"

BAY WINDOWS AND BALCONIES: NOT TO BE ERECTED EXCEPT WITHIN LINES DRAWN FROM THE INTERSECTION OF THE PARTY LINE AND THE STREET LINE AT AN ANGLE OF 20° WITH THE LATTER, ERECTED AT THE PROPERTY LINE EXTENDING INTO THE RIGHT-OF-WAY NOT MORE THAN 3'-0" BAYS TO BE MIN. 10'-0" IN HEIGHT OVER RIGHT OF WAYS.

STREETS DEPARTMENT NOTES:

1. PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA ACT 287 (1974), AND AS AMENDED, THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATION.
   - PENNSYLVANIA ONE CALL SYSTEM #2021 349 1577
   WARD #31
2. UTILITIES SHOWN ARE TAKEN FROM PUBLIC RECORD.

PARKING SUMMARY

FLOOR	NET LEASABLE AREA
1ST FLOOR	0 SF
2ND FLOOR	0 SF
3RD FLOOR	0 SF
4TH FLOOR	0 SF
5TH FLOOR	0 SF
TOTAL	0 SF NET LEASABLE AREA

REQUIRED SPACES PER 14-802-5
0 - 100,000 SF = 4 SPACES PER 1,000 SF = (100,000 / 1,000) x 4 = 0 SPACES

TOTAL REQUIRED SPACE: 0 SPACE
TOTAL PROVIDED SPACES: 65 SPACES
- (3) ADA, (4) EV

OFF STREET LOADING REQUIREMENTS:
GFA: 1:150,000 SF =129,547 SF
= 1 LOADING

BICYCLE PARKING REQUIREMENTS:
REQUIRED: 1:3 UNITS = 52 STALLS
PROVIDED: = 60

APPROVED

Revised plans, 2 pages,
stamped by ZBA on 9/28/22.

Hilary J. Emerson

Hilary J. Emerson, Esq.
Counsel for ZBA

STAMP REGION

ZONING / R.O.W REVIEW

harman deutsch ohler architecture
[redacted]

PROJECT ADDRESS:

2507 ALMOND STREET
PHILADELPHIA, PA

SEAL:

CONSULTANTS:

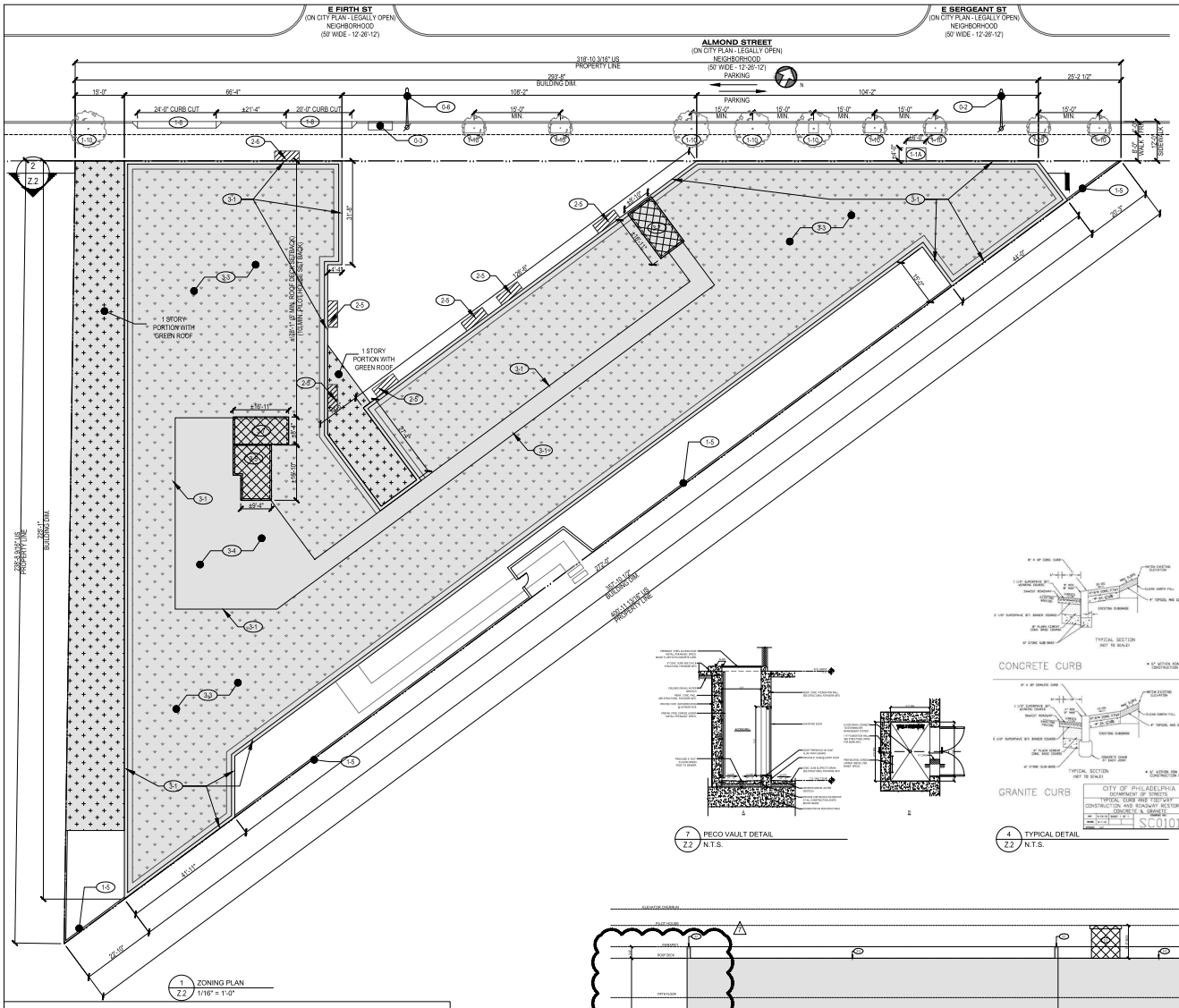
#	DATE	ISSUE / REVISION
1	12.28.2021	ZONING SUBMISSION
1	01.20.2022	ZONING RFI
2	01.27.2022	ZONING RFI 2
3	02.25.2022	ZONING RFI 3
4	04.07.2022	PSD RFI
5	05.10.2022	CDR
6	09.15.2022	ZBA

DRAWINGS PREPARED BY:
PV
DRAWINGS CHECKED BY:
EQ
DRAWING TITLE:

ZONING SITE PLAN

DRAWING NUMBER:

Z.1



1 ZONING PLAN
Z.2 1/16" = 1'-0"

ZONING KEYED NOTES

3 - ROOF

3-1 42" HIGH GUARDRAIL / PARAPET
3-2 [illegible]
3-3 GREEN ROOF: NOT TO BE OCCUPIED
3-4 ROOF DECK
3-5 ELEVATOR W/ OVERRUN & LOBBY PENTHOUSE
3-6 [illegible]
3-7 ROOF ACCESS STRUCTURE

2 - FACADE

2-1 [illegible]
2-2 [illegible]
2-3 [illegible]
2-4 BALCONIES 2ND - 5TH FLOORS (3' X 8')
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1-2 [illegible]
1-3 [illegible]
1-4 PROPOSED 10'X40'X14' LOADING ZONE
1-5 6'-0"h FENCE (AT PROPERTY LINE, TYPE)
1-5A [illegible]
1-6 AUTOMOBILE PARKING STALL (8'-6" x 18'-0", TYP.)
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1-13 DECORATIVE WALL IN COMPLIANCE WITH 14-803(5)(d)(.2)(.a)

0 - EXISTING

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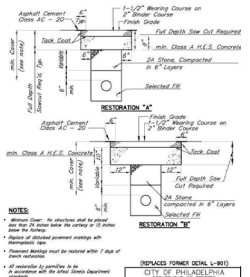
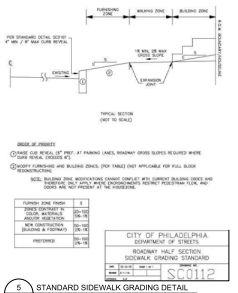
0-2 UTILITY POLE
0-3 STORMWATER INLET
0-4 [illegible]
0-5 [illegible]
0-5A - UPGRADE TO ADA STANDARDS
0-6 STREET LIGHT TO BE RELOCATED



3 TRENCH DETAIL
Z.2 N.T.S.

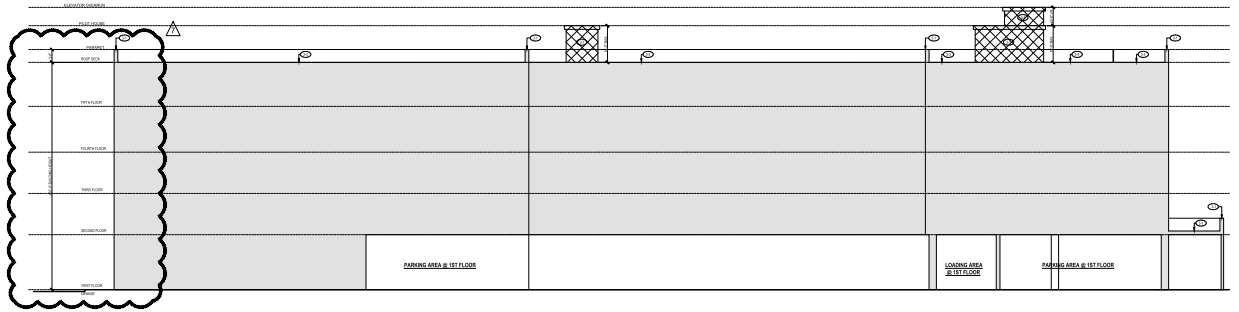
4 TYPICAL DETAIL
Z.2 N.T.S.



5 STANDARD SIDEWALK GRADING DETAIL
Z.2 N.T.S.

6 STANDARD DRIVEWAY DETAIL
Z.2 N.T.S.

7 PECO VAULT DETAIL
Z.2 N.T.S.



2 ZONING SITE SECTION
Z.2 1/16" = 1'-0"

ZONING / R.O.W REVIEW

APPROVED

Revised plans, 2 pages,
stamped by ZBA on 9/28/22.

Hilary J. Emerson

Hilary J. Emerson, Esq.
Counsel for ZBA

STAMP REGION

harman deutsch ohler architecture
[illegible]

PROJECT ADDRESS:

2507 ALMOND STREET
PHILADELPHIA, PA

SEAL:

CONSULTANTS:

#	DATE	ISSUE / REVISION
1	12.28.2021	ZONING SUBMISSION
1	01.20.2022	ZONING RFI
2	01.27.2022	ZONING RFI 2
3	02.25.2022	ZONING RFI 3
4	04.07.2022	PSD RFI
5	05.10.2022	CDR
6	09.15.2022	ZBA

DRAWINGS PREPARED BY:
PV

DRAWINGS CHECKED BY:
EQ

DRAWING TITLE:

ZONING SITE PLAN

DRAWING NUMBER:

Z.2

APPENDIX I
ORCA LETTER OF SUPPORT

September 9th ,2022

William Bergman
Chair, Zoning Board of Adjustment
1401 John F. Kennedy Boulevard – 11th Floor Philadelphia, PA 19102

Re: RCOMeetingSummaryForm

Dear Mr. Bergman:

Appeal number ZP-2021-016667
Meeting ID MI-2022-001494
2507 Almond Street Philadelphia, PA 19125

Olde Richmond Civic Association is offering this letter of support for the development at 2507 Almond Street. This lot is currently an overgrown hill of toxic soil. It is an eyesore frequently used to dump garbage or abandoned cars.

Through a CBA worked out between the developers and the community, we have come to agree on best practices during remediation, throughout the building process, and beyond as they become a part of our community.

More specifically, we have come to an agreement on forming an Environmental Committee to oversee the removal of the toxic soil. This is a neighborhood of young families. Anyone who has come to a civic meeting understands that developers are watched closely by near neighbors. This committee will be comprised of these near neighbors, local government officials and departments, and select members of the Olde Richmond Civic board.

There are provisions in the CBA that include affordable housing. There are plans for bicycle stations and a parking garage. They will be managing trash receptacles around the vicinity of the property. And they are donating money towards our sidewalk and gutter cleaning efforts along Aramingo Avenue that this building overlooks.

Ultimately, we want to see the toxic soil safely removed and we want the developers to care about us and want to help our community grow. We believe that the Riverwards Group will do what they say.

I have attached the Community Benefits Agreement for your review.

Dan Martino
President, Olde Richmond Civic Association
dmartino@olderichmond.org 267-528-7386