

ADDENDA

PART 1 - GENERAL

1.1.1 ADDENDUM

A. Addendum No. 01

1.1.2 PROJECT INFORMATION

- A. Project Name: **Public Works Garage and Salt Shed**
- B. Owner: **City of Chester**
- C. Owner Project Number: **2025-010**
- D. Architect: **CED Architecture, Inc.**
- E. Architect Project Number:
- F. Date of Addendum: **05/27/2025**

1.1.3 NOTICE TO BIDDERS

- A. This Addendum is issued **to all Penn Bid registered vendors** pursuant to the **[Instructions to Bidders and Conditions of the Contract]**. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is **unchanged by this Addendum** at same time and location.
 - 1. Bid Date: 06/26/2025.

1.1.4 ATTACHMENTS

- A. This Addendum includes the following attached Documents and Specification Sections:
 - 1. Document: Addendum No1 letter, dated May 27, 2025 as issued electronically on

- PennBid.
2. Specifications: None at this time

B. This Addendum includes the following attached sheets:

1. General Sheet: N/A
2. Civil: N/A
3. Structural Sheet: N/A
4. Architectural: N/A
5. Fire-Protection Sheet: N/A
6. Plumbing Sheet: N/A
7. Mechanical Sheet: N/A
8. Electrical Sheet: N/A

1.2.1 ADDENDUM

A. **Addendum No. 02**

1.2.2 PROJECT INFORMATION

- A. Project Name: **Public Works Garage and Salt Shed**
- B. Owner: **City of Chester**
- C. Owner Project Number: **2025-010**
- D. Architect: **CED Architecture, Inc.**
- E. Architect Project Number:
- F. Date of Addendum: **06/02/2025**

1.2.3 NOTICE TO BIDDERS

- A. This Addendum is issued **to all Penn Bid registered vendors** pursuant to the **[Instructions to Bidders and Conditions of the Contract]**. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is **unchanged by this Addendum** at same time and

location.

1. Bid Date: 06/26/2025.

1.2.4 ATTACHMENTS

A. This Addendum includes the following attached Documents and Specification Sections:

1. Documents: N/A
2. Specifications:
 - a. Section 000110 Table of Contents, dated 06/02/2025, (Reissued).
 - b. Section 000115 List of Drawings Sheets, dated 06/02/2025, (Reissued).
 - c. Section 011000 Summary, dated 06/02/2025, (Reissued).
 - d. Section 012300 Alternates & Units Prices, dated 06/02/2025, (Reissued).
 - e. Section 015100 Temporary Utilities, dated 06/02/2025, (Reissued).
 - f. Section 084523 Fiberglass Sandwich-Panel Assemblies dated 06/02/25, (Reissued).
 - g. Section 105129 Phenolic Lockers dated 06/02/2025, (New).
 - h. Section 107300 Cantilevered Carports dated 06/02/2025, (New).
 - i. Section 133133 Framed Fabric Structures dated 06/02/2025, (New).
 - j. Section 263213.13 Diesel Emergency Engine Generators, dated 06/02/2025, (Reissued).
 - k. Section 263600 Transfer Switches, dated 06/02/2025, (Reissued).

B. This Addendum includes the following attached sheets:

1. General Sheet: **N/A**
2. Civil Highway Occupancy Permit Plans:
 - a. Sheet 1of6 Cover Sheet, dated 3/21/25, (New).
 - b. Sheet 2of6 General Notes, dated 3/21/25, (New).
 - c. Sheet 3of6 General Notes, dated 3/21/25, (New).
 - d. Sheet 4of6 Maintenance & Protection of Traffic, dated 3/21/25, (New).
 - e. Sheet 5of6 Maintenance & Protection of Traffic, dated 3/21/25, (New).
 - f. Sheet 6of6 Construction Plans, dated 3/21/25, (New).
3. Structural Sheet: **N/A**
4. Architectural:
 - a. Sheet A304 – Wall Sections - Garage, dated 06/02/2025, (Reissued).
 - b. Sheet A401 – Restroom/Locker Plans, Elevations & Details, dated 06/02/2025, (Reissued).
5. Fire-Protection Sheet: **N/A**
6. Plumbing Sheet:
 - a. Sheet P000 – Plumbing Symbols, Abbreviations, Legends & General Notes dated 06/02/2025, (Reissued).

- b. Sheet P100 – Underground Plumbing plan dated 06/02/2025, (Reissued).
- c. Sheet P101 – Plumbing Floor Plan dated 06/02/2025, (Reissued).
- d. Sheet P102 – Natural Gas Piping Floor Plan dated 06/02/2025, (Reissued).
- e. Sheet P103 – Salt Shed Plumbing Plan dated 06/02/2025, (Reissued).
- f. Sheet P401 – Enlarged Plumbing Plans dated 06/02/2025, (Reissued).
- g. Sheet P501 – Plumbing Details dated 06/02/2025, (Reissued).
- h. Sheet P600 – Plumbing Schedules dated 06/02/2025, (Reissued).
- i. Sheet P901 – Sanitary Waste & Vent Pipping Riser Diagrams dated 06/02/2025 (Reissued)
- j. Sheet P902 – Domestic Water Pipping & Natural Gas Pipping Riser Diagrams dated 06/02/2025 (Reissued)

7. Mechanical Sheet: **N/A**

8. Electrical Sheet:

- a. Sheet E101 Power Plan, Dated 06/02/2025, (Reissued)
- b. Sheet E601 Diagrams, Dated 06/02/2025, (Reissued)
- c. Sheet E801 Schedules, Dated 06/02/2025, (Reissued)

1.2.5 REVISIONS TO DIVISION 00 PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS

A. Specification Section **000110 Table of Contents, (Reissued)**

- 1. Sections have been added to and omitted from the table of contents.

B. Specification Section **000115 List of Drawing Sheets, (Reissued)**

- 1. Section 02a Civil Highway Occupancy Plans have been added.

1.2.6 REVISIONS TO DIVISION 01 GENERAL REQUIREMENTS

A. Specification Section **011000 Summary, (Reissued).**

- 1. The below revisions correlate with Addendum No1.
 - a. Paragraph 1.1 Project Information: Item E has been updated to remove the Construction Manager (CM) from Contract 1. The CM shall be awarded under a separate contract.
 - b. Since the General Prime contractor is no longer the acting CM, the answer for PennBid RFI #13 shall be revised to the following: “ Thank you for your inquiry. The Construction Manager shall be responsible to work with each prime contractor and the Owner to determine a Logistics Plan that works for everyone.”
- 2. Paragraph 1.1 Project Information: Item D has been updated to revise a typo in the Architect’s Project number.

3. The below revisions correlate with PennBid RFI response #15
 - a. Paragraph 1.3 Work By Owner: Item B Generator & Automatic Transfer Switch has been updated to reference Alternate#8.

4. The below revisions correlate with PennBid RFI response #25
 - a. Paragraph 1.3 Work By Owner: Item L Commercial Grade Electrical Vehicle Charging Stations has been added to indicate equipment procurement by owner and installation by contractor.

B. Specification Section **012300 Alternates and Unit Prices, (Reissued).**

1. The below revisions correlate with PennBid RFI response #25
 - a. Paragraph 3.1 Schedule of Alternates: Alternate #3 has been revised to indicate new work scope for the EV charging Stations which will be procured by the owner and installed by the Electrical Prime Contractor.
2. The below revisions correlate with PennBid RFI response #15
 - a. Paragraph 3.1 Schedule of Alternates: Alternate #8 has been added for procurement options for the Generator and Automatic Transfer switch.

C. Specification Section **015100 Temporary Utilities, (Reissued).**

1. The below revisions correlate with PennBid RFI response #23
 - a. Paragraph 1.6 Temporary Electricity: Note A has been revised to indicate the appropriate utility company.

1.2.7 REVISIONS TO DIVISION 08 OPENINGS

A. Specification Section **084523 Fiberglass Sandwich-Panel Assemblies, (Reissued).**

1. The below revisions correlate with PennBid RFI response #10
 - a. Paragraph 1.5 Performance requirements: Items A & B have been revised to indicate wind load and deflection limit parameters.

1.2.8 REVISIONS TO DIVISION 10 SPECIALTIES

A. Specification Section **105113 Metal Lockers, (Omitted)**

1. The below revisions correlate with PennBid RFI response #9.
 - a. Entire section has been omitted and replaced with section 105129 Phenolic

Lockers

B. Specification Section **105129 Phenolic Lockers, (New)**

1. The below revisions correlate with PennBid RFI response #9.
 - a. Entire section was not included in the original bid package and has been added in lieu of section 105113 Metal Lockers.

C. Specification Section **107300 Cantilevered Carports, (New).**

1. Entire section was not included in the original bid package and has been added for clarifications

1.2.9 REVISIONS TO DIVISION 13 SPECIAL CONSTRUCTION

A. Specification Section **133133 Framed Fabric Structures, (New).**

1. This revisions aligns with PennBid RFI responses #4, #8, #31.
 - a. Entire section was not included in the original bid package and has been added for clarifications

1.2.10 REVISIONS TO DIVISIONS 26 SPECIFICATION SECTIONS

A. Specification Section **263213.13 Diesel Emergency Engine Generators, (Reissued).**

1. Paragraph 2.1 Manufacture: The service load size has been revised to reference one line diagram.
2. Paragraph 2.3 Engine Generator Assembly Description: The service load size has been revised to reference one line diagram.

B. Specification Section **263600 Transfer Switches, dated 06/02/2025, (Reissued).**

1. Paragraph 2.1 Manufacture: The service load size has been revised to reference one line diagram.

1.2.11 REVISIONS TO DRAWING SHEETS

A. Sheet **A304 Wall Sections - Garage (Reissued).**

1. The below revisions correlate with PennBid RFI response #19
 - a. **Drawing #1/A304:** Wall Section has been revised to indicate additional support for the Horizontal wall panels.

B. Sheet **A401 Restroom/Locker Plans, Elevations & Details (Reissued).**

1. The below revisions correlate with PennBid RFI response #7.
 - a. **Drawings #2/A401, #4/A401, #6/A401, #7/A401, #8/A401, #9/A401, #10/A401, #12/A401:** Interior elevations have been revised to indicate floor mounted toilet partitions in lieu of ceiling mounted toilet partitions.
 - b. **General notes:** Notes have been revised for construction clarifications.
- C. Sheet **P000 Plumbing Symbols, Abbreviations, Legends & General Notes (Reissued).**
 1. The below revisions correlate with PennBid RFI response #56.
 - a. The entire drawing has been updated for clarity purposes
- D. Sheet **P100 Underground Plumbing Plan (Reissued).**
 1. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes and Keynotes:** Drawing has been updated for clarity purposes
- E. Sheet **P101 Plumbing Floor Plan (Reissued).**
 1. **Plan #1/P101:** Revised domestic water supply connections to GWH-1
 2. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes and Keynotes:** Drawing has been updated for clarity purposes
- F. Sheet **P102 Natural Gas Piping Floor Plan (Reissued).**
 1. **Plan #1/P102:** Revised natural gas supply connections to GWH-1
 2. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes and Keynotes:** Drawing has been updated for clarity purposes
- G. Sheet **P103 Salt Shed Plumbing Floor Plan (Reissued).**
 1. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes and Keynotes:** Drawing has been updated for clarity purposes
- H. Sheet **P401 Enlarged Plumbing Plan (Reissued).**
 1. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes and Keynotes:** Drawing has been updated for

clarity purposes

I. Sheet **P501 Plumbing Details (Reissued).**

1. The below revisions correlate with PennBid RFI response #56.
 - a. The entire drawing has been updated for clarity purposes

J. Sheet **P600 Plumbing Schedules (Reissued).**

1. The below revisions correlate with PennBid RFI response #56.
 - a. **Schedules, Title Block, General Notes and Keynotes:** Drawing has been updated for clarity purposes

K. Sheet **P901 Sanitary Waste & Vent Pipping Riser Diagrams (Reissued).**

1. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes:** Drawing has been updated for clarity purposes

L. Sheet **P902 Domestic Water Pipping & Natural Gas Pipping Riser Diagrams (Reissued).**

1. **Plan #1/P501:** Revised domestic water supply and Natural gas supply connections to GWH-1
2. The below revisions correlate with PennBid RFI response #56.
 - a. **Title Block, General Notes:** Drawing has been updated for clarity purposes

M. Sheet **E101 Power Plan (Reissued).**

1. The below revisions correlate with PennBid RFI response #34.
 - a. **Drawing #1/E101:** Power placeholder added for owner provided signage.
 - b. **Power Keynotes:** Keynote #22 added to identify signage power work scope.

N. Sheet **E601 Diagrams (Reissued).**

1. The below revisions correlate with PennBid RFI response #47
 - a. **Drawing #1/E601:** One line Diagram revised to indicate conduit and cable line sets to/from ATS-E.

O. Sheet **E801 Schedules (Reissued).**

1. The below revisions correlate with PennBid RFI response #34
 - a. **Branch Panel RP4:** Power requirements added for owner provided signage.

1.3.1 ADDENDUM

A. Addendum No. 03

1.3.2 PROJECT INFORMATION

- A. Project Name: **Public Works Garage and Salt Shed**
- B. Owner: **City of Chester**
- C. Owner Project Number: **2025-010**
- D. Architect: **CED Architecture, Inc.**
- E. Architect Project Number:
- F. Date of Addendum: **06/03/2025**

1.3.3 NOTICE TO BIDDERS

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- C. The date for receipt of bids is **unchanged by this Addendum** at same time and location.

1. Bid Date: 06/26/2025.

1.3.4 ATTACHMENTS

- A. This Addendum includes the following attached Documents and Specification Sections:

1. Document: Addendum No.3 letter with links for Pre-Bid meeting video/audio prepared by Greg Shaffer Officer of Procurement, dated June 3, 2025 as issued electronically on PennBid.
2. Specifications: None at this time

B. This Addendum includes the following attached sheets:

1. General Sheet: N/A
2. Civil: N/A
3. Structural Sheet: N/A
4. Architectural: N/A
5. Fire-Protection Sheet: N/A
6. Plumbing Sheet: N/A
7. Mechanical Sheet: N/A
8. Electrical Sheet: N/A

1.4.1 ADDENDUM

A. Addendum No. 04

1.4.2 PROJECT INFORMATION

- A. Project Name: **Public Works Garage and Salt Shed**
- B. Owner: **City of Chester**
- C. Owner Project Number: **2025-010**
- D. Architect: **CED Architecture, Inc.**
- E. Architect Project Number:
- F. Date of Addendum: **06/05/2025**

1.4.3 NOTICE TO BIDDERS

- A. This Addendum is issued **to all Penn Bid registered vendors** pursuant to the **[Instructions to Bidders and Conditions of the Contract]**. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
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1. Bid Date: 06/26/2025.

1.4.4 ATTACHMENTS

- A. This Addendum includes the following attached Documents and Specification Sections:

1. Documents: Phase II Environmental Site Assessment, as prepared by Colliers Engineering and Design, inc. Dated April, 2025
2. Specifications:
 - b. Section 230923 Direct Digital Control (DDC) System for HVAC, dated 06/05/2025, (Reissued).

- A. This Addendum includes the following attached sheets:

1. General Sheet: **N/A**
2. Civil:
 - a. Sheet 3.0 Site Plan, dated 6/05/25, (Reissued).
 - b. Sheet 4.0 Grading Plan, dated 6/05/25, (Reissued).
 - c. Sheet 5.0 Utilities Plan, dated 6/05/25, (Reissued).
 - d. Sheet 5.1 Profiles, dated 6/05/25, (Reissued).
 - e. Sheet 6.0 Soil Erosion & Sediment Control Plan, dated 6/05/25, (Reissued).
 - f. Sheet 6.1 Soil Erosion & Sediment Control Details, dated 6/05/25, (Reissued).
 - g. Sheet 6.2 Soil Erosion & Sediment Control Details, dated 6/05/25, (Reissued).
 - h. Sheet 8.1 Landscape Details, dated 6/05/25, (Reissued).
 - i. Sheet 10.3 Fence Construction Details, dated 6/05/25, (Reissued).
 - j. Sheet 11.0 PCSM Plan, dated 6/05/25, (Reissued).
 - k. Sheet 15.0 PCSM Notes, dated 6/05/25, (Reissued).
3. Structural Sheet: **N/A**
4. Architectural: **N/A**
5. Fire-Protection Sheet: **N/A**
6. Plumbing Sheet: **N/A**
7. Mechanical Sheet: **N/A**
8. Electrical Sheet: **N/A**

1.4.5 REVISIONS TO DIVISION 00 PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS

- B. Specification Section **009113 Addenda, (Reissued)**

1. Sections have been revised to include Addendum No.03 & Addendum No.04

1.4.6 REVISIONS TO DIVISIONS 23 SPECIFICATION SECTIONS

C. Specification Section **230923 Direct Digital Control (DDC) System for HVAC, (Reissued).**

1. The below revisions correlate with PennBid RFI response #60
 - a. Paragraph 1.3 Approved Control Systems: Item A has been revised to include Scheider Electrical Controls as an approved vendor.
 - b. Paragraph 2.2 Communication: Item A has been revised to indicate new work scope criteria.

1.2.7 REVISIONS TO DRAWING SHEETS

A. Sheet **3.0 Site Plan (Reissued).**

1. The below revisions correlate with PennBid RFI response #52
 - a. **Drawing #1/3.0:** Fence enclosure height revised.
2. The below revisions correlate with PennBid RFI response #65 & #66
 - a. **PA Act 2 Remediation Notes:** Paragraphs have been added ahead of numerical notes to indicate Pre-Acquisition Due Diligence, SPLP Value for Manganese and Remediation Measures.
 - b. **PA Act 2 Remediation Notes:** Numerical notes have been revised to comply with DEP comments.
3. The below revisions correlate with PennBid RFI response #51
 - a. **Notes:** Note added to indicate pedestrian gate work scope

B. Sheet **4.0 Grading Plan (Reissued).**

1. The below revisions correlate with PennBid RFI response #65 & #66
 - a. **PA Act 2 Remediation Notes:** Paragraphs have been added ahead of numerical notes to indicate Pre-Acquisition Due Diligence, SPLP Value for Manganese and Remediation Measures.
 - b. **PA Act 2 Remediation Notes:** Numerical notes have been revised to comply with DEP comments.

C. Sheet **5.0 Utilities Plan (Reissued).**

1. **Plan #1/5.0:** Note added to comply with DEP comments regarding work scope

- with the Sewer Authority.
2. **Act 2 Remediation Notes:** Notes have been revised to comply with DEP comments.
- D. Sheet **5.1 Profiles (Reissued).**
1. The below revisions correlate with PennBid RFI response #40
 - a. **Profile Drawing S1-UGB #1:** HDPE pipe size has been revised to 6".
 - b. **Profile Drawing S12-UGB #1:** HDPE pipe size has been revised to 6".
- E. Sheet **6.0 Soil Erosion & Sediment Control Plan (Reissued).**
1. **Act 2 Remediation Notes:** Notes added to sheet to comply with DEP comments.
- F. Sheet **6.1 Soil Erosion & Sediment Control Details (Reissued).**
1. **Standard Construction Detail #3-16 (ABACT) Pumped Water Filter Bag:** Note has been revised to add scope to comply with DEP comments.
- G. Sheet **6.2 Soil Erosion & Sediment Control Details (Reissued).**
1. **Standard Construction Detail #4-17 (ABACT) Stone and Concrete Block Inlet Protection – Type C inlet:** Note has been revised to add scope to comply with DEP comments.
 2. **Standard Construction Detail #4-18 (ABACT) Stone and Concrete Block Inlet Protection – Type M inlet:** Note has been revised to add scope to comply with DEP comments.
 3. **Storm Sewer flow to surface waters map:** Map added to comply with DEP comments.
 4. **Sheet Landscape Specification Notes:** Copy revised notes from Sheet 11.0 to comply with DEP comments. Reference Section notes 1.2.7(K)(2)(a-i) in this addend for additional information.
- H. Sheet **8.1 Landscape Details (Reissued).**
1. **Evergreen Tree Planting Detail:** Notes have been added to identify additional scope to comply with DEP comments.
 2. **Ground Cover/Perennial Planting Detail:** Notes have been added to identify additional scope to comply with DEP comments.
 3. **Ornamental Grass Planting Detail:** Notes have been added to identify additional scope to comply with DEP comments.
 4. **Multi-Leader Tree Planting Detail:** Notes have been added to identify additional scope to comply with DEP comments.
 5. **Deciduous Tree Planting Detail:** Notes have been added to identify additional scope to comply with DEP comments.
- I. Sheet **10.3 Fence Construction Details (Reissued).**

1. The below revisions correlate with PennBid RFI response #2 & #52
 - a. **6' High Ornamental Aluminum Fence:**
 - 1) Detail title has been renamed to 6ft in lieu of 9ft
 - 2) Standard Height has been revised to 6ft high in lieu of 9ft high.
 - b. **6' High Ornamental Aluminum Man Gate:**
 - 1) Detail title has been renamed to 6ft in lieu of 9ft
 - 2) Standard Height has been revised to 6ft high in lieu of 9ft high.
 2. The below revisions correlate with PennBid RFI responses #45, #51, #63 & #64
 - a. **Galvanized Steel Chain Link Fence (Security) Detail:** Note #1 has been revised to indicate the correct mesh size, wire gauge thickness and finish
 - b. **Chain Link Fence Single Gate Detail:** Note #1 has been revised to indicate the correct mesh size, wire gauge thickness and finish
 - c. **8' Chain Link Fence Rolling Gate:**
 - 1) Title has been revised to 8ft high in lieu of 9ft high
 - 2) Note has been revised to indicate the correct mesh size, wire gauge thickness and finish
- J. Sheet **11.0 PCSM Plans (Reissued).**
1. **Act 2 Remediation Notes:** Notes added to sheet to comply with DEP comments.
- K. Sheet **15.0 PCSM Notes (Reissued).**
1. **Storm Sewer flow to surface waters map:** Map added to comply with DEP comments.
 2. **Sheet Landscape Specification Notes:** Revise and add notes for landscape work scope to comply with DEP Comments
 - a. **Material Notes:** Scope notes added to comply with DEP comments
 - b. **Sequence Notes:** Scope notes added to comply with DEP comments
 - c. **Stabilization Notes:** Scope notes added to comply with DEP comments
 - d. **Recommended Mulching Specifications:** Scope notes added to comply with DEP comments
 - e. **NPDES Permit Notes:** Scope notes added to comply with DEP comments
 - f. **Permanent seed Mixture:** Add notes A & B
 - g. **Environmental Due Diligence:** Scope notes added to comply with DEP comments
 - h. **E&S Planning and Design – Section 102.4(B)(4):** Scope notes added to comply with DEP comments
 - i. **Measures Provided to Minimize Thermal Impacts:** Scope notes added to comply with DEP comments

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 009113

Phase II Environmental Site Assessment

Eastern Quadrant
of the Intersection of Pennell Street & West 2nd Street
Parcel ID: 49-07-00042-00
City of Chester, Delaware County, Pennsylvania

Colliers Engineering & Design Project Number: COCD0004

April 2025

Prepared for:
City of Chester
1 Fourth Street
Chester, Pennsylvania 19013

Prepared by:
Colliers Engineering & Design, Inc.
2000 Midlantic Drive, Suite 100
Mount Laurel, NJ 08054
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TABLES

- Table 1 – Sampling and Analysis Summary
- Table 2 – Soil Sample Analytical Results Summary
- Table 3 – Soil Sample Analytical Results Summary (SPLP Metals)
- Table 4 – Groundwater Sample Analytical Results Summary

FIGURES

- Figure 1 – Site Location Map
- Figure 2 – Soil & Groundwater Sample Location Map

APPENDICES

- Appendix A – CED Geophysical Survey Report dated February 4, 2025
- Appendix B – Soil Boring Logs
- Appendix C – Photodocumentation
- Appendix D – Eurofins Environment Testing Analytical Report 460-318705-1 dated January 21, 2025
- Appendix E – Eurofins Environment Testing Analytical Report 460-318705-2 dated January 30, 2025

EXECUTIVE SUMMARY

This Phase II Environmental Site Assessment (Phase II ESA) was performed by Colliers Engineering & Design, Inc. (CED) on behalf of the City of Chester (“The City”) for the property located at the eastern quadrant of the intersection of Pennell Street (Tax ID: 49-07-00042-00), City of Chester, Delaware County, Pennsylvania (“the subject property”) which the City acquired on June 14, 2024.

This Phase II ESA was conducted based on the findings of a Phase I Environmental Site Assessment (Phase I ESA) conducted in June 2024. The following provides a summary of Recognized Environmental Conditions (RECs) that were identified/investigated at the subject property:

REC # 1: Former Structures

Historical Sanborn® maps identified several former structures that could be seen on the subject property between 1891 and 1917. The structures include three (3) multi-story residential dwellings and a large structure labelled “Chester Ware Ho. Co. (cotton storage only)”.

Further investigation (geophysical survey and test pits) was recommended.

REC # 2: Adjacent Railroad Spurs

The presence of a historical railroad spur on the subject property and active railroad spurs adjacent to the subject property is considered a REC. Railroad spurs are historically associated with industrial activities that often involve the use and potential discharge of hazardous substances such as fuels, oils, and other chemicals.

Further investigation (soil sampling) was recommended.

REC # 3: Potential Impact from Off-Site Properties

According to historical aerial photographs as early as the 1880s, Sanborn® maps, city directory information, available online information, and site reconnaissance the adjacent property to the south across West Front Street was formerly a steel and metalworks factory, and an adjacent property to the north was labelled as “Fill’G Sta” (now OB’s Jamaican Restaurant – formerly Penrose Atlantic as listed in the EDR 1995 City Directory, presumed to be a gasoline service station, as flush-mount groundwater monitoring wells were observed). During the 1940s and 1950s, the adjacent property to the south was labelled as “Ford Motor vehicle storage facility and transport warehouse”. In addition, there is one (1) chemical manufacturing plant approximately 120 feet southwest where reportable discharges were identified.

Groundwater flow is inferred to the southeast, from the subject property toward the Delaware River based on topography and hydrogeology. Therefore, potential petroleum and discharges at this adjacent property to the north have the potential to migrate to the subject property.

Further investigation (soil and groundwater sampling) was recommended.

1.0 PHYSICAL SETTING

1.1 LOCATION AND LEGAL DESCRIPTION

The subject property is identified as Parcel ID: 49-07-00042-00 (eastern quadrant of the intersection of Pennell and West 2nd Streets), City of Chester, Delaware County, Pennsylvania. The subject property location is shown on **Figure 1**.

1.2 SITE AND VICINITY CHARACTERISTICS

The subject property is an approximately 2.1-acre paved lot currently used for vehicle and truck storage. The property is situated in an industrial neighborhood, surrounded by commercial and residential properties. Lloyd Street is northeast of the subject property with commercial properties across Pennell Street. To the northwest is West 2nd street with commercial and residential properties on the north side of the road. To the southwest is Pennell Street, adjacent to HealthMats flooring store. To the southeast of the subject property are railroad spurs and the Entegris manufacturing plant across West Front Street.

1.3 CURRENT USE OF THE PROPERTY

The subject property is an asphalt paved lot used for vehicle and commercial truck storage. The subject property contains several broken-down vehicles along with operating personal vehicles. The subject property also contains a storage shed with assorted debris around the shed (i.e. motorcycle, lumber, sports equipment, etc.) and is used as a staging area for United Road Trucking company.

1.4 DESCRIPTION OF STRUCTURES AND/OR IMPROVEMENTS ON THE SUBJECT PROPERTY

The subject property supports a storage shed on site approximately 10 feet by 10 feet. The subject property is enclosed by a chain link fence with an automatic electric sliding gate.

1.5 CURRENT USE OF ADJOINING PROPERTIES

Adjacent properties have commercial and residential uses. To the North across West 2nd Street (Route 13) are residential properties as well as two restaurants (Adams Rib & Grille and King Breakfast & Lunch). Across Pennell Street to the west is HealthMat Flooring Company and an associated parking lot. To the south on West Front Street is Entegris Manufacturing Plant. To the west across Lloyd Street is a parking lot for International Recovery Systems Repossession Management reposition company.

2.0 INVESTIGATION SUMMARY

2.1 BACKGROUND

The scope of the Phase II investigation was based on a review of available information including findings presented in the Phase I ESA report prepared by CED for the City of Chester (June 2024), on-line resources and site reconnaissance.

The Phase II investigation included conducting a geophysical investigation aimed at identifying anomalies potentially associated with former structures and underground piping as well as advancing a series of soil borings to evaluate potential impacts due to the identified RECs to soil and groundwater at the subject property.

2.2 GEOPHYSICAL SURVEY – JANUARY 13, 2025

A geophysical screening was conducted using ground penetrating radar and electromagnetic induction to identify subsurface anomalies that may be associated with buried structures of concern. The location of four former structures were identified along the south, east, and north boundaries of the subject property. A former septic system component located along the northwest side of the structure was identified in addition to the buried piping associated with the sewer and water utilities. An abandoned monitoring well also was identified.

The geophysical survey was used in conjunction with historical observations, including previous structures and a previous railroad spur identified during the Phase I ESA. Sections of the foundations and footings are suspected to be present along with a suspected former underground storage tank (UST). CED notes, however, that sections of the subject property were blocked by equipment, vehicles, and debris. Therefore, CED's observations were limited to clear areas of the subject property. Subsurface anomalies consistent with foundations for the former dwellings were identified. A copy of the geophysical survey report is provided in **Appendix A**.

2.3 SOIL INVESTIGATION – JANUARY 13, 2025

2.3.1 SAMPLING

Four (4) soil borings (refer to the **Figure 2**) were advanced using a Geoprobe® at select locations to investigate RECs. The borings were advanced to a maximum depth of 20 feet below ground surface (bgs). The recovered soils were characterized in the field for soil type, observed for staining and odors, and screened using a photo-ionization detector (PID) for the presence of volatile organic compounds (VOCs). The soil borings were identified as follows: TB-1, TB-2, TB-3 & TB-4 (to investigate REC-1); and TB-4 to also investigate REC-2 & REC-3.

The soils at the property generally consisted of suspected fill material to depths of approximately 5 feet. The suspected native material below the fill layer consisted of silty sand with varying amounts of clay. Groundwater typically was encountered between 8.5 and 9.0 feet bsg; refer to the boring logs included as **Appendix B**. Photodocumentation is provided in **Appendix C**. Following sampling completion, boring locations were backfilled with soil cuttings and topped with asphalt patch in paved areas as necessary.

2.3.2 ANALYSIS

The soil samples were transferred under full chain-of-custody control to Eurofins Laboratory, Edison NJ (Pennsylvania Department of Environmental Protection (PADEP) certification #68-00522) for analysis (see **Table 1**).

The laboratory reported the following:

Volatile Organic Compounds (VOCs)

VOCS were not reported above PADEP Medium-Specific Concentrations (MSCs) in the soil samples analyzed.

Semi-Volatile Organic Compounds (SVOCs)

SVOCs were not reported above PADEP MSCs in the soil samples analyzed.

Pesticides

Pesticides were not reported above PADEP MSCs in the soil samples analyzed.

Polychlorinated Biphenyls (PCBs)

PCBs were not reported above PADEP MSCs in the soil samples analyzed.

Metals

Arsenic was reported in samples TB-3 (1.5 mg/kg) & TB-4 (5.1 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (1 mg/kg) but below its Residential Direct Contact MSC (12 mg/kg).

Beryllium was reported in samples TB-1 (0.44 mg/kg), TB-2 (0.84 mg/kg), TB-3 (1.3 mg/kg) & TB-4 (0.72 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (0.4 mg/kg) but below its Residential/Non-Residential Soil to Groundwater MSC Generic for Used Aquifers (320 mg/kg).

Cobalt was reported in samples TB-1 (10.4 mg/kg), TB-2 (7.8 mg/kg), TB-3 (11.5 mg/kg) & TB-4 (5.2 mg/kg) above its PADEP Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (2.9 mg/kg) but below its Residential Soil to Groundwater MSC Generic for Used Aquifers (45 mg/kg).

Lead was reported in samples TB-1 (2.2 mg/kg), TB-2 (3.5 mg/kg), TB-3 (8.7 mg/kg) & TB-4 (8.3 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (0.5 mg/kg) but below its Residential Soil to Groundwater MSC Generic for Used Aquifers (450 mg/kg).

Manganese was reported in sample TB-3 (2,370 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC Generic (2,000 mg/kg) but below its Residential Direct Contact MSC (31,000 mg/kg).

Nickel was reported in samples TB-1 (12.6 mg/kg), TB-2 (15.4 mg/kg), TB-3 (17.8 mg/kg) & TB-4 (12.5 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (10 mg/kg) but below its Residential/Non-Residential Soil to Groundwater MSC Generic for Used Aquifers (650 mg/kg).

Thallium was reported in samples TB-2 (0.40 mg/kg) & TB-3 (0.34 mg/kg) above its PADEP Residential/Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (0.2 mg/kg) but below its Residential Direct Contact MSC (2.2 mg/kg).

Vanadium was reported in samples TB-1 (22.8 mg/kg), TB-2 (26.2 mg/kg) & TB-4 (32.7 mg/kg) above its PADEP Residential Soil to Groundwater MSC 100 X for Used Aquifers (0.2 mg/kg) but below its Non-Residential Soil to Groundwater MSC 100 X for Used Aquifers (49 mg/kg).

The soil sample analytical results are summarized in **Table 2**. The laboratory report is included in **Appendix D**.

Per PADEP's Land Recycling Program Technical Guidance Manual (Document Number 261-0300-101 dated March 27, 2021), the soil samples were further analyzed using the Synthetic Precipitation Leaching Procedure (SPLP) with each metal's values compared to the PADEP MSCs above:

The SPLP value for Manganese in TB-3 (1.1 mg/L) exceeds its Residential/Non-Residential Used Aquifer value (0.3 mg/L) but is below its Residential/Non-Residential Non-Use Aquifer value (300 mg/L).

The soil sample analytical results are summarized in **Table 3**. The laboratory report is included in **Appendix E**.

2.3.3 DISCUSSION WITH PADEP – FEBRUARY 18, 2025

CED reviewed the above SPLP result for Manganese in TB-3 with PADEP Southeast Region Project Officer Matthew Sabetta, P.G. CED stated that this investigation was for a municipality (without mentioning the City of Chester) in due-diligence to acquire the subject property (without mentioning the address or parcel number). Mr. Sabetta offered the following guidance (and further assistance if needed):

- Show that Manganese is naturally-occurring at the subject property and, if no historical manufacturing use of Manganese, do not need to obtain liability protection through Act 2 unless a lender requires release of liability)
- The City of Philadelphia has a Non-Use Aquifer ordinance but, per PADEP, it is not strong enough as it does not include a prohibition on private well drilling; if this prohibition was included, PADEP thinks it would be OK for a Non-Use Aquifer Certification approval
- Regarding the two Soil to Groundwater MSCs for Used Aquifers (100 X and Generic), PADEP stated to use the higher of the two values when doing an investigation

2.3.4 DISCUSSION WITH PADEP – MARCH 6, 2025

CED again discussed the above SPLP result for Manganese in TB-3 with PADEP Southeast Region Project Officer Matthew Sabetta, P.G. This time CED stated that this investigation was for the City of Chester regarding the subject property (Pennell & West 2nd Streets, Parcel number 49-07-00042-00), and shared the “Soil & Groundwater Sample Location Map” (**Figure 2** of this report) with PADEP. Mr. Sabetta offered the following guidance (and further assistance if needed):

- Manganese is not considered a secondary contaminant by PADEP, differing from NJDEP who does
- CED could delineate TB-3 for Manganese and (if successful) excavate as a hotspot and submit a Final Report asking PADEP for Act 2 release of liability
- If vertical delineation is not successful, line the bottom of the stormwater basin excavation; if horizontal delineation is not successful, then consider subject property as historic fill; if either or both of these are implemented, then CED could cap the site, prepare an Environmental Covenant for soil, submit a Final Report and ask PADEP for Act 2 release of liability
- In lieu of the above delineation, the City of Chester could pass a Non-Use Aquifer ordinance for the subject property meeting PADEP’s requirements for municipalities in 25 Pa Code § 250.303, prepare an Environmental Covenant for groundwater, submit a Final Report and ask PADEP for a Non-Use Aquifer Certification (and not Act 2 release of liability) for the subject property

2.4 GROUNDWATER INVESTIGATION – JANUARY 13, 2025

2.4.1 SAMPLING

Two temporary well points were installed on the southern border of the subject property to investigate REC-2 & REC-3. These temporary well points were identified as: TW-1 & TW-2 (in the same location as soil boring TB-4) – see **Figure 3**. The temporary wells were constructed with ten-foot long, one-inch diameter PVC casing (approximately 3 feet aboveground and 7 feet below ground) and ten-foot long well screens (i.e. screened from approximately 7 to 17 feet below grade). The annulus between the borehole and screen was filled with well sand.

Following installation of the temporary well points, photoionization detector (PID) readings were taken at each temporary well; the PID readings from TW-1 and TW-2 were both 0.0 ppm. The wells were purged, and groundwater samples collected using clean, dedicated bailers.

2.4.2 ANALYSIS

The groundwater samples were transferred under full chain-of-custody control to Eurofins Laboratory, Edison NJ (PADEP certification #68-00522) for analysis (see **Table 1**).

The laboratory reported the following:

VOCs

VOCS were not reported above PADEP MSCs in the groundwater samples analyzed.

SVOCs

SVOCs were not reported above PADEP MSCs in the groundwater samples analyzed.

Pesticides

Pesticides were not reported above PADEP MSCs in the groundwater samples analyzed.

PCBs

PCBs were not reported above PADEP MSCs in the groundwater samples analyzed.

Metals

Arsenic in groundwater sample TW-1 (0.032 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.01 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (10 mg/L).

Beryllium in groundwater sample TW-1 (0.0052 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.004 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (4 mg/L).

Cadmium in groundwater sample TW-2 (0.012 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.005 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (5 mg/L).

Chromium in groundwater sample TW-1 (0.22 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.1 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (100 mg/L).

Cobalt in groundwater samples TW-1 (0.064 mg/L) & TW-2 (0.098 mg/L) above its Residential Used Aquifers MSC (0.01 mg/L) but below its Residential Non-Use Aquifers MSC (10 mg/L).

Lead in groundwater samples TW-1 (0.11 mg/L) & TW-2 (0.043 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.005 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (5 mg/L).

Manganese in groundwater samples TW-1 (6.7 mg/L) & TW-2 (10 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.3 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (300 mg/L).

Nickel in groundwater samples TW-1 (0.11 mg/L) & TW-2 (0.22 mg/L) above its Residential/Non-Residential Used Aquifers MSC (0.1 mg/L) but below its Residential/Non-Residential Non-Use Aquifers MSC (100 mg/L).

Vanadium in groundwater samples TW-1 (0.19 mg/L) above its Residential Used Aquifers MSC (0.17 mg/L) but below its Non-Residential Used Aquifers MSC (10 mg/L).

The groundwater sample analytical results are summarized in **Table 4**. The laboratory report is included in **Appendix E**.

3.0 CONCLUSIONS

Manganese in soil (sample TB-3 – specifically its SPLP value) exceeds PADEP's Used Aquifer MSCs but meets PADEP's Non-Use Aquifer values.

The metals exceedances in groundwater are (in CED's professional opinion) due to turbidity in the samples from a temporary well point and are not valid data.

4.0 RECOMMENDATIONS

REC-1

OPTION A

Manganese Hotspot Removal via PADEP Act 2. Requires two public notices in an area general circulation newspaper; collecting 12 post-excavation attainment soil samples (from each side and from the bottom) after completion of stormwater basin excavation that successfully delineate Manganese; and preparing a PADEP Final Report requesting release of liability under Act 2.

OPTION B

Historic Fill Cap & Environmental Covenant via PADEP Act 2. Requires two public notices in an area general circulation newspaper; collecting 12 post-excavation attainment soil samples (from each side and from the bottom) after completion of stormwater basin excavation and assumes that the laboratory analyses do not delineate Manganese; installing an orange fabric demarcation barrier over pervious areas prior to soil capping; preparing a PADEP Environmental Covenant for soil; and preparing a PADEP Final Report requesting release of liability under Act 2.

OPTION C

Non-Use Aquifer City-Wide Ordinance (no PADEP Certification of this Ordinance, no PADEP Environmental Covenant, not going Act 2. The City of Chester as a municipal entity can pass an ordinance per 25 Pa Code §250.303 mimicking PADEP's Environmental Covenant requirements, then petition PADEP to approve as a Non-Use Aquifer Area Certification with no further action.

REC-2

No further action is recommended.

REC-3

No further action is recommended.

Tables

Table 1 - Sampling and Analysis Summary

Sample No.	Date	Lab	Lab Sample ID	Sampling For:	Media	Location Depth FT (BGS)	Analysis
Soil Samples							
TB-1	1/13/2025	Eurofins	460-318705-1		Soil	SB-1 (5.0 - 5.5)	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs
TB-2			460-318705-2		Soil	SB-2 (5.0 - 5.5)	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs
TB-3			460-318705-3		Soil	SB-3 (4.0 - 4.5)	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs
TB-4			460-318705-4		Soil	SB-4 (4.5 - 5.0)	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs
Groundwater Samples							
TW-1	1/13/2025	Eurofins	460-318705-5		Water	8.6	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs
TW-2			460-318705-6		Water	8.55	Cyanide, CVAA, Metals, Pesticides, PCBs, SVOCs, VOCs

Notes:

VOCs = Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

PCBs = Polychlorinated Biphenyls

CVAA = Cold Vapor Atomic Absorption (Mercury)

BGS = Below Grade Surface

NA = Not Applicable

Laboratory Analysis by Eurofins Laboratory, Edison NJ (PADEP Certification No. 68-00522)

Table 2

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Direct	PADEP Non-Residential Direct	PADEP Non-Residential Direct	TB-1		TB-2		TB-3		TB-4			
Lab Sample ID	Contact MSC Surface	Contact MSC	Soil to Groundwater MSC Used	460-318705-1		460-318705-2		460-318705-3		460-318705-4			
Sampling Date				1/13/2025		1/13/2025		1/13/2025		1/13/2025			
Matrix	Soil	Subsurface Soil	Aquifers Generic TDS	5.0-5.5		5.0-5.5		4.0-4.5		4.5-5.0			
Dilution Factor	feet	2-15 feet	≤ 2500 mg/L										
Unit	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg			
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	
VOCs by 8260D/5035A_FW													
1,1,1-Trichloroethane	10,000		10,000	7.2	0.00026	U	0.00026	0.00022	U	0.00022	0.00028	U	0.00026
1,1,2,2-Tetrachloroethane	38		44	0.13	0.00024	U	0.00024	0.00020	U	0.00020	0.00026	U	0.00023
1,1,2-Trichloro-1,2,2-trifluoroethane	10,000		10,000	10,000	0.00034	U	0.00034	0.00028	U	0.00028	0.00037	U	0.00033
1,1,2-Trichloroethane	16		18	0.15	0.00020	U	0.00020	0.00017	U	0.00017	0.00022	U	0.00019
1,1-Dichloroethane	1,400		1,600	3.9	0.00023	U	0.00023	0.00019	U	0.00019	0.00025	U	0.00023
1,1-Dichloroethene	10,000		10,000	0.19	0.00025	U	0.00025	0.00021	U	0.00021	0.00027	U	0.00025
1,2,3-Trichlorobenzene	NA		NA	NA	0.00020	U	0.00020	0.00017	U	0.00017	0.00022	U	0.00020
1,2,4-Trichlorobenzene	160		190	27	0.00040	U	0.00040	0.00034	U	0.00034	0.00043	U	0.00039
1,2-Dibromo-3-Chloropropane	0.37		0.42	0.0092	0.00052	U	0.00052	0.00043	U	0.00043	0.00056	U	0.00050
1,2-Dibromoethane	3.7		4.2	0.0012	0.00020	U	0.00020	0.00017	U	0.00017	0.00022	U	0.00020
1,2-Dichlorobenzene	10,000		10,000	59	0.00040	U	0.00040	0.00034	U	0.00034	0.00044	U	0.00040
1,2-Dichloroethane	85		98	0.1	0.00033	U	0.00033	0.00028	U	0.00028	0.00036	U	0.00032
1,2-Dichloropropane	0.6		0.69	0.11	0.00047	U	0.00047	0.00040	U	0.00040	0.00051	U	0.00046
1,3-Dichlorobenzene	10,000		10,000	61	0.00041	U	0.00041	0.00034	U	0.00034	0.00044	U	0.00040
1,4-Dichlorobenzene	200		230	10	0.00025	U	0.00025	0.00021	U	0.00021	0.00027	U	0.00025
1,4-Dioxane	440		510	0.35	0.010	U	0.010	0.0086	U	0.0086	0.011	U	0.010
2-Butanone (MEK)	10,000		10,000	76	0.00041	U	0.00041	0.00035	U	0.00035	0.00045	U	0.00040
2-Hexanone (MBK)	2,400		2,700	6.4	0.0019	U	0.0019	0.0016	U	0.0016	0.0021	U	0.0019
4-Methyl-2-pentanone (MIBK)	10,000		10,000	120	0.0017	U	0.0017	0.0015	U	0.0015	0.0019	U	0.0017
Acetone	10,000		10,000	980	0.0064	U	0.0064	0.0054	U	0.0054	0.0069	U	0.0063
Benzene	280		330	0.13	0.00029	U	0.00029	0.00024	U	0.00024	0.00031	U	0.00028
Bromoform	2,000		2,300	3.5	0.00048	U	0.00048	0.00040	U	0.00040	0.00052	U	0.00047
Bromomethane	400		460	0.54	0.0011	U	0.0011	0.00094	U	0.00094	0.0012	U	0.0011
Carbon disulfide	10,000		10,000	530	0.00030	U	0.00030	0.00025	U	0.00025	0.00032	U	0.00029
Carbon tetrachloride	370		430	0.26	0.00043	U	0.00043	0.00036	U	0.00036	0.00047	U	0.00042
Chlorobenzene	3,900		4,500	6.1	0.00020	U	0.00020	0.00017	U	0.00017	0.00021	U	0.00019
Chlorobromomethane	3,200		3,600	1.6	0.00031	U	0.00031	0.00026	U	0.00026	0.00034	U	0.00031
Chlorodibromomethane	1,100		10,000	2.5	0.00022	U	0.00022	0.00018	U	0.00018	0.00024	U	0.00021
Chloroethane	10,000		10,000	1,900	0.00058	U	0.00058	0.00049	U	0.00049	0.00063	U	0.00057
Chloroform	96		110	2	0.0011	U	0.0011	0.00091	U	0.00091	0.0012	U	0.0011
Chloromethane	1,200		1,400	0.38	0.00049	U	0.00049	0.00041	U	0.00041	0.00053	U	0.00048
cis-1,2-Dichloroethene	6,400		10,000	1.6	0.00040	U	0.00040	0.00034	U	0.00034	0.00043	U	0.00039
cis-1,3-Dichloropropene	NA		NA	NA	0.00031	U	0.00031	0.00026	U	0.00026	0.00033	U	0.00030
Cyclohexane	10,000		10,000	6,900	0.00025	U	0.00025	0.00021	U	0.00021	0.00027	U	0.00024
Dichlorobromomethane	60		69	2.7	0.00029	U	0.00029	0.00024	U	0.00024	0.00031	U	0.00028
Dichlorodifluoromethane	8,000		9,100	100	0.00038	U	0.00038	0.00032	U	0.00032	0.00041	U	0.00037
Ethylbenzene	880		1,000	46	0.00022	U	0.00022	0.00019	U	0.00019	0.00024	U	0.00022
Isopropylbenzene	10,000		10,000	2500	0.00032	U	0.00032	0.00027	U	0.00027	0.00035	U	0.00031
Methyl acetate	10,000		10,000	1,800	0.0048	U	0.0048	0.0040	U	0.0040	0.0052	U	0.0047
Methyl tert-butyl ether	8,500		9,800	0.28	0.00057	U	0.00057	0.00048	U	0.00048	0.00062	U	0.00056
Methylcyclohexane	NA		NA	NA	0.00056	U	0.00056	0.00047	U	0.00047	0.00061	U	0.00055
Methylene Chloride	10,000		10,000	0.076	0.0013	U	0.0013	0.0011	U	0.0011	0.0014	U	0.0013
m-Xylene & p-Xylene	NA		NA	NA	0.00019	U	0.00019	0.00016	U	0.00016	0.00021	U	0.00019
o-Xylene	NA		NA	NA	0.00022	U	0.00022	0.00018	U	0.00018	0.00024	U	0.00021
Styrene	10,000		10,000	24	0.00031	U	0.00031	0.00026	U	0.00026	0.00034	U	0.00030
Tetrachloroethene	3,200		3,600	0.43	0.00034	U	0.00034	0.00029	U	0.00029	0.00037	U	0.00033
Toluene	10,000		10,000	44	0.00026	U	0.00026	0.00022	U	0.00022	0.00028	U	0.00026
trans-1,2-Dichloroethene	10,000		10,000	2.3	0.00028	U	0.00028	0.00023	U	0.00023	0.00030	U	0.00027
trans-1,3-Dichloropropene	NA		NA	NA	0.00030	U	0.00030	0.00025	U	0.00025	0.00032	U	0.00029
Trichloroethene	160		180	0.17	0.00036	U	0.00036	0.00030	U	0.00030	0.00039	U	0.00035
Trichlorofluoromethane	10,000		10,000	87	0.00045	U	0.00045	0.00038	U	0.00038	0.00049	U	0.00044
Vinyl chloride	61		290	0.027	0.00061	U	0.00061	0.00051	U	0.00051	0.00066	U	0.00060
Total Estimated Conc. (TICs)	NA		NA	NA	0		0	0		0	0		0

Notes:

Highlighted Concentrations shown in bold type face exceed limits

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.

Table 3

Lab Job ID: 460-318705-2
Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA
For:
Colliers Engineering and Design, Inc.
2000 Midlantic Drive, Suite 100
Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Used Aquifers TDS ≤ 2500	PADEP Non-Residential Non-Use Aquifers	TB-1		TB-2		TB-3		TB-4	
Lab Sample ID			460-318705-1 1/13/2025		460-318705-2 1/13/2025		460-318705-3 1/13/2025		460-318705-4 1/13/2025	
Sampling Date			SPLP		SPLP		SPLP		SPLP	
Matrix										
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
SPLP by 60208/3010A_L										
Arsenic	0.01	10	NR	NR	0.0013	NR	0.056	0.00089		
Beryllium	0.004	4	NR	0.001	0.00013	NR	NR			
Cobalt	0.029	29	0.0014 J	0.00071	NR	0.0059	0.00071	NR		
Lead	0.005	5	NR	NR	NR	0.01	0.00084	0.083		
Manganese	0.3	300	NR	NR	NR	1.1	0.0015	NR		
Nickel	0.1	100	NR	0.019	0.00091	0.02	0.00091	NR		
Thallium	0.002	2	NR	0.00021 U	0.00021	NR	NR			
Vanadium	0.49	490	NR	NR	NR	NR	0.35	0.00068		

SPLP SUMMARY												
Leachate Fluid Initial Amt												
Sample Initial Amt			0.1001 Kg					0.1001 Kg				0.10002 Kg
Leachate Final pH			10.37 SU					10.25 SU				7.91 SU
Leachate Final Amt			2 L					2 L				2 L

NR: Not Analyzed
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.

Table 2

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Direct	PADEP Non-Residential Direct	PADEP Non-Residential Direct	TB-1			TB-2			TB-3			TB-4		
Lab Sample ID	Contact MSC Surface	Contact MSC Subsurface Soil	Contact MSC Subsurface Soil	460-318705-1			460-318705-2			460-318705-3			460-318705-4		
Sampling Date	Soil	Soil	Soil	1/13/2025			1/13/2025			1/13/2025			1/13/2025		
Matrix	0-2 feet	2-15 feet	≤ 2500 mg/L	5.0-5.5			5.0-5.5			4.0-4.5			4.5-5.0		
Unit	mg/kg	mg/kg	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SVOCs by 8270E/3546															
1,1'-Biphenyl	34		40	0.012	U	0.012	0.012	U	0.012	0.014	U	0.014	0.013	U	0.013
1,2,4,5-Tetrachlorobenzene	960		190,000	0.010	U	0.010	0.011	U	0.011	0.012	U	0.012	0.012	U	0.012
2,2'-oxybis[1-chloropropane]	220		250	0.020	U	0.020	0.021	U	0.021	0.024	U	0.024	0.023	U	0.023
2,3,4,6-Tetrachlorophenol	96,000		190,000	0.023	U	0.023	0.024	U	0.024	0.027	U	0.027	0.026	U	0.026
2,4,5-Trichlorophenol	190,000		190,000	0.034	U	0.034	0.035	U	0.035	0.040	U	0.040	0.039	U	0.039
2,4,6-Trichlorophenol	3,200		190,000	0.043	U	0.043	0.045	U	0.045	0.051	U	0.051	0.049	U	0.049
2,4-Dichlorophenol	9,600		190,000	0.021	U	0.021	0.022	U	0.022	0.025	U	0.025	0.024	U	0.024
2,4-Dimethylphenol	10,000		10,000	0.040	U	0.040	0.041	U	0.041	0.047	U	0.047	0.045	U	0.045
2,4-Dinitrophenol	6,400		190,000	0.16	U	0.16	0.17	U	0.17	0.19	U	0.19	0.19	U	0.19
2,4-Dinitrotoluene	290		190,000	0.036	U	0.036	0.037	U	0.037	0.043	U	0.043	0.041	U	0.041
2,6-Dinitrotoluene	61		190,000	0.024	U	0.024	0.025	U	0.025	0.029	U	0.029	0.027	U	0.027
2-Chloronaphthalene	190,000		190,000	0.015	U	0.015	0.016	U	0.016	0.018	U	0.018	0.018	U	0.018
2-Chlorophenol	10,000		10,000	0.012	U	0.012	0.012	U	0.012	0.014	U	0.014	0.013	U	0.013
2-Methylnaphthalene	240		270	0.0093	U	0.0093	0.0097	U	0.0097	0.011	U	0.011	0.011	U	0.011
2-Methylphenol	160,000		190,000	0.012	U	0.012	0.013	U	0.013	0.015	U	0.015	0.014	U	0.014
2-Nitroaniline	3.9		4.5	0.0079	U	0.0079	0.0082	U	0.0082	0.094	U	0.094	0.090	U	0.090
2-Nitrophenol	26,000		190,000	0.033	U	0.033	0.035	U	0.035	0.040	U	0.040	0.038	U	0.038
3,3'-Dichlorobenzidine	200		190,000	0.050	U	0.050	0.052	U	0.052	0.060	U	0.060	0.057	U	0.057
3-Nitroaniline	NA		NA	0.079	U	0.079	0.082	U	0.082	0.094	U	0.094	0.090	U	0.090
4,6-Dinitro-2-methylphenol	260		190,000	0.14	U	0.14	0.14	U	0.14	0.16	U	0.16	0.15	U	0.15
4-Bromophenyl phenyl ether	NA		NA	0.013	U	0.013	0.014	U	0.014	0.016	U	0.016	0.015	U	0.015
4-Chloro-3-methylphenol	190,000		190,000	0.019	U	0.019	0.019	U	0.019	0.022	U	0.022	0.021	U	0.021
4-Chloroaniline	460		190,000	0.059	U	0.059	0.062	U	0.062	0.070	U	0.070	0.067	U	0.067
4-Chlorophenyl phenyl ether	NA		NA	0.012	U	0.012	0.012	U	0.012	0.014	U	0.014	0.013	U	0.013
4-Methylphenol	16,000		190,000	0.021	U	0.021	0.022	U	0.022	0.025	U	0.025	0.024	U	0.024
4-Nitroaniline	4,600		190,000	0.038	U	0.038	0.040	U	0.040	0.045	U	0.045	0.044	U	0.044
4-Nitrophenol	26,000		190,000	0.054	U	0.054	0.057	U	0.057	0.064	U	0.064	0.062	U	0.062
Acenaphthene	190,000		190,000	0.0095	U	0.0095	0.0099	U	0.0099	0.011	U	0.011	0.011	U	0.011
Acenaphthylene	190,000		190,000	0.0095	U	0.0095	0.0099	U	0.0099	0.011	U	0.011	0.011	U	0.011
Acetophenone	10,000		10,000	0.016	U	0.016	0.017	U	0.017	0.019	U	0.019	0.019	U	0.019
Anthracene	190,000		190,000	0.010	U	0.010	0.011	U	0.011	0.012	U	0.012	0.012	U	0.012
Atrazine	400		190,000	0.020	U	0.020	0.020	U	0.020	0.023	U	0.023	0.022	U	0.022
Benzaldehyde	NA		NA	0.055	U	0.055	0.057	U	0.057	0.065	U	0.065	0.063	U	0.063
Benzo[a]anthracene	130		190,000	0.025	U	0.025	0.026	U	0.026	0.030	U	0.030	0.029	U	0.029
Benzo[a]pyrene	91		190,000	0.0089	U	0.0089	0.0092	U	0.0092	0.011	U	0.011	0.010	U	0.010
Benzo[b]fluoranthene	76		190,000	0.0086	U	0.0086	0.0090	U	0.0090	0.010	U	0.010	0.0098	U	0.0098
Benzo[g,h,i]perylene	190,000		190,000	0.0098	U	0.0098	0.010	U	0.010	0.012	U	0.012	0.011	U	0.011
Benzo[k]fluoranthene	76		190,000	0.0065	U	0.0065	0.0068	U	0.0068	0.0078	U	0.0078	0.0074	U	0.0074
Bis(2-chloroethoxy)methane	9,600		10,000	0.026	U	0.026	0.027	U	0.027	0.031	U	0.031	0.030	U	0.030
Bis(2-chloroethyl)ether	6.7		7.6	0.023	U	0.023	0.024	U	0.024	0.024	U	0.024	0.023	U	0.023
Bis(2-ethylhexyl) phthalate	6,500		10,000	0.018	U	0.018	0.018	U	0.018	0.021	U	0.021	0.020	U	0.020
Butyl benzyl phthalate	10,000		10,000	0.016	U	0.016	0.016	U	0.016	0.019	U	0.019	0.018	U	0.018
Caprolactam	NA		NA	0.052	U	0.052	0.054	U	0.054	0.062	U	0.062	0.059	U	0.059
Carbazole	4,600		190,000	0.013	U	0.013	0.013	U	0.013	0.015	U	0.015	0.014	U	0.014
Chrysene	760		190,000	0.014	U	0.014	0.015	U	0.015	0.017	U	0.017	0.016	U	0.016
Dibenz[a,h]anthracene	22		190,000	0.014	U	0.014	0.015	U	0.015	0.017	U	0.017	0.016	U	0.016
Dibenzofuran	3,200		190,000	0.011	U	0.011	0.012	U	0.012	0.013	U	0.013	0.013	U	0.013
Diethyl phthalate	10,000		10,000	0.011	U	0.011	0.011	U	0.011	0.013	U	0.013	0.012	U	0.012
Dimethyl phthalate	NA		NA	0.076	U	0.076	0.079	U	0.079	0.090	U	0.090	0.086	U	0.086
Di-n-butyl phthalate	10,000		10,000	0.013	U	0.013	0.013	U	0.013	0.015	U	0.015	0.014	U	0.014
Di-n-octyl phthalate	10,000		10,000	0.018	U	0.018	0.018	U	0.018	0.021	U	0.021	0.020	U	0.020
Fluoranthene	130,000		190,000	0.012	U	0.012	0.012	U	0.012	0.014	U	0.014	0.013	U	0.013
Fluorene	130,000		190,000	0.0097	U	0.0097	0.010	U	0.010	0.012	U	0.012	0.011	U	0.011
Hexachlorobenzene	57		190,000	0.016	U	0.016	0.016	U	0.016	0.019	U	0.019	0.018	U	0.018
Hexachlorobutadiene	1,200		10,000	0.0071	U	0.0071	0.0074	U	0.0074	0.0084	U	0.0084	0.0081	U	0.0081
Hexachlorocyclopentadiene	10,000		10,000	0.029	U	0.029	0.030	U	0.030	0.035	U	0.035	0.033	U	0.033
Hexachloroethane	230		270	0.011	U	0.011	0.012	U	0.012	0.014	U	0.014	0.013	U	0.013
Indeno[1,2,3-cd]pyrene	76		190,000	0.013	U	0.013	0.014	U	0.014	0.015	U	0.015	0.015	U	0.015
Isophorone	10,000		10,000	0.096	U	0.096	0.10	U	0.10	0.11	U	0.11	0.11	U	0.11
Naphthalene	66		77	0.0058	U	0.0058	0.0060	U	0.0060	0.0068	U	0.0068	0.0066	U	0.0066
Nitrobenzene	55		63	0.018	U	0.018	0.019	U	0.019	0.022	U	0.022	0.021	U	0.021
N-Nitrosodi-n-propylamine	1.1		1.3	0.0018	U	0.0018	0.024	U	0.024	0.025	U	0.025	0.029	U	0.028
N-Nitrosodiphenylamine	860		990	0.027	U	0.027	0.029	U	0.029	0.033	U	0.033	0.031	U	0.031
Pentachlorophenol	230		190,000	0.068	U	0.068	0.071	U	0.071	0.081	U	0.081	0.078	U	0.078
Phenanthrene	190,000		190,000	0.014	U	0.014	0.014	U	0.014	0.016	U	0.016	0.015	U	0.015
Phenol	16,000		18,000	0.012	U	0.012	0.013	U	0.013	0.015	U	0.015	0.014	U	0.014
Pyrene	96,000		190,000	0.0083	U	0.0083	0.0086	U	0.0086	0.0098	U	0.0098	0.0094	U	0.0094
Total Estimated Conc. (TICs)	NA		NA	0		0	0		0	0		0	0		0

Notes:

Highlighted Concentrations shown in bold type face exceed limits

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.

Table 2

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Direct	PADEP Non-Residential Direct	PADEP Non-Residential Soil to Groundwater MSC Used	TB-1			TB-2			TB-3			TB-4		
Lab Sample ID	Contact MSC Surface Soil	Contact MSC Subsurface Soil	Aquifers Generic TDS	460-318705-1			460-318705-2			460-318705-3			460-318705-4		
Sampling Date	0-2			1/13/2025			1/13/2025			1/13/2025			1/13/2025		
Depth (ft)				5.0-5.5			5.0-5.5			4.0-4.5			4.5-5.0		
	feet	2-15 feet	≤ 2500 mg/L												
Unit	mg/kg	mg/kg	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
PESTICIDES by 8081B/3546															
4,4'-DDD	380	190,000	120	0.0011	U	0.0011	0.0012	U	0.0012	0.0014	U	0.0014	0.0013	U	0.0013
4,4'-DDE	270	190,000	170	0.00079	U	0.00079	0.00083	U	0.00083	0.00094	U	0.00094	0.00090	U	0.00090
4,4'-DDT	270	190,000	330	0.0012	U	0.0012	0.0013	U	0.0013	0.0015	U	0.0015	0.0014	U	0.0014
Aldrin	5.4	190,000	1.9	0.0010	U	0.0010	0.0011	U	0.0011	0.0012	U	0.0012	0.0012	U	0.0012
alpha-BHC	14	190,000	0.2	0.00068	U	0.00068	0.00071	U	0.00071	0.00081	U	0.00081	0.00078	U	0.00078
beta-BHC	51	190,000	0.88	0.00075	U	0.00075	0.00079	U	0.00079	0.00090	U	0.00090	0.00086	U	0.00086
Chlordane (technical)	260	190,000	49	0.016	U	0.016	0.017	U	0.017	0.019	U	0.019	0.018	U	0.018
delta-BHC	NA	NA	NA	0.00041	U	0.00041	0.00043	U	0.00043	0.00049	U	0.00049	0.00047	U	0.00047
Dieldrin	5.7	190,000	0.47	0.00088	U	0.00088	0.00091	U	0.00091	0.0010	U	0.0010	0.00099	U	0.00099
Endosulfan I	19,000	190,000	260	0.0010	U	0.0010	0.0011	U	0.0011	0.0012	U	0.0012	0.0012	U	0.0012
Endosulfan II	19,000	190,000	260	0.0017	U	0.0017	0.0018	U	0.0018	0.0021	U	0.0021	0.0020	U	0.0020
Endosulfan sulfate	19,000	190,000	70	0.00084	U	0.00084	0.00088	U	0.00088	0.0010	U	0.0010	0.00096	U	0.00096
Endrin	960	190,000	5.5	0.00097	U	0.00097	0.0010	U	0.0010	0.0011	U	0.0011	0.0011	U	0.0011
Endrin aldehyde	NA	NA	NA	0.0016	U	0.0016	0.0017	U	0.0017	0.0019	U	0.0019	0.0018	U	0.0018
Endrin ketone	NA	NA	NA	0.0013	U	0.0013	0.0014	U	0.0014	0.0016	U	0.0016	0.0015	U	0.0015
gamma-BHC (Lindane)	83	190,000	0.072	0.00062	U	0.00062	0.00065	U	0.00065	0.00074	U	0.00074	0.00071	U	0.00071
Heptachlor	20	190,000	0.68	0.00079	U	0.00079	0.00083	U	0.00083	0.00094	U	0.00094	0.00090	U	0.00090
Heptachlor epoxide	10	190,000	1.1	0.0010	U	0.0010	0.0010	U	0.0010	0.0012	U	0.0012	0.0011	U	0.0011
Methoxychlor	16,000	190,000	630	0.0015	U	0.0015	0.0016	U	0.0016	0.0018	U	0.0018	0.0017	U	0.0017
Toxaphene	83	190,000	1.2	0.024	U	0.024	0.025	U	0.025	0.029	U	0.029	0.028	U	0.028
PCBs by 8082A/3546															
Aroclor 1016	220	10,000	190	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1221	23	27	0.68	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1232	46	10,000	0.54	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1242	46	10,000	17	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1248	46	10,000	67	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1254	64	10,000	380	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1260	46	190,000	630	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
Aroclor 1268	NA	NA	NA	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
PCB-1262	NA	NA	NA	0.018	U	0.018	0.019	U	0.019	0.021	U	0.021	0.020	U	0.020
METALS by 6020B/3050B															
Aluminum	190000	190000	NA	13,100		5.2	11,900		5.2	9,560		6.0	12,900		5.7
Antimony	1300	190000	27	0.14	U	0.14	0.14	U	0.14	0.16	U	0.16	0.15	U	0.15
Arsenic	61	190000	29	0.43	J	0.097	0.81	J	0.098	1.5		0.11	5.1		0.11
Barium	190000	190000	8200	152		0.14	115		0.14	173		0.16	62.2		0.15
Beryllium	6400	190000	320	0.44		0.054	0.84		0.054	1.3		0.062	0.72		0.059
Cadmium	1600	190000	38	0.11	U	0.11	0.11	U	0.11	0.12	U	0.12	0.12	U	0.12
Calcium	NA	NA	NA	824		38.4	1,420		38.9	1,400		44.4	1,420		42.5
Chromium	NA	NA	NA	6.1		0.86	5.4		0.87	4.4		0.99	30.5		0.95
Cobalt	960	190000	130	10.4		0.14	7.8		0.14	11.5		0.16	5.2		0.15
Copper	100000	190000	43000	1.6	J	0.35	3.0		0.35	5.9		0.40	11.4		0.38
Iron	190000	190000	NA	13,400		19.1	15,400		19.3	25,000		22.0	23,600		21.1
Lead	1000	190000	450	2.2		0.19	3.5		0.19	8.7		0.22	8.3		0.21
Magnesium	NA	NA	NA	6,950		9.6	6,430		9.7	5,130		11.1	2,490		10.6
Manganese	190000	190000	2000	87.0		0.38	334		0.39	2370		4.4	113		0.42
Nickel	64000	190000	650	12.6		0.44	15.4		0.45	17.8		0.51	12.5		0.49
Potassium	NA	NA	NA	4,440		15.3	8,200		15.5	5520		17.7	844		16.9
Selenium	16000	190000	26	0.12	U	0.12	0.12	U	0.12	0.21	J	0.14	0.28	J	0.13
Silver	16000	190000	84	0.084	U	0.084	0.085	U	0.085	0.097	U	0.097	0.093	U	0.093
Sodium	NA	NA	NA	191		43.2	74.8	J	43.7	229		49.8	890		47.7
Thallium	32	190000	14	0.097	J	0.039	0.40		0.039	0.34	J	0.045	0.11	J	0.043
Vanadium	16000	190000	49000	22.8		0.19	26.2		0.20	14.5		0.22	32.7		0.21
Zinc	190000	190000	12000	15.2		2.9	59.4		2.9	53.6		3.3	30.5		3.2
METALS by 7471B/7471B_PREP															
Mercury	510	190000	10	0.0073	U	0.0073	0.0084	U	0.0084	0.0085	U	0.0085	0.0090	U	0.0090

Notes:

Highlighted Concentrations shown in bold type face exceed limits

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.

Table 4

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Used Aquifers TDS ≤ 2500 mg/l	PADEP Non-Residential Non-Use Aquifers mg/l	TW-1			TW-2		
Lab Sample ID			460-318705-5			460-318705-6		
Sampling Date			1/13/2025			1/13/2025		
Matrix			Water			Water		
Unit			mg/l			mg/l		
			Result	Q	MDL	Result	Q	MDL
VOCs by 8260D								
1,1,1-Trichloroethane	0.2	2	0.00024	U	0.00024	0.00024	U	0.00024
1,1,2,2-Tetrachloroethane	0.0043	0.43	0.00037	U	0.00037	0.00037	U	0.00037
1,1,2-Trichloro-1,2,2-trifluoroethane	44	170	0.00031	U	0.00031	0.00031	U	0.00031
1,1,2-Trichloroethane	0.005	0.05	0.00020	U	0.00020	0.00020	U	0.00020
1,1-Dichloroethane	0.16	1.6	0.00026	U	0.00026	0.00026	U	0.00026
1,1-Dichloroethene	0.007	0.07	0.00026	U	0.00026	0.00026	U	0.00026
1,2,3-Trichlorobenzene	NA	NA	0.00036	U	0.00036	0.00036	U	0.00036
1,2,4-Trichlorobenzene	0.07	7	0.00037	U	0.00037	0.00037	U	0.00037
1,2-Dibromo-3-Chloropropane	0.0002	0.02	0.00038	U	0.00038	0.00038	U	0.00038
1,2-Dibromoethane	0.00005	0.005	0.00050	U	0.00050	0.00050	U	0.00050
1,2-Dichlorobenzene	0.6	60	0.00021	U	0.00021	0.00021	U	0.00021
1,2-Dichloroethane	0.005	0.05	0.00043	U	0.00043	0.00043	U	0.00043
1,2-Dichloropropane	0.005	0.05	0.00035	U	0.00035	0.00035	U	0.00035
1,3-Dichlorobenzene	0.6	60	0.00034	U	0.00034	0.00034	U	0.00034
1,4-Dichlorobenzene	0.075	7.5	0.00033	U	0.00033	0.00033	U	0.00033
1,4-Dioxane	0.027	0.27	0.028	U	0.028	0.028	U	0.028
2-Butanone (MEK)	4	400	0.0019	J	0.0019	0.0019	J	0.0019
2-Hexanone (MBK)	0.26	0.26	0.0011	J	0.0011	0.0011	J	0.0011
4-Methyl-2-pentanone (MIBK)	7.8	780	0.0013	U	0.0013	0.0013	U	0.0013
Acetone	88	880	0.0044	U	0.0044	0.0059		0.0044
Benzene	0.005	0.5	0.00020	U	0.00020	0.00020	U	0.00020
Bromoform	0.08	8	0.00054	J	0.00054	0.00054	J	0.00054
Bromomethane	0.01	1	0.00055	U	0.00055	0.00055	U	0.00055
Carbon disulfide	6.2	6.2	0.00082	U	0.00082	0.00082	U	0.00082
Carbon tetrachloride	0.005	0.05	0.00021	U	0.00021	0.00021	U	0.00021
Chlorobenzene	0.1	10	0.00038	U	0.00038	0.00038	U	0.00038
Chlorobromomethane	0.09	0.09	0.00041	U	0.00041	0.00041	U	0.00041
Chlorodibromomethane	0.08	8	0.00028	U	0.00028	0.00028	J	0.00028
Chloroethane	88	5,700	0.00032	U	0.00032	0.00032	U	0.00032
Chloroform	0.08	0.8	0.00033	U	0.00033	0.00033	U	0.00033
Chloromethane	0.03	3	0.00040	U	0.00040	0.00040	U	0.00040
cis-1,2-Dichloroethene	0.07	0.7	0.00022	U	0.00022	0.00022	U	0.00022
cis-1,3-Dichloropropene	NA	NA	0.00022	U	0.00022	0.00022	U	0.00022
Cyclohexane	53	53	0.00032	U	0.00032	0.00032	U	0.00032
Dichlorobromomethane	0.08	0.08	0.00034	U	0.00034	0.00034	U	0.00034
Dichlorodifluoromethane	1	100	0.00031	U	0.00031	0.00031	U	0.00031
Ethylbenzene	0.7	70	0.00030	U	0.00030	0.00030	U	0.00030
Isopropylbenzene	3.5	50	0.00034	U	0.00034	0.00034	U	0.00034
Methyl acetate	97	97	0.00079	U	0.00079	0.00079	U	0.00079
Methyl tert-butyl ether	0.02	0.2	0.00022	U	0.00022	0.00022	U	0.00022
Methylcyclohexane	NA	NA	0.00071	U	0.00071	0.00071	U	0.00071
Methylene Chloride	0.005	0.5	0.00032	U	0.00032	0.00032	U	0.00032
m-Xylene & p-Xylene	NA	NA	0.00030	U	0.00030	0.00030	U	0.00030
o-Xylene	NA	NA	0.00036	U	0.00036	0.00036	U	0.00036
Styrene	0.1	10	0.00042	U	0.00042	0.00042	U	0.00042
Tetrachloroethene	0.005	0.05	0.00025	U	0.00025	0.00025	U	0.00025
Toluene	1	100	0.00038	U	0.00038	0.00038	U	0.00038
trans-1,2-Dichloroethene	0.1	1	0.00024	U	0.00024	0.00024	U	0.00024
trans-1,3-Dichloropropene	NA	NA	0.00022	U	0.00022	0.00022	U	0.00022
Trichloroethene	0.005	0.05	0.00031	U	0.00031	0.00031	U	0.00031
Trichlorofluoromethane	2	200	0.00032	U	0.00032	0.00032	U	0.00032
Vinyl chloride	0.002	0.02	0.00017	U	0.00017	0.00017	U	0.00017
Total Estimated Conc. (TICs)	NA	NA	0			0		

Notes:

Highlighted Concentrations shown in bold type face exceed limits

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.

Table 4

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Used	PADEP Non-Residential Non-Use	TW-1			TW-2		
Lab Sample ID	Aquifers	TDS	460-318705-5			460-318705-6		
Sampling Date			1/13/2025			1/13/2025		
Matrix	≤ 2500		Water			Water		
Unit	mg/l		mg/l			mg/l		
			Result	Q	MDL	Result	Q	MDL
SVOCs by 8270E/3510C_LVI								
1,1'-Biphenyl	0.0035	0.35	0.0012	U	0.0012	0.0012	U	0.0012
1,2,4,5-Tetrachlorobenzene	0.029	0.58	0.0012	U	0.0012	0.0012	U	0.0012
2,2'-oxybis[1-chloropropane]	0.3	30	0.00063	U	0.00063	0.00063	U	0.00063
2,3,4,6-Tetrachlorophenol	2.9	180	0.00075	U	0.00075	0.00075	U	0.00075
2,4,5-Trichlorophenol	9.7	1000	0.00088	U	0.00088	0.00088	U	0.00088
2,4,6-Trichlorophenol	0.097	97	0.00086	U	0.00086	0.00086	U	0.00086
2,4-Dichlorophenol	0.02	20	0.0011	U	0.0011	0.0011	U	0.0011
2,4-Dimethylphenol	1.9	1900	0.00062	U	0.00062	0.00062	U	0.00062
2,4-Dinitrophenol	0.19	190	0.011	U	0.011	0.011	U	0.011
2,4-Dinitrotoluene	0.0088	8.8	0.0010	U	0.0010	0.0010	U	0.0010
2,6-Dinitrotoluene	0.0018	1.8	0.00083	U	0.00083	0.00083	U	0.00083
2-Chloronaphthalene	7.8	7.8	0.0012	U	0.0012	0.0012	U	0.0012
2-Chlorophenol	0.04	0.04	0.00095	U	0.00095	0.00095	U	0.00095
2-Methylnaphthalene	0.026	0.026	0.00053	U	0.00053	0.00053	U	0.00053
2-Methylphenol	4.9	490	0.00067	U	0.00067	0.00067	U	0.00067
2-Nitroaniline	0.00044	0.00044	0.0012	U	0.0012	0.0012	U	0.0012
2-Nitrophenol	0.78	78	0.00075	U	0.00075	0.00075	U	0.00075
3,3'-Dichlorobenzidine	0.006	3.1	0.0014	U	0.0014	0.0014	U	0.0014
3-Nitroaniline	NA	NA	0.0019	U	0.0019	0.0019	U	0.0019
4,6-Dinitro-2-methylphenol	0.0078	0.78	0.0086	U	0.0086	0.0086	U	0.0086
4-Bromophenyl phenyl ether	NA	NA	0.00075	U	0.00075	0.00075	U	0.00075
4-Chloro-3-methylphenol	9.7	9.7	0.0013	U	0.0013	0.0013	U	0.0013
4-Chloroaniline	0.014	0.014	0.0019	U	0.0019	0.0019	U	0.0019
4-Chlorophenyl phenyl ether	NA	NA	0.0013	U	0.0013	0.0013	U	0.0013
4-Methylphenol	0.49	490	0.00065	U	0.00065	0.00065	U	0.00065
4-Nitroaniline	0.14	0.14	0.0012	U	0.0012	0.0012	U	0.0012
4-Nitrophenol	0.06	6	0.0040	U	0.0040	0.0040	U	0.0040
Acenaphthene	3.8	3.8	0.0011	U	0.0011	0.0011	U	0.0011
Acenaphthylene	5.8	16	0.00082	U	0.00082	0.00082	U	0.00082
Acetophenone	9.7	9.7	0.0023	U	0.0023	0.0023	U	0.0023
Anthracene	0.066	0.066	0.0013	U	0.0013	0.0013	U	0.0013
Atrazine	0.003	0.003	0.0013	U	0.0013	0.0013	U	0.0013
Benzaldehyde	NA	NA	0.0021	U	0.0021	0.0021	U	0.0021
Benzo[a]anthracene	0.0039	0.011	0.00059	U	0.00059	0.00059	U	0.00059
Benzo[a]pyrene	0.0002	0.0038	0.00041	U	0.00041	0.00041	U	0.00041
Benzo[b]fluoranthene	0.0012	0.0012	0.00068	U	0.00068	0.00068	U	0.00068
Benzo[g,h,i]perylene	0.00026	0.00026	0.00070	U	0.00070	0.00070	U	0.00070
Benzo[k]fluoranthene	0.00055	0.00055	0.00067	U	0.00067	0.00067	U	0.00067
Bis(2-chloroethoxy)methane	0.29	0.29	0.00059	U	0.00059	0.00059	U	0.00059
Bis(2-chloroethyl)ether	0.00076	0.076	0.00063	U	0.00063	0.00063	U	0.00063
Bis(2-ethylhexyl) phthalate	0.006	0.29	0.00080	U	0.00080	0.00080	U	0.00080
Butyl benzyl phthalate	1.4	2.7	0.00085	U	0.00085	0.00085	U	0.00085
Caprolactam	NA	NA	0.0022	U	0.0022	0.0022	U	0.0022
Carbazole	0.14	0.14	0.00068	U	0.00068	0.00068	U	0.00068
Chrysene	0.0019	0.0019	0.00091	U	0.00091	0.00091	U	0.00091
Dibenz(a,h)anthracene	0.0006	0.0006	0.00072	U	0.00072	0.00072	U	0.00072
Dibenzofuran	0.097	4.5	0.0011	U	0.0011	0.0011	U	0.0011
Diethyl phthalate	78	1100	0.00098	U	0.00098	0.00098	U	0.00098
Dimethyl phthalate	NA	NA	0.00077	U	0.00077	0.00077	U	0.00077
Di-n-butyl phthalate	9.7	400	0.00084	U	0.00084	0.00084	U	0.00084
Di-n-octyl phthalate	0.97	3	0.0040	U	0.0040	0.0040	U	0.0040
Fluoranthene	0.26	0.26	0.00084	U	0.00084	0.00084	U	0.00084
Fluorene	1.9	1.9	0.00091	U	0.00091	0.00091	U	0.00091
Hexachlorobenzene	0.001	0.006	0.00040	U	0.00040	0.00040	U	0.00040
Hexachlorobutadiene	0.035	2.9	0.00078	U	0.00078	0.00078	U	0.00078
Hexachlorocyclopentadiene	0.05	1.8	0.0036	U	0.0036	0.0036	U	0.0036
Hexachloroethane	0.001	0.1	0.00080	U	0.00080	0.00080	U	0.00080
Indeno[1,2,3-cd]pyrene	0.0023	0.062	0.00094	U	0.00094	0.00094	U	0.00094
Isophorone	0.1	100	0.00080	U	0.00080	0.00080	U	0.00080
Naphthalene	0.1	10	0.00054	U	0.00054	0.00054	U	0.00054
Nitrobenzene	0.0063	0.63	0.00057	U	0.00057	0.00057	U	0.00057
N-Nitrosodi-n-propylamine	0.00013	0.0013	0.00043	U	0.00043	0.00043	U	0.00043
N-Nitrosodiphenylamine	0.096	9.6	0.00089	U	0.00089	0.00089	U	0.00089
Pentachlorophenol	0.001	1	0.0066	U	0.0066	0.0066	U	0.0066
Phenanthrene	1.1	1.1	0.0013	U	0.0013	0.0013	U	0.0013
Phenol	2	200	0.00029	U	0.00029	0.00029	U	0.00029
Pyrene	0.13	0.13	0.0016	U	0.0016	0.0016	U	0.0016
Total Estimated Conc. (TICs)	NA	NA	0			0		

Notes:

Highlighted Concentrations shown in bold type face exceed limits

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.

Table 4

Lab Job ID: 460-318705-1

Job Description: Pennell & West 2nd Streets, Parcel ID 49-07-00042-00, Chester PA

For:

Colliers Engineering and Design, Inc.

2000 Midlantic Drive, Suite 100

Mt. Laurel, New Jersey 08054

Client ID	PADEP Non-Residential Used Aquifers TDS ≤ 2500	PADEP Non-Residential Non-Use Aquifers	TW-1			TW-2		
Lab Sample ID			460-318705-5			460-318705-6		
Sampling Date			1/13/2025			1/13/2025		
Matrix			Water			Water		
Unit	mg/l	mg/l	mg/l			mg/l		
			Result	Q	MDL	Result	Q	MDL
PCBs by 8082A/3510C_LVI								
Aroclor 1016	0.0068	0.0068	0.00012	U	0.00012	0.00012	J *	0.00012
Aroclor 1221	0.0014	0.0014	0.00012	U	0.00012	0.00012	U	0.00012
Aroclor 1232	0.0014	0.0014	0.00012	U	0.00012	0.00012	U	0.00012
Aroclor 1242	0.0014	0.0014	0.00012	U	0.00012	0.00012	U	0.00012
Aroclor 1248	0.0014	0.0014	0.00012	U	0.00012	0.00012	U	0.00012
Aroclor 1254	0.0019	0.0019	0.00011	U	0.00011	0.00011	U	0.00011
Aroclor 1260	0.0014	0.0014	0.00011	U	0.00011	0.00011	J *	0.00011
Aroclor 1268	NA	NA	0.00011	U	0.00011	0.00011	U	0.00011
PCB-1262	NA	NA	0.00011	U	0.00011	0.00011	U	0.00011
Total PCBs	0.0005	0.0005	0.00012	U	0.00012	0.00012	J *	0.00012
METALS by 6020B/3010A(MG/L)								
Aluminum	NA	NA	63.8		0.020	26.9		0.020
Antimony	0.006	6	0.00090	J	0.00076	0.00076	U	0.00076
Arsenic	0.01	10	0.032		0.00089	0.0051		0.00089
Barium	2	2000	0.56		0.00091	0.65		0.00091
Beryllium	0.004	4	0.0052		0.00013	0.0036		0.00013
Cadmium	0.005	5	0.00062	J	0.00039	0.012		0.00039
Calcium	NA	NA	48.1		0.054	338		0.054
Chromium	0.1	100	0.22		0.0025	0.057		0.0025
Cobalt	0.029	29	0.064		0.00071	0.098		0.00071
Copper	1	1000	0.11		0.0025	0.055		0.0025
Iron	NA	NA	161		0.058	112		0.058
Lead	0.005	5	0.11		0.00084	0.043		0.00084
Magnesium	NA	NA	38.0		0.047	232		0.047
Manganese	0.3	300	6.7		0.0015	10		0.0015
Nickel	0.1	100	0.11		0.00091	0.22		0.00091
Potassium	NA	NA	10.6		0.11	43.7		0.11
Selenium	0.05	50	0.0017	J	0.00059	0.00059	U	0.00059
Silver	0.1	100	0.00029	U	0.00029	0.00029	U	0.00029
Sodium	NA	NA	191		0.22	122		0.22
Thallium	0.002	2	0.00024	J	0.00021	0.00025	J	0.00021
Vanadium	0.49	490	0.19		0.00068	0.059		0.00068
Zinc	2	2000	0.31		0.0065	0.28		0.0065
METALS by 7470A/7470A_PREP(MG/L)								
Mercury	0.002	2	0.00017	J	0.000091	0.00011	J	0.000091
WATER by 9012B/9012B_PREP								
Cyanide, Total	NA	NA	0.0040	U	0.0040	0.0040	U	0.0040

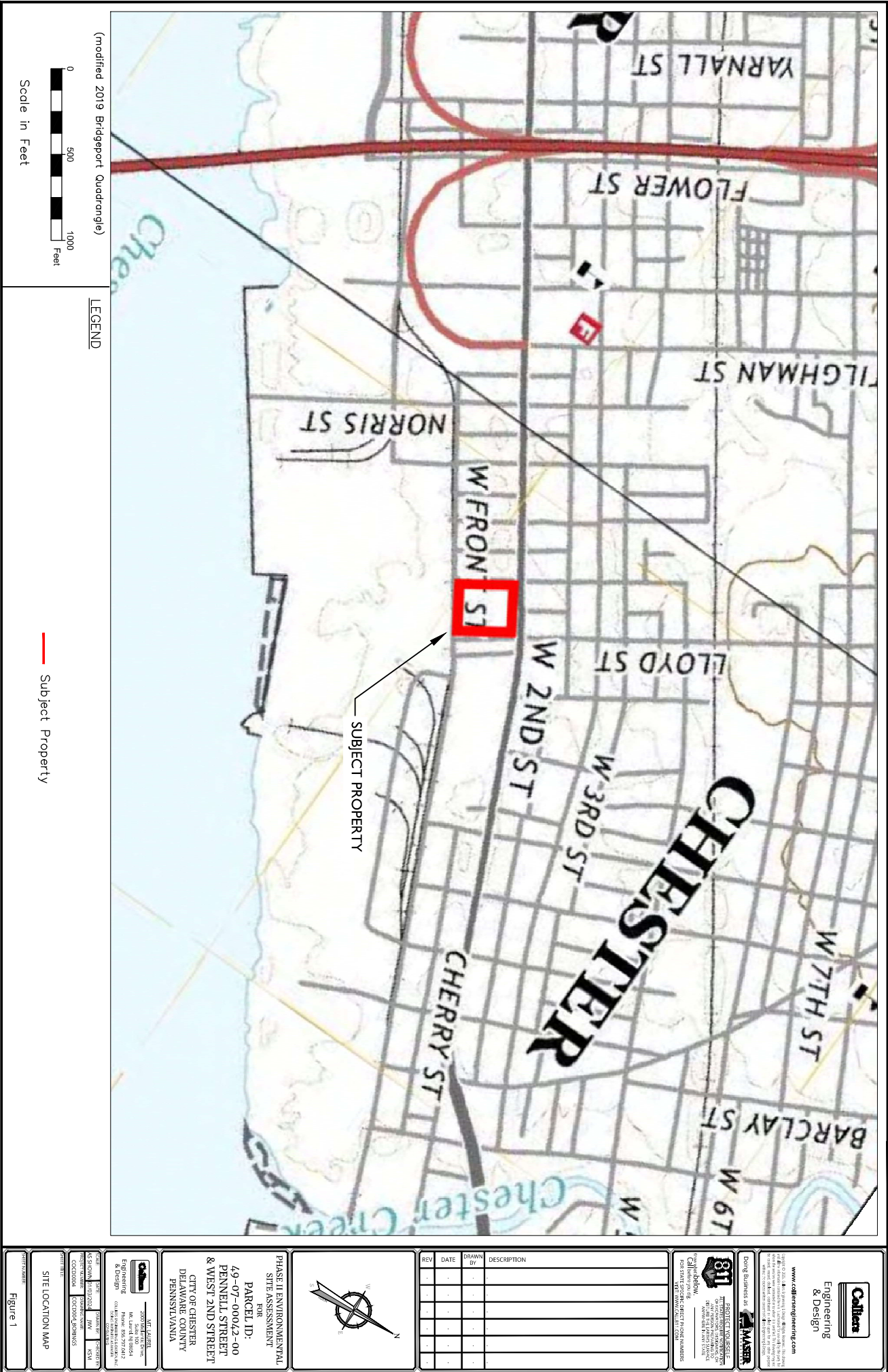
Notes:

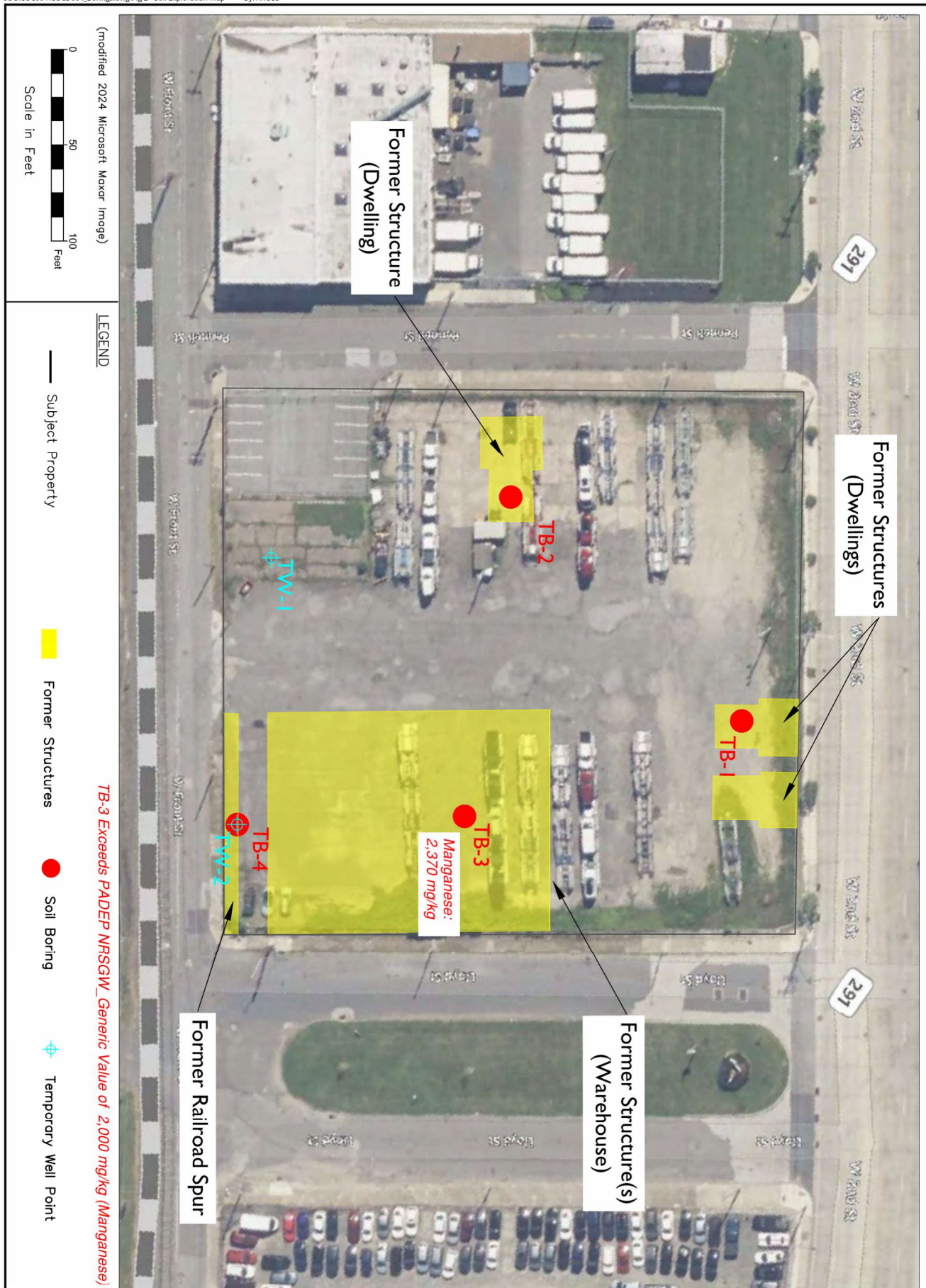
Highlighted Concentrations shown in bold type face exceed limits

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

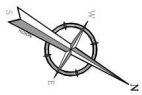
U : Indicates the analyte was analyzed for but not detected.

Figures





REV	DATE	DRAWN BY	DESCRIPTION
1	11/11/11	11/11/11	1
2	11/11/11	11/11/11	2
3	11/11/11	11/11/11	3
4	11/11/11	11/11/11	4
5	11/11/11	11/11/11	5
6	11/11/11	11/11/11	6
7	11/11/11	11/11/11	7
8	11/11/11	11/11/11	8



PHASE II ENVIRONMENTAL SITE ASSESSMENT

PARCEL ID:
49-07-00042-00
PENNELL STREET
& WEST 2ND STREET
CITY OF CHESTER
DELAWARE COUNTY
PENNSYLVANIA

Colliers
Engineering
& Design

2000 Mulberry Drive
Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412

COLLIERS ENGINEERING & DESIGN, INC.
DO NOT WRITE IN SPACES

SOIL & GROUNDWATER
SAMPLE LOCATION MAP

Figure 2

Colliers

Engineering
& Design

www.colliersengineering.com

Offered by IGC, Colliers Engineering is a highly talented, multi-disciplinary team of experienced engineers and designers who have worked on a wide range of projects for a variety of clients. We are now seeking to expand our client base and are looking for new business opportunities. If you are interested in working with a team of experienced engineers and designers, please contact us today.

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APPENDIX A

Geophysical Survey Report dated February 4, 2025

APPENDIX A

Geophysical Survey Report dated February 5, 2025

February 4, 2025

City of Chester
1 Fourth Street
Chester, Pennsylvania 19013

Geophysical Evaluation Summary Report
Pennell Street and West 2nd Street Property
Chester, Delaware County, Pennsylvania
Colliers Engineering & Design Project No.: COCD0004

To Whom It May Concern,

Colliers Engineering & Design Inc. (CED) completed a geophysical evaluation at the Pennell Street and West 2nd Street Property located at Pennell Street, 0 West 2nd Street, Chester, Pennsylvania. These efforts were performed to evaluate subsurface anomalies associated with AOC/REC #1: Former Structures located within the property boundary as outlines in the Phase 1 Environmental Site Assessment.

Introduction

CED performed the initial geophysical surveying at the property on January 13th. Due to obstructions (parked vehicles and trailers), the site was revisited on January 28th to complete the effort. These efforts were performed to investigate the shallow subsurface comprising the area of concern and to evaluate the subsurface conditions to and anomalies associated with former structure(s) such as underground storage tanks, construction and demolition fill, and remnant building material. Noninvasive methods included using Ground Penetrating Radar (GPR) and Electromagnetic Induction (EM) surveying within accessible regions within the survey area. The following is a summary of our methodologies and findings.

Survey Methodology

GPR Surveying

GPR surveying was conducted in accessible portions of the subject areas using a GSSI SIR-4000 instrument with a 350-megahertz antenna. Site conditions allowed for a maximum resolution depth of 11 feet below existing surface grade (bsg) and seemed to be controlled by groundwater table. Using an integrated survey wheel, distance normalization was completed in-field for calibration of various surfaces and terrain encountered during the investigation. GPR profiles were conducted as a series of parallel and transverse survey profiles in accessible regions of the subject areas. Collected data was post-processed using RADAN 7 software to refine subsurface anomalies.

EM Surveying

EM soil conductivity surveying was conducted using over the subject area using a Geonics EM31-MKII frequency domain field instrument with integrated GPS (+/- 8 inches) system. EM anomalies are typically associated with saturated materials and plumes, infrastructure, and variations in lithology. Surveying included a series of interwoven parallel and perpendicular traverses. The instrument was calibrated to soil conditions prior to surveying. Collected data was contoured using RTMAP31, DAT31, and Oasis Montaj rendering software.

Geophysical methods were performed within accessible regions of the subject area and limited by parked vehicle trailers and materials not removed prior to the evaluation. Observed anomalies are restricted to the surveyable area only. External influences, including metallic objects (parked vehicles dumpsters etc.) were observed and filtered from the datasets for analyses.

Results

The geophysical evaluation indicated seven (7) subsurface anomalies within the survey area as illustrated on enclosed Figure 1 and outlined in Table 1 below.

Table 1: Geophysical Anomaly Summary

Anomaly	Depth (ft bsg)	Observation
A1	0.0 – 6.0	Area of regraded and reworked fill material.
A2	0.5 – 5.0	Suspected debris-filled area (possible demolition debris)
A3	3.0	Metallic object(s) which may indicated a possible buried underground storage tank.
A4	0.5 – 3.0	Area of reinforced concrete in upper 0.5' Underlain by foundations and fill/debris.
A5	0.0 – 5.0	Area of reinforced concrete in upper 0.5' underlain by a excavation and backfilled materials / debris to 5+ ft bsg
A6	0.0 – 2.0	Area of reinforced concrete in upper 0.5'.
A7	2.5 - 3.5	Buried utility conduit.

The geophysical data indicated that much of the subject area is underlain by reworked soils (0.0 to 6.0 ft bsg) and infrastructure (footings, foundation walls etc.) correlating to mapped former structures by historical documents. GPR indicated saturated materials, representing the local groundwater table, within the first 6 to 8 feet bsg.

The survey also identified a region of reworked soils and excavation scars in the south and southeast corner of the subject area though to correlate with mapped railroad spur (June 14,

2024, Phase I Environmental Phase Site Assessment by CED). The results did not show the presence of intact rail line in this area, however.

Recommendations

The results of the geophysical evaluation indicated reworked fill and remnant infrastutre correlating to former structures and activities noted in our June 14, 2024, Phase I Environmental Phase Site Assessment. While majority of anomalies are likely associated with buried debris/fill and remnant infrastructure, Anomaly A3 may warrant additional investigation given the potential of being an underground storage tank (UST).

Limitations

This report has been prepared in accordance with sound geologic/geophysical practice and in accordance with the standard level of care at the time of this writing. This map does not suffice as an absolute utility map. Given the history of activities and earthwork at this facility, resolution of the subsurface can be limited by the presence of backfill, remnant infrastructure, and shallow water table. CED is not responsible for any claims, damages, or liability associated with the interpretation of, or conclusions drawn from, the results of the referenced studies.


We look forward to assisting you during the further development of this site. If you have any questions or comments, or if we may be of further service, please do not hesitate to contact us.

Sincerely,

Colliers Engineering & Design, Inc.

A handwritten signature in black ink, appearing to read "Joshua A. Foust".

Joshua A. Foust, G.I.T.
Project Geologist

A handwritten signature in black ink, appearing to read "Alpha".

Alexander Ross, P.G. #005087
Senior Geophysicist / Hydrogeologist
Principal Associate

JAF/ASR

Enclosures:

Figure 1: Geophysical Evaluation for Pennell Street and West 2nd Steet Property

R:\Projects\A-D\COCD\COCD0004\Reports\Environmental\Geophysics\REPORT\250203_JAF_ASR_Pennell Street and West 2nd St Property_AR REV.docx

APPENDIX B

Soil Boring Logs

APPENDIX B

Soil Boring Logs

Colliers Engineering & Design, Inc.**Corporate Headquarters: 101 Crawfords Corner Road, Suite 3400****Holmdel, NJ 07733****Phone: (732) 383-1950**

Well/Boring

TB-1

Sheet

1 of 1

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	C OCD0004	EASTING / NORTHING	2636331 / 193640
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	8.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS
		ID	Type	Rec. (ft)		
1	0.0				0.0-3.0' (FILL) Brown to dark brown fmc SAND with Silt, trace mf Gravel and Brick Fragments. (Moist)	TB-1 Sample 5.0-5.5'
	0.0					
2	0.0					
	0.0					
3	0.0					
	0.0					
4	0.0				3.0-5.0' (FILL) Black-brown fm SAND and ASPHALT, some mf Gravel. (Moist)	
	0.0					
5	0.0					
	0.0					
6	0.0				5.0-8.0' Orange-brown cmf SAND, some Silt and fm Gravel. (Moist)	
	0.0					
7	0.0					
	0.0					
8	0.0					
	0.0					
9	0.0				8.0-10.0' Orange-brown cm SAND, some fine Gravel. (Moist to Saturated)	
	0.0					
10	0.0					
	0.0					
11					EOB @ 10.0'	
12						

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Well/Boring

TB-2

Sheet

1 of 2

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	COCD0004	EASTING / NORTHING	2636307 / 193474
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	9.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS	
		ID	Type	Rec. (ft)			
1	0.0				0.0-3.0' (FILL) Brown SILT with mf Sand and fm Gravel. ~4 inches of Asphalt. (Moist)	TB-2 Sample 5.0-5.5'	
	0.0						
2	0.0						
	0.0						
3	0.0						
	0.0						
4	0.0				3.0-5.0' Orange-brown SILT and CLAY with vffm Sand (Moist)		
	0.0						
5	0.0						
	0.0						
6	0.0						5.0-9.0' Orange-brown CLAY and SILT, trace fm Gravel. (Moist; Wet at 9.0 feet)
	0.0						
7	0.0						
	0.0						
8	0.0						
	0.0						
9	0.0				9.0-10.0' Orange-brown fmc SAND with Silt and fm Gravel. (Wet)		
	0.0						
10	0.0						
	0.0						
11	0.0					10.0-13.5' Orange-brown fmc SAND with Silt and fm Gravel. (Wet)	
	0.0						
12	0.0						
	0.0						
13	0.0						
	0.0						
14	0.0				13.5-15.0' Blue-grey cmf SAND, little Silt, some Muscovite Mica. (Wet)		
	0.0						
15	0.0						
	0.0						

Colliers Engineering & Design, Inc. Corporate Headquarters: 101 Crawfords Corner Road, Suite 3400 Holmdel, NJ 07733 Phone: (732) 383-1950				Well/Boring TB-2 Sheet 2 of 2		
PROJECT	Chester	DATE STARTED	1/13/2025			
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024			
PROJECT NO.	C OCD0004	EASTING / NORTHING	2636307 / 193474			
		ELEVATION (MSL)	N/A			
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'			
DRILLING METHOD	DPT	ROCK DEPTH	NA			
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete			
		WATER LEVEL	9.00			
CASING DIAMETER	1.5"	FIRST	N/A			
HAMMER/FALL	N/A	COMPLETION	N/A			
		24 HRS.	N/A			
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.			
HAMMER/FALL	N/A	DRILLER				
		INSPECTOR	J. Vallo			
DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS
		ID	Type	Rec. (ft)		
16	0.0				15.0-20.0' Blue-Grey cmf SAND, little Silt, trace Muscovite Mica and fm Gravel. (Wet)	
	0.0					
17	0.0					
	0.0					
18	0.0					
	0.0					
19	0.0					
	0.0					
20	0.0					
	0.0					
21					EOB @ 20.0'	

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Holmdel, NJ 07733
Phone: (732) 383-1950

Well/Boring TB-3
Sheet 1 of 2

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	COCD0004	EASTING / NORTHING	2636458/ 193551
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	9.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS
		ID	Type	Rec. (ft)		
1	0.0				0.0-3.0' (FILL) Brown cmf SAND, some mf Gravel, trace Brick Fragments. ~2 inches of Asphalt. (Moist)	TB-3 Sample 4.0-4.5'
	0.0					
2	0.0					
	0.0					
3	0.0					
	0.0					
4	0.0				3.0-5.0' (FILL) Orange-brown cmf SAND, some Clay/Silt, cmf Gravel, trace Brick Fragments. (Moist)	
	0.0					
5	0.0					
	0.0					
6	0.0				5.0-8.0' Orange-brown mf SAND, some mf Gravel and Silt. (Moist)	
	0.0					
7	0.0					
	0.0					
8	0.0					
	0.0					
9	0.0				8.0-10.0' Brown cmf SAND, some Clay and mf Gravel. (Very Moist)	
	0.0					
10	0.0					
	0.0					
11	0.0				10.0-12.0' Grey-brown cmf SAND, some Clay and mf Gravel. (Moist to Wet)	
	0.0					
12	0.0					
	0.0					
13	0.0				12.0-15.0' Blue-brown-grey mf SAND, little Silt, trace Muscovite Mica. (Wet)	
	0.0					
14	0.0					
	0.0					
15	0.0					
	0.0					

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Well/Boring

TB-3

Sheet

2 of 2

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	COCD0004	EASTING / NORTHING	2636458/ 193551
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	9.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS					
		ID	Type	Rec. (ft)							
16	0.0				15.0-16.0' Blue-brown-grey mf SAND, little Silt, trace Muscovite Mica. (Wet)						
	0.0										
17	0.0				16.0-20.0' Grey mfc SAND, little Silt, trace Muscovite Mica. (Wet)						
	0.0										
18	0.0										
	0.0										
19	0.0										
	0.0										
20	0.0										
	0.0										
21										EOB @ 20.0'	

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Well/Boring

TB-4

Sheet

1 of 2

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	C OCD0004	EASTING / NORTHING	2636530 / 193458
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	8.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS
		ID	Type	Rec. (ft)		
1	0.0				0.0-2.0' (FILL) Dark-brown cmf SAND, some Silt and mf Gravel, trace Brick Fragments. ~2 inches of Asphalt. (Moist)	TB-4 Discrete: 4.5-5.0'
	0.0					
2	0.0					
	0.0					
3	0.0					
	0.0					
4	0.0					
	0.0					
5	0.0					
	0.0					
6	0.0				5.0-9.0' Orange-brown SILT with Clay and vff Sand. (Moist; Wet at ~8.0')	Temporary Well Point screened from 7.0-17.0' (TW-2)
	0.0					
7	0.0					
	0.0					
8	0.0					
	0.0					
9	0.0					
	0.0					
10	0.0					
	0.0					
11	0.0				10.0-13.0' Orange-yellow-brown mf SAND, some Silt. (Wet)	
	0.0					
12	0.0					
	0.0					
13	0.0					
	0.0					
14	0.0					
	0.0					
15	0.0					
	0.0					
					13.0-15.0' Orange-brown fmc SAND, some Silt and vffm Gravel. (Wet)	

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Well/Boring

TB-4

Sheet

2 of 2

PROJECT	Chester	DATE STARTED	1/13/2025
LOCATION	City of Chester, PA	DATE FINISHED	1/13/2024
PROJECT NO.	C OCD0004	EASTING / NORTHING	2636530 / 193458
		ELEVATION (MSL)	N/A
RIG TYPE	GeoProbe 9570	COMPLETION DEPTH	20'
DRILLING METHOD	DPT	ROCK DEPTH	NA
BIT DIAMETER	2"	NO. OF SAMPLES	1 point grab for discrete
		WATER LEVEL	8.00
CASING DIAMETER	1.5"	FIRST	N/A
HAMMER/FALL	N/A	COMPLETION	N/A
		24 HRS.	N/A
SAMPLER	5' Long Acetate Liner	DRILLING CO.	Hawk Drilling, Inc.
HAMMER/FALL	N/A	DRILLER	
		INSPECTOR	J. Vallo

DEPTH SCALE (ft)	PID in ppm	SAMPLE			STRATIGRAPHY	REMARKS	
		ID	Type	Rec. (ft)			
16	0.0				15.0-19.0' Orange-brown fmc SAND, some Silt and vffm Gravel. (Wet)		
	0.0						
17	0.0						
	0.0						
18	0.0						
	0.0						
19	0.0						
	0.0						
20	0.0				19.0-20.0' Grey fmc SAND, some Silt and Muscovite Mica. (Wet)		
	0.0						
21					EOB @ 20.0'		

APPENDIX C

Photodocumentation

PROJECT NAME:
City of Chester Phase II ESA

SITE LOCATION:
Parcel ID: 49-07-00042-00, City of Chester, Delaware County, PA

PROJECT No.:
COC0004

Photo No. 1

Description:
Soil Boring Location
TB-1.

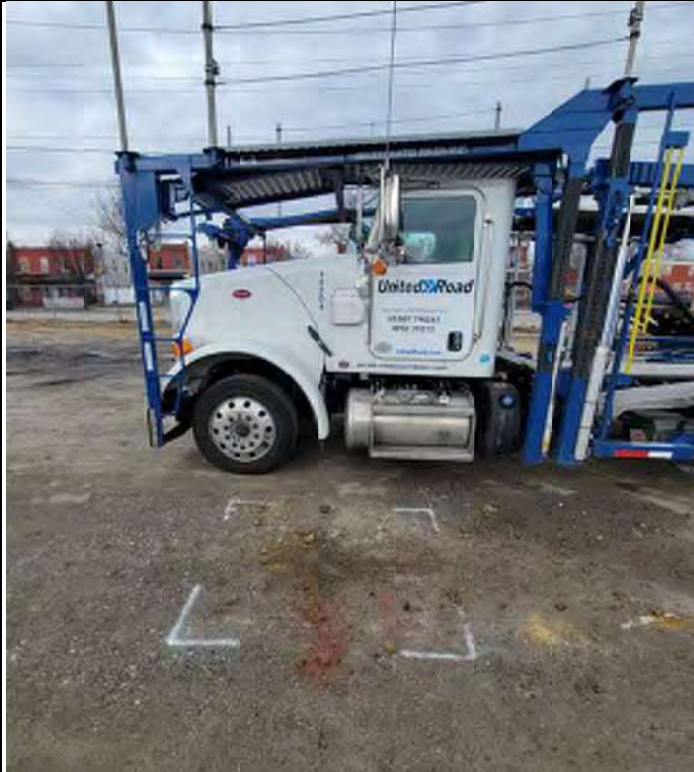


Photo No. 2

Description:
Soil Boring Location
TB-2.



PROJECT NAME:
City of Chester Phase II ESA

SITE LOCATION:
Parcel ID: 49-07-00042-00, City of Chester, Delaware County, PA

PROJECT No.:
COC0004

Photo No. 3

Description:
Soil Boring Location
TB-3



Photo No. 4

Description:
Soil Boring TB-4 and
Temporary Well TW-2
Location.



APPENDIX D

Eurofins
Environment
Testing Analytical
Report
460-318705-1
dated January 21,
2025



ANALYTICAL REPORT

PREPARED FOR

Attn: Kurt Martin
Colliers Engineering and Design Inc
100 American Metro Blvd
Suite 152
Hamilton, New Jersey 08619

Generated 1/21/2025 9:23:29 AM

JOB DESCRIPTION

City of Chester

JOB NUMBER

460-318705-1