

August 19, 2021

Via Electronic Filing

Rosemary Chiavetta, Esquire
PA Public Utility Commission
Secretary
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Docket No. A-2021-_____
Application of PECO Energy Company
SEPTA Rail Crossing Alteration: Burmont Road

Dear Secretary Chiavetta:

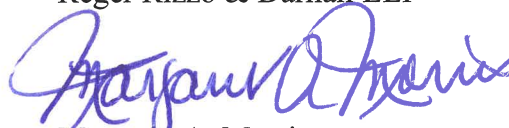
Attached for filing is the Application of PECO Energy Company (PECO) for approval to alter the below-grade crossing of two SEPTA tracks at Burmont Road, Upper Darby Township, Delaware County.

As indicated on the Certificate of Service, a copy of PECO's Application has been provided to the Service List in the manner indicated.

If there are any questions, or concerns, please do not hesitate to contact me.

Very truly yours,

Reger Rizzo & Darnall LLP



Margaret A. Morris

MAM/co
Enclosures

cc: Ronald Hull, TUS, Pennsylvania Public Utility Commission [w/encl.]
Jack Garfinkle, Esquire, Exelon Business Services [w/encl.]
Service List [w/encl.]

Re: Docket No. A-2021-_____
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SEPTA Rail Crossing Alteration: Burmont Road

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been served upon the following person(s), **VIA ELECTRONIC MAIL**, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

David Higgins, P.E.
Senior Project Manager
SEPTA
dhiggins@septa.org

Jason Sharp, Esquire
PA Department of Transportation
Office of Chief Counsel
JSHARP@pa.gov

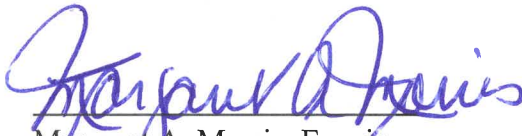
Daniel D. Leonard, P.E.
Acting Section Chief
PA Department of Transportation
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Kenneth McClain, District Executive
PA Department of Transportation
District 6-0
kennemccla@pa.gov

Thomas P. Shaffer, Interim Director
Delaware County Planning Department
shaffert@co.delaware.pa.us

Joseph Martin, Acting Director
Upper Darby Public Works
Jmartin@upperdarby.org

Date: August 19, 2021


Margaret A. Morris, Esquire

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of PECO Energy Company for the :
approval to alter the below-grade crossing of two :
(2) tracks of SEPTA (DOT# 541434F) so as to 1 :
Install a 8” steel gas main in the public right of way : Docket No. A-2021- _____
located at Burmont Road, Upper Darby Township, :
Delaware County, Pennsylvania. :

**APPLICATION OF PECO ENERGY COMPANY
TO ALTER BELOW-GRADE CROSSING AT BURMONT ROAD
UPPER DARBY TOWNSHIP, DELAWARE COUNTY**

TO PENNSYLVANIA PUBLIC UTILITY COMMISSION:

1. The name and address of the Applicant is PECO Energy Company, 2301 Market Street, Philadelphia, PA 19101-8699 (Applicant or PECO).
2. The Applicant is a public utility incorporated under Delaware Law and is a subsidiary corporation of the Exelon Corporation. The Applicant, *inter alia*, provides gas service in Pennsylvania. As a gas utility, PECO avers it has the corporate right to utilize the public below-grade crossing of two (2) tracks of SEPTA (DOT # 541434F), located at Burmont Road, Upper Darby Township, Delaware County (the Crossing), so as to install a 8” steel gas main to improve service and reliability to its customers (Project).
3. PECO is represented by the following counsel:

Margaret A. Morris, Esquire (authorized to receive service)
Reger Rizzo & Darnall LLP
Cira Centre, 13th Floor
2929 Arch Street
Philadelphia, PA 19104
(215) 495-6524 (voice)
(215) 495-6600 (fax)
mmorris@regerlaw.com
4. The Plan and Profile drawings are provided as Attachment 1.

5. The Applicant notified the following entities *via* Electronic Mail, including the Plan and Profile, explaining its reason for the Project and its intention to obtain Commission approval to alter the Crossing described herein:

David Higgins, P.E.
Senior Project Manager
SEPTA
dhiggins@septa.org

Jason Sharp, Esquire
PA Department of Transportation
Office of Chief Counsel
JSHARP@pa.gov

Daniel D. Leonard, P.E.
Acting Section Chief
PA Department of Transportation
danleonard@pa.gov

Kenneth McClain, District Executive
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kennemccla@pa.gov

Thomas P. Shaffer, Interim Director
Delaware County Planning Department
shaffert@co.delaware.pa.us

Joseph Martin, Acting Director
Upper Darby Public Works
Jmartin@upperdarby.org

6. The Applicant estimates the overall cost of the Project to be \$260,000 and agrees to bear all the costs incurred in furnishing material and performing the work necessary to install the 8" steel gas main at the Crossing.

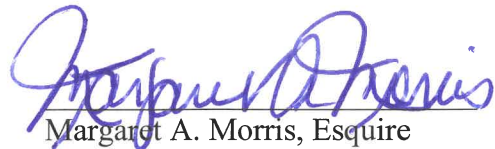
7. The Applicant avers it is necessary and proper for the accommodation, convenience and service of the public that the Commission authorize the requested work at the Crossing.

8. A field visit is not required.

9. The Applicant does not request a hearing prior to issuance of an order approving the Application. Any hearing required to determine the final allocation of costs can be held after issuance of an order approving the requested alterations at the Crossing at the parties' initial cost and after completion of the work.

WHEREFORE, PECO Energy Company, requests that its Application to alter the public below-grade crossing of two (2) tracks of SEPTA (DOT # 541434F), located at Burmont Road, Upper Darby Township, Delaware County, Pennsylvania, so as to install a 8” steel gas main in the public right of way, be approved.

Respectfully submitted,



Margaret A. Morris, Esquire
Attorney I.D. # 75048
Cira Centre, 13th Floor
2929 Arch Street
Philadelphia, PA 19104
(215) 495-6524 (voice)
(215) 495-6600 (fax)
mmorris@regerlaw.com

Dated: August 19, 2021

Counsel for PECO Energy Company

VERIFICATION

I, Tom Santacroce, of PECO Energy Company, hereby state that the facts in the foregoing document(s) are true and correct to the best of my knowledge, information and belief. I understand that false statements therein are made subject to the penalties of 18 Pa. C.S. § 4904, relating to unsworn falsifications to authorities.

Dated: 8-16-21

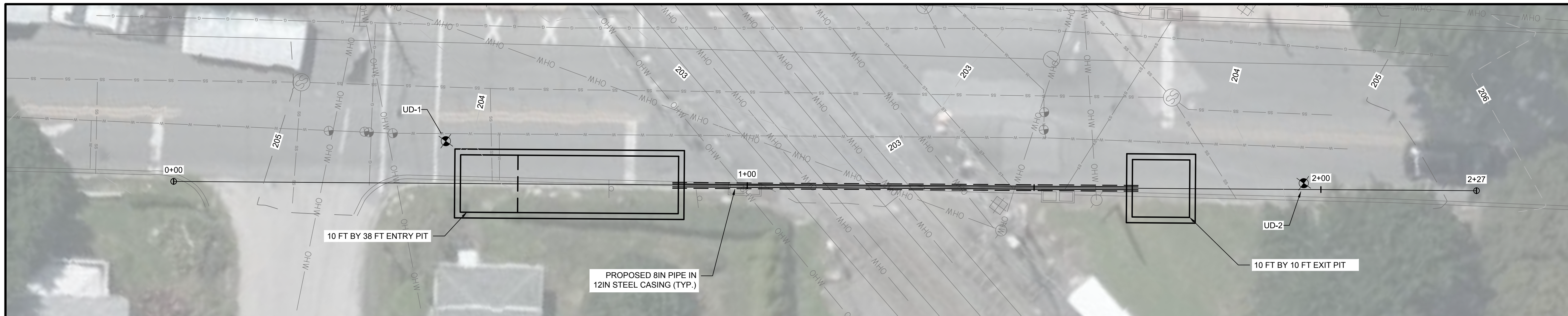


Tom Santacroce
Specialist
Real Estate Department
PECO Energy Company

Re: Docket No. A-2021-_____
Application of PECO Energy Company
SEPTA Rail Crossing Alteration: Burmont Road

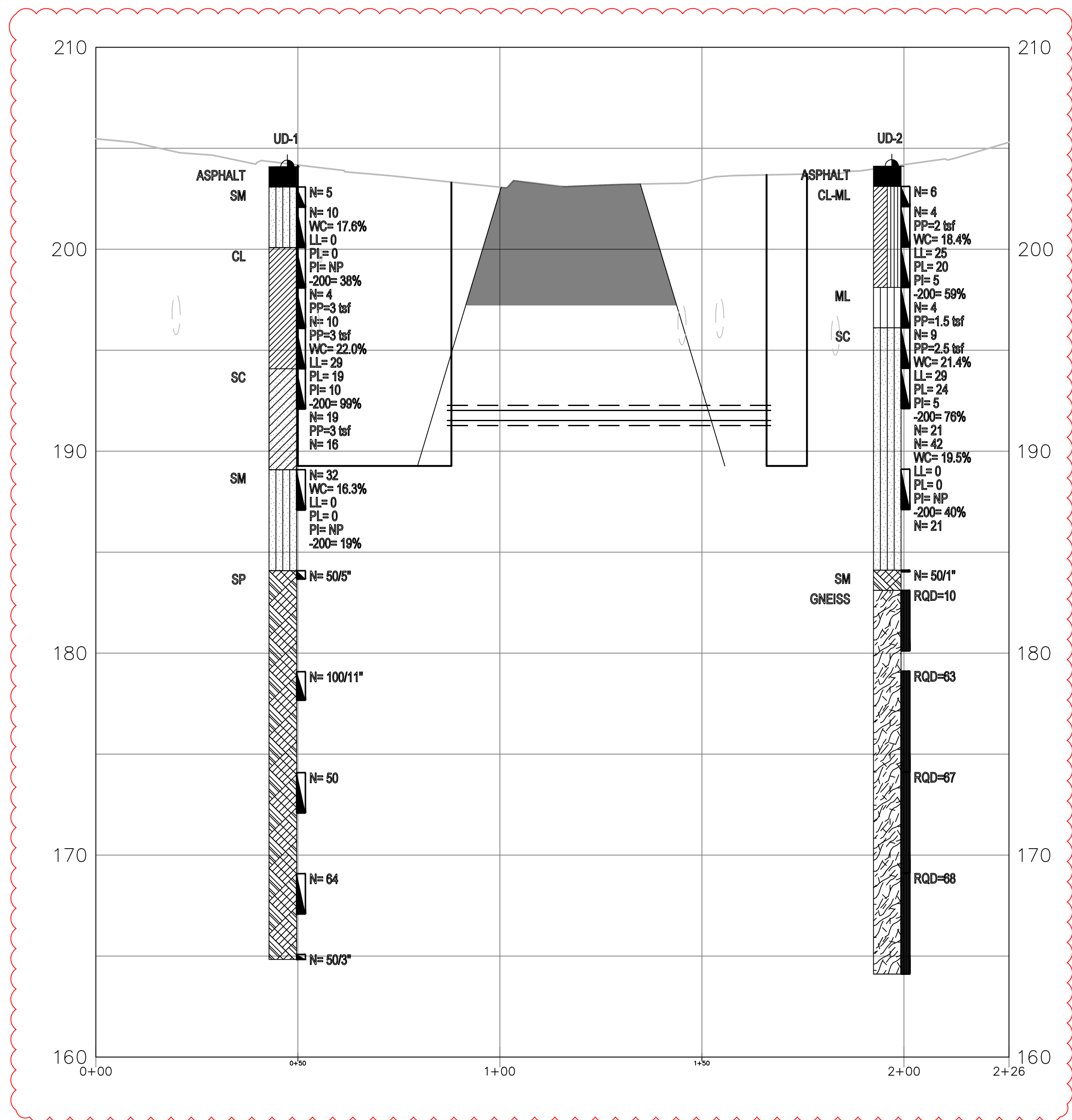
Attachment 1

Plan and Profile



PLAN VIEW
SCALE: 1" = 10'

- NOTES:
- DESIGN ASSUMES 20 FT STEEL PIPE SECTIONS TO BE USED.
 - ACTIVE WATER AND SANITARY SEWER LATERALS PRESENT IN PROPOSED LOCATION OF ENTRY PIT OF THIS DESIGN. CONTRACTOR SHALL SUPPORT IN-PLACE, RELOCATE, OR INCORPORATE INTO JACKING PIT DESIGN. CONTRACTOR TO COORDINATE WITH RESIDENTS FOR TEMPORARY SHUTDOWN OR PROPOSE SHORTENING ENTRY PIT AND USING 10 FT STEEL PIPE SECTIONS.
 - TRAFFIC CONTROL DESIGN AND COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES USED MUST COMPLY WITH PENNDOT STANDARDS AND SPECIFICATIONS, AS WELL AS THE CURRENT MANUAL FOR UNIFORM TRAFFIC CONTROL DESIGN (MUTCD) DATED DECEMBER 2009, WITH INCLUDED REVISIONS 1 AND 2 INCORPORATED MAY 2012.
 - SHORING FOR ENTRY PIT TO BE DESIGNED TO ACCOUNT FOR INFLUENCE OF RESIDENCE AND PROTECT STRUCTURE. PRE-EXISTING CONDITIONS SURVEY TO BE PERFORMED OF RESIDENCE PRIOR TO BEGINNING OF CONSTRUCTION. VIBRATION MONITORING OF RESIDENCE TO BE PERFORMED DURING CONSTRUCTION.
 - EXCLUSION ZONE DESIGNED PER SEPTA - ROW DESIGN AND CONSTRUCTION STANDARDS. INFLUENCE LINE PER SEPTA STANDARDS EXTENDING 1.5H:1V 10' FROM CENTER OF RAIL AND TOP OF CASING AT MINIMUM 5.5 FEET BELOW BASE OF RAIL.
 - TO MINIMIZE THE POTENTIAL OF THE BORE HOLE COLLAPSING, ALL BACK REAMING WILL UTILIZE TRAILING RODS.
 - CASING PIPE BORING AND DRILLING OPERATIONS SHALL COMMENCE CONTINUOUSLY WITHOUT STOPPAGE.



PROFILE VIEWS
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

REVISIONS				
REV	DESCRIPTION	DSN DWN	CHK APP	DATE
1	REVISED PER SEPTA COMMENTS	SMM KWS	JMB JMB	7/15/2021
2	REVISED PER SEPTA COMMENTS	SMM SMM	JMB JMB	8/6/2021

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 22 x 34

ISSUED FOR REVIEW

UPPER DARBY B6
WO#16028420
UPPER DARBY, PENNSYLVANIA

PECO
An Exelon Company

PECO
25 FRONT STREET
CONSHOHOCKEN, PA 19428

PLAN AND PROFILE	
PROJECT NO.	20211296.004A
ISSUE DATE	8/6/2021
CURRENT REVISION	2
DESIGNED BY	SMM
DRAWN BY	SMM
CHECKED BY	DJD
APPROVED BY	ESB

CAD FILE: \\kleinfelder.com\share\EXTON\DATA\GROU\JPS\Company\Project\20211296.004A_PECO_2021AGMP_Trenchless_Crossings\004A_Upper Darby B6\CadDrawings\Upper Darby_Plan Sheets.dwg LAYOUT: GenTech Profile PLOTTED: 8/6/2021 11:35 AM BY: shayne_madeen

JACK AND BORE CONSTRUCTION NOTES

PART 1. GENERAL

- 1.01 SCOPE
- A. CONTRACTOR SHALL INSTALL THE WELDED PIPE STRING USING THE JACK AND BORE METHOD.
 - B. CONTRACTOR SHALL PROVIDE AND MOBILIZE ALL NECESSARY EQUIPMENT, INSTRUMENTATION, AND SUPPLIES TO INSTALL THE WELDED PIPE STRING USING THE JACK AND BORE METHOD OF CONSTRUCTION.
 - C. THE CONTRACTOR SHALL CALL THE PENNSYLVANIA ONE CALL SYSTEM (811) PRIOR TO CONSTRUCTION.
 - D. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES WITHIN THE CONSTRUCTION AREA.
 - E. CONTRACTOR IS RESPONSIBLE FOR ALL LOSSES AND REPAIRS OCCASIONED BY DAMAGE TO UNDERGROUND FACILITIES/UTILITIES RESULTING FROM THEIR WORK.
 - F. CONTRACTOR SHALL RESTORE THE AREA TO EXISTING CONDITIONS.
 - G. CONSTRUCTION OF THE PIPELINE SHALL ADHERE TO PECO CONSTRUCTION AND WELDING STANDARDS.
- 1.02 REFERENCED STANDARDS
- A. API SPECIFICATION 13A SPECIFICATION FOR DRILLING FLUID MATERIALS
- 1.03 CONTRACTOR REQUIREMENTS.
- A. FOR OBSERVATION OF THE INSTALLATION, NOTIFY THE ENGINEER THAT WORK WILL START AT LEAST 3 WORKING DAYS PRIOR TO THE START OF WORK.
 - B. THE JACK AND BORE CONTRACTOR SHALL BE EXPERIENCED IN THE INSTALLATION OF JACK AND BORES AND HAVE SUCCESSFULLY COMPLETED AT LEAST 5 PROJECTS OF A SIMILAR NATURE IN SIMILAR SUBSURFACE CONDITIONS AND COMPLETED IN THE LAST 5 YEARS. A BRIEF DESCRIPTION OF EACH PROJECT WITH THE OWNER'S NAME AND A CURRENT PHONE NUMBER SHALL BE INCLUDED.
 - C. THE JACK AND BORE CONTRACTOR'S SUPERINTENDENT SHALL HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE SUPERVISING JACK AND BORE INSTALLATION. THE DRILL OPERATORS AND THE ON-SITE SUPERVISORS SHALL HAVE A MINIMUM OF 1 YEAR OF EXPERIENCE INSTALLING JACK AND BORES. PRIOR TO STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A LIST IDENTIFYING THE SUPERINTENDENT, DRILL RIG OPERATIONS, AND ON-SITE SUPERVISORS ASSIGNED TO THE PROJECT. THE LIST SHALL CONTAIN A SUMMARY OF EACH INDIVIDUAL'S EXPERIENCE AND SHALL BE SUFFICIENTLY COMPLETE FOR THE ENGINEER TO EVALUATE THE INDIVIDUAL'S QUALIFICATIONS.
 - D. WORK SHALL NOT BEGIN UNTIL WRITTEN APPROVAL OF THE QUALIFICATIONS IS GIVEN BY THE ENGINEER.
 - E. THE OWNER'S REPRESENTATIVE MAY SUSPEND THE WORK IF THE CONTRACTOR SUBSTITUTES NON-APPROVED PERSONNEL FOR APPROVED PERSONNEL. THE CONTRACTOR SHALL BE FULLY LIABLE FOR ADDITIONAL COSTS RESULTING FROM THE SUSPENSION OF WORK. NO ADJUSTMENTS IN CONTRACT TIME RESULTING FROM THE WORK SUSPENSION SHALL BE ALLOWED.
 - F. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LEAK-FREE, FULLY FUNCTIONAL FOR ITS INTENDED PURPOSE AND BE IN GOOD OPERATING CONDITION.
 - G. ALL INSTRUMENTATION PROVIDED BY THE CONTRACTOR SHALL BE CALIBRATED/CERTIFIED AS PER THE MANUFACTURER'S RECOMMENDATIONS. HAVE APPROPRIATE DOCUMENTATION THAT SUMMARIZES THE RESULTS OF THE MOST RECENT CALIBRATION/CERTIFICATION PROCESS, BE FULLY FUNCTIONAL FOR ITS INTENDED PURPOSE AND BE MAINTAINED IN GOOD OPERATING CONDITION.
 - H. ALL SUPPLIES PROVIDED BY THE CONTRACTOR SHALL BE FULLY FUNCTIONAL FOR THEIR INTENDED PURPOSE AND BE STORED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND ANY APPLICABLE CONSTRUCTION AND/OR ENVIRONMENTAL PERMITS/REGULATIONS.
 - I. THE CONTRACTOR'S DRAWINGS AND CALCULATIONS INDICATING THE DESIGN OF THE WORK OF THIS SECTION SHALL BE PREPARED, STAMPED, AND SIGNED BY A PROFESSIONAL ENGINEER (CIVIL OR STRUCTURAL) REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA WITH A MINIMUM OF 5-YEARS DEMONSTRATED EXPERIENCE IN THE DESIGN AND INSTALLATION OF JACKING SLEEVES, PITS, PIPES, AND APPURTENANCES. THE DRAWINGS AND DESIGN CONCEPT SHALL INCLUDE BUT NOT BE LIMITED TO THE DEWATERING, SOIL STABILIZATION, JACKING PITS, JACKS, REACTION BLOCKS, PROTECTION OF EXISTING STRUCTURES, AND INSTALLATION SCHEDULE. THE CONTRACTOR'S ENGINEER SHALL REVIEW ALL OF THE AVAILABLE INFORMATION INDICATED ON THE DRAWINGS AND PROVIDED HEREIN AND SHALL BE RESPONSIBLE FOR MAKING WHATEVER ADDITIONAL INVESTIGATIONS OF THE SITE THAT MAY BE NECESSARY.
- 1.04 SUBMITTALS
- A. THE FOLLOWING SUBMITTALS SHALL BE PROVIDED BY THE CONTRACTOR FOR THE ENGINEER'S REVIEW AND APPROVAL. THE CONTRACTOR WILL NOT BE ALLOWED TO BEGIN INSTALLATION UNTIL ALL SUBMITTAL REQUIREMENTS ARE SATISFIED AND FOUND ACCEPTABLE TO THE ENGINEER. CHANGES OR DEVIATIONS FROM THE APPROVED SUBMITTALS MUST BE RE-SUBMITTED FOR APPROVAL. NO ADJUSTMENTS IN THE CONTRACT TIME WILL BE ALLOWED BECAUSE OF INCOMPLETE SUBMITTALS. AT LEAST TWO WEEKS PRIOR TO INITIATING THE WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER:
 1. A SUMMARY OF CONTRACTOR EXPERIENCE AND QUALIFICATIONS.
 2. FOR INFORMATIONAL PURPOSES ONLY, SUBMIT DETAILED DESCRIPTION OF EQUIPMENT, MATERIALS, SEQUENCE AND PROCEDURES FOR JACKING STEEL SLEEVES AND PIPE INCLUDING PROVISIONS FOR STANDBY AND BACKUP EQUIPMENT, INCLUDING A DESCRIPTION OF THE METHOD FOR THE EXCAVATING AND REMOVAL OF ALL ROCK, BOULDERS, AND OBSTRUCTING MATERIAL.
 3. SIZE AND ARRANGEMENT OF SOIL STABILIZATION (IF PROPOSED).
 4. DEWATERING PLAN AND EQUIPMENT.
 5. DETAILED DESCRIPTIONS OF MATERIALS, SEQUENCE AND PROCEDURES FOR INSTALLING THE PIPELINE WITHIN THE STEEL JACKING SLEEVES, INCLUDING CLEANING AND TESTING THE PIPELINE WITHIN THE CASING.
 6. PROPOSED METHOD OF CONTROLLING LINE AND GRADE.
 7. METHOD OF PLACEMENT OF SPACERS IN THE ANNULAR SPACE BETWEEN THE INSTALLED PIPELINE AND THE STEEL JACKING SLEEVE.
 8. THE BULKHEAD DESIGNS
 9. PRESSURE GAUGE CERTIFICATIONS
 10. CERTIFICATE OF DESIGN STAMPED BY A REGISTERED PROFESSIONAL ENGINEER (CIVIL OR STRUCTURAL) STATING THAT THE STEEL JACKING SLEEVE IS DESIGNED FOR THE ANTICIPATED JACKING AND DESIGN LOADS, AND THAT PIPE JOINTS SHALL WITHSTAND THE JACKING FORCES.
 11. SURVEY OF THE AS-BUILT PIPE ALIGNMENT.

PART 2. MATERIALS

- 2.01 MATERIAL SPECIFICATIONS
- A. THE PIPELINE STRING AND CASING WILL BE PROVIDED BY PECO.

PART 3. EXECUTION

- 3.01 PAD/SITE PREPARATION
- A. THE CONTRACTOR IS RESPONSIBLE FOR THEIR MEANS AND METHODS TO ANCHOR THEIR EQUIPMENT DURING CONSTRUCTION.
 - B. EROSION AND SEDIMENT CONTROL IS NOT DEPICTED ON THESE DRAWINGS. THE HDD CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
 - C. TEMPORARY EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
 - D. THE CONTRACTOR SHALL RESTORE THE SITE GRADING ASPHALT, CURB, SIDEWALK, AND LANDSCAPING TO ITS PRE-CONSTRUCTION CONDITION AT THE COMPLETION OF WORK.
- 3.02 PROJECT / SITE CONDITIONS
- A. THE CONTRACTOR SHALL KEEP THE JACKING PIT SUBGRADE CONTINUOUSLY FREE FROM GROUND AND SURFACE WATER DURING THE OPERATION AND SHALL BE PREPARED TO IMPLEMENT ADDITIONAL GROUNDWATER CONTROL ON SHORT NOTICE. OBSERVED GROUNDWATER LEVELS SHALL BE BELOW THE BOTTOM ELEVATION OF THE JACKING PIT PRIOR TO STARTING THE BORING OPERATIONS. GROUNDWATER CONTROL ALONG AND AT THE FACE OF THE JACKING SLEEVE SHALL INCLUDE MODIFICATION AS REQUIRED TO ACHIEVE THE SPECIFIED RESULTS.
 - B. ONCE THE JACKING OPERATION HAS BEGUN, THE CONTRACTOR SHALL WORK CONTINUOUSLY (24 HOURS PER DAY/7 DAYS PER WEEK) UNTIL THE COMPLETE LENGTH OF PIPE HAS BEEN INSTALLED, IF REQUIRED.
 - C. THE CONTRACTOR SHALL REMOVE OBSTRUCTIONS THAT PREVENT THE PIPE FROM BEING INSTALLED AT THE PROPER GRADE AND ALIGNMENT. SHOULD OBSTRUCTIONS ASSOCIATED WITH CONCRETE AND TIMBER PILE, FOUNDATIONS, SUPPORTING WALLS, WOOD, SHEETING, BOULDERS, AND UTILITIES BE ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY COMPANY. THE CONTRACTOR SHALL PROPOSE HIS APPROACH TO CLEAR THE OBSTRUCTION SO WORK CAN PROCEED.
 - D. IF ANY MOVEMENT OR SETTLEMENT OCCURS WHICH HAS CAUSED OR MIGHT CAUSE DAMAGE TO EXISTING STRUCTURES OVER, ALONG OR ADJACENT TO THE WORK, THE CONTRACTOR SHALL IMMEDIATELY STOP ALL WORK EXCEPT THAT WHICH ASSISTS IN MAKING THE WORK SECURE AND IN PREVENTING FURTHER MOVEMENT, SETTLEMENT OR DAMAGE. THE CONTRACTOR SHALL RESUME JACKING ONLY AFTER ALL PRECAUTIONS HAVE BEEN TAKEN TO PREVENT FURTHER MOVEMENT, SETTLEMENT OR DAMAGE AND SHALL REPAIR THE DAMAGE.
- 3.03 JACKING AND RECEIVING PITS
- A. GROUNDWATER CONTROL AND DEWATERING IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - B. THE CONTRACTOR SHALL CONSIDER A LAUNCH PORTAL BETWEEN THE OUTFACE OF THE JACKING SLEEVE AND THE PENETRATION THROUGH THE JACKING AND RECEIVING PIT WALLS. THE LAUNCH PORTAL SHALL PROVIDE ENOUGH RESISTANCE TO PREVENT SOIL FINES FROM WASHING OUT FROM THE RETAINED SOIL. THE METHOD OF SEALING THIS SECTION OF THE PIT IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - C. VERTICAL WOOD SHEETING, STEEL SHEETING OR TRENCH BOXES SHALL BE USED FOR EXCAVATION SUPPORT. CONCRETE FOR BACKSTOP SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3,000 PSI.
 - D. THE CONTRACTOR SHALL FURNISH, INSTALL AND REMOVE, TO THE EXTENT REQUIRED, THRUST BLOCK OR WHATEVER PROVISIONS MAY BE REQUIRED IN DRIVING THE SLEEVES FORWARD.
 - E. STEEL RAILS OR BEAMS SHALL BE PROPERLY SECURED FOR PLACEMENT AND ALIGNMENT OF EACH PIECE OF STEEL SLEEVE OR PIPE DURING INSTALLATION OPERATIONS.
 - F. AFTER COMPLETION OF THE JACKING OPERATION, THE CONTRACTOR SHALL REMOVE THE JACKING AND RECEIVING PITS AND FURNISHING AND PLACING BACKFILL, TO THE NORMAL SUBGRADE WITH THE SURFACE RESTORED.
- 3.04 BORED OR TUNNELED CONSTRUCTION
- A. FOR CASED CROSSINGS, THE HOLE DIAMETER RESULTING FROM BORED OR TUNNELED INSTALLATIONS SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE CASING BY MORE THAN THREE-QUARTER (3/4) INCH.
 - B. WHERE UNSTABLE SOIL CONDITIONS EXIST, BORING OR TUNNELING OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS NOT TO BE DETRIMENTAL TO THE HIGHWAY BEING CROSSED.
 - C. IF EXCESSIVE VOIDS OR TOO LARGE A BORED HOLE IS PRODUCED DURING CASING OR PIPELINE INSTALLATIONS, OR IF IT IS NECESSARY TO ABANDON A BORED OR TUNNELED HOLE, PROMPT REMEDIAL ACTION SHALL BE TAKEN BY CONTRACTOR.
- 3.05 JACKING OPERATIONS - GENERAL REQUIREMENTS
- A. THE CONTRACTOR SHALL PREVENT THE OCCURRENCE OF VOIDS OUTSIDE THE JACKING SLEEVE THAT WILL ENDANGER EXISTING ROADS OR STRUCTURES. IF VOIDS OCCUR, THE CONTRACTOR SHALL FILL THEM WITH CEMENT GROUT. IN ORDER TO MINIMIZE THE VOIDS PRODUCED DURING EXCAVATION IN THE FORWARD END OF THE SLEEVE, THE CONTRACTOR SHALL BE REQUIRED TO USE A JACKING SHIELD IN GRANULAR MATERIALS.
 - B. PROPER ALIGNMENT AND ELEVATION OF THE SLEEVES SHALL BE CONSISTENTLY MAINTAINED THROUGHOUT THE JACKING OPERATION.
 - C. THE STEEL SLEEVE CASING SHALL BE CONSTRUCTED TO PREVENT LEAKAGE OF ANY SUBSTANCE INTO THE CASING THROUGHOUT ITS LENGTH, EXCEPT AT THE ENDS OF THE CASING.
 - D. AFTER THE SLEEVE HAS BEEN COMPLETELY INSTALLED, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE INTERIOR. CASING SPACERS SHALL BE USED TO INSTALL THE FORCE MAIN WITHIN THE STEEL SLEEVE.
 - E. AFTER THE CARRIER PIPE IS INSTALLED WITHIN THE JACKING SLEEVE, THE CONTRACTOR SHALL PERFORM A HYDROSTATIC TEST ON THE CARRIER PIPE AS SPECIFIED. ALL LEAKS WHICH ARE DISCOVERED DURING THE TESTING PHASE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
 - F. THE SECTIONS OF STEEL SLEEVE CASING SHALL BE FIELD WELDED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF AWWA C 206 AND AWS D7.0 FOR FIELD WELDED WATER PIPE JOINTS.
 - G. THE CONTRACTOR SHALL USE A JACKING RING TO EVENLY DISTRIBUTE THE JACKING PRESSURE AROUND THE WALL OF THE JACKING SLEEVE OR PIPE.
 - H. THE CONTRACTOR SHALL USE A FABRICATED STRUCTURAL STEEL JACKING FRAME TO EVENLY DISTRIBUTE THE STRESSES FROM THE JACKS TO THE JACKING RING.
 - I. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ON SITE AT ALL

TIMES EQUIPMENT AND MATERIALS FOR BREASTING THE FULL FACE OF THE JACKING SLEEVE.

- J. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ON SITE AT ALL TIMES PUMPS AND OTHER ASSOCIATED EQUIPMENT TO DEWATER THE JACKING OPERATION.

3.06 SOIL STABILIZATION

- A. IF SOIL STABILIZATION IS REQUIRED, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO DETERMINE THE GROUT TO BE USED AND THE PROCEDURE TO BE FOLLOWED. A GROUT INJECTION PATTERN SHALL BE DESIGNED TO MEET SOIL AND WATER CONDITIONS. THE STABILIZATION SHALL EXTEND AS FAR AS NECESSARY OUTSIDE THE PERIPHERY OF THE PIPE AND IN FRONT OF THE EXCAVATION IN ORDER TO MAINTAIN A STABLE FACE AT THE HEADING. RATE AND INJECTION SEQUENCE SHOULD BE DETERMINED BY THE CONTRACTOR.
- B. ALL GROUTING EQUIPMENT SHALL BE OF A TYPE, CAPACITY, AND MECHANICAL CONDITION SUITABLE FOR DOING THE WORK, AS DETERMINED BY CONRAIL. THE CONTRACTOR SHALL FURNISH WRITTEN CERTIFICATION FROM THE GROUT MANUFACTURER THAT THE EQUIPMENT AND LAYOUT ARE EQUIVALENT OR BETTER THAN THAT RECOMMENDED FOR USE WITH THE GROUT.
- C. THE CONTRACTOR SHALL CLEAN AND REMOVE ALL WASTE OF THE GROUTING OPERATIONS.

3.07 SETTLEMENT MONITORING PROGRAM

- A. THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT, REGISTERED PROFESSIONAL LAND SURVEYOR TO PROVIDE A DETAILED HORIZONTAL AND VERTICAL SETTLEMENT MONITORING PROGRAM DURING THE JACKING OPERATION TO ASSURE NO SETTLEMENT HAS OCCURRED TO EXISTING SIDEWALKS, UTILITIES OR RAIL LINE.
 - B. SETTLEMENT POINTS ON ROADWAY SURFACES SHALL BE PLACED ALONG THE ALIGNMENT OF THE SLEEVE AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE MONITORING PROGRAM SHALL CONSIST OF DAILY MONITORING DURING THE ACTUAL JACKING OPERATION, AND AT 15, 30, AND 90 DAYS AFTER COMPLETION OF THE JACKING. SIX COPIES OF THE FIELD NOTES WITH A LOCATION PLAN OF THE MONITORING POINTS SHALL BE PROVIDED TO THE AUTHORITY. ANY SETTLEMENT CAUSED BY THE JACKING OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE COMPANY.
- 3.08 CLEANUP
- A. THE CONTRACTOR SHALL CLEAN-UP THE SITE AFTER THE JACKING HAS BEEN COMPLETED AND APPROVED BY COMPANY AND THE ENGINEER. PREVENT CONTAMINATION OF THE SITE DURING THE EXECUTION OF THE JACKING WORK.
- 3.09 QUALITY ASSURANCE AND TESTING
- A. THE CONTRACTOR SHALL PROVIDE VOLUMES OF ANNULAR SPACE (OUTSIDE CASING PIPE) GROUT SUPPLIED, INSTALLED, AND DISPOSED.
 - B. CONTRACTOR SHALL COORDINATE THE WITNESSING OF GROUTING ACTIVITIES BY PECO OR THEIR REPRESENTATIVE.

Project Info

Job Number 20211296.004A
 Job Name Upper Darby B6
 Date of Analysis 10/8/2020
 Calc By ESB
 Check By RS



180 Sheree Boulevard, Suite 3800
 Exton, PA 19341
 Phone: 610-598-1444
 www.kleinfelder.com

Pipe Properties

Casing Outside Diameter D 12.75 in
 Casing Wall Thickness t 0.5 in
 Casing Inside Diameter d 11.75 in

Bore Path Summary

Bore Diameter B_t 12.75 inch
 Cover Depth H 11 feet
 Length of Bore L 80 feet

Installation Equipment

Assumed Max. Jacking Capacity P_j 200 kips

Check Jacking Force

Estimated Jacking Force Pt 28 kip
 Jacking Capacity P_j 200 kip
 Factor of Safety 7.2 >= 1.5 OK

Check Vertical Loading

Vertical Thrust Load T 0.70125 kip/ft
 Wall Capacity Tw 210 kip/ft
 Factor of Safety 299.5 >= 2 OK

Check Horizontal Loading

Jacking Capacity P_n 673 kip
 Factor of Safety P_j 200 kip
 3.4 >= 1.5 OK

Check Combined Horizontal and Vertical

Factor of Safety 3.3 >= 1.5 OK

1 PIPE JACKING CALCULATION
 4 SCALE: NTS

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 22 x 34

ISSUED FOR REVIEW

UPPER DARBY B6
 WO#16028420
 UPPER DARBY, PENNSYLVANIA



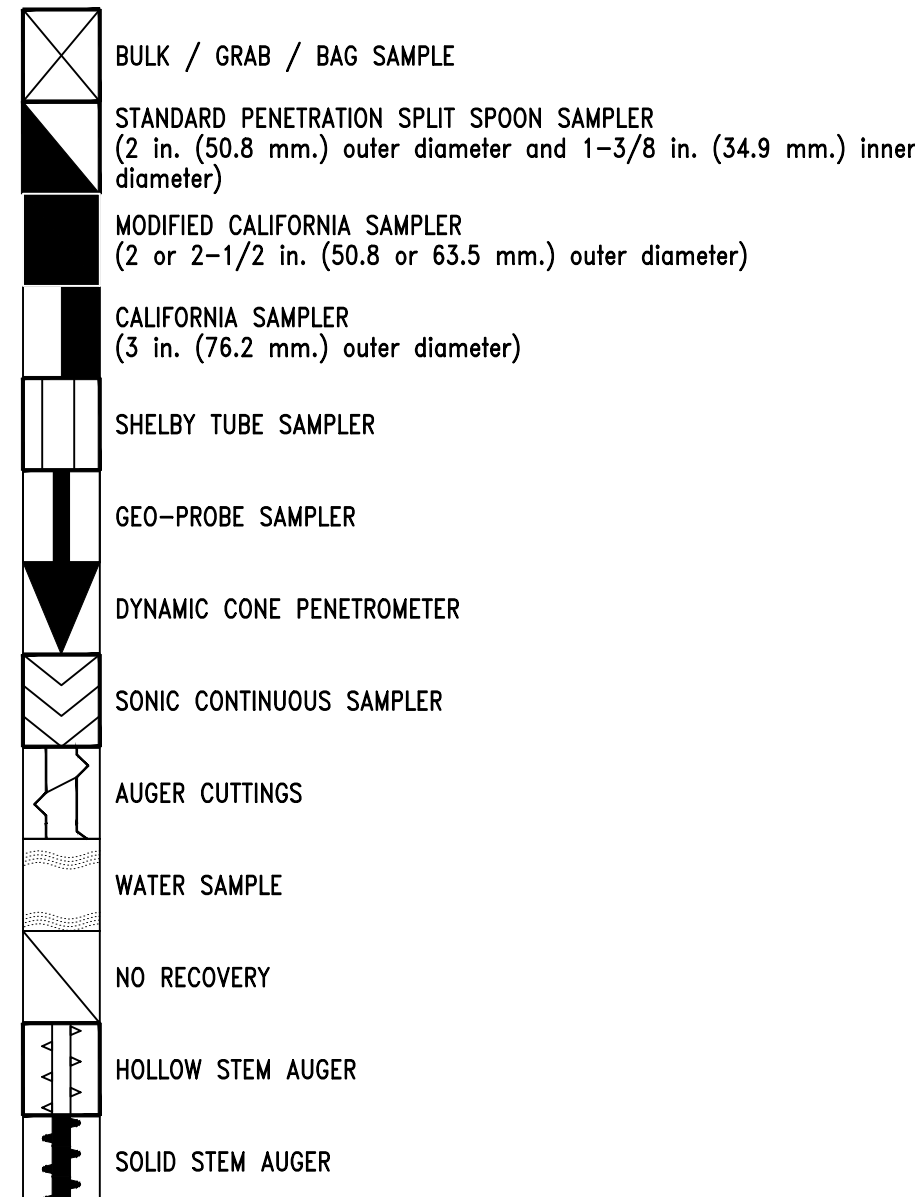
PECO
 25 FRONT STREET
 CONSHOHOCKEN, PA 19428

CONSTRUCTION NOTES

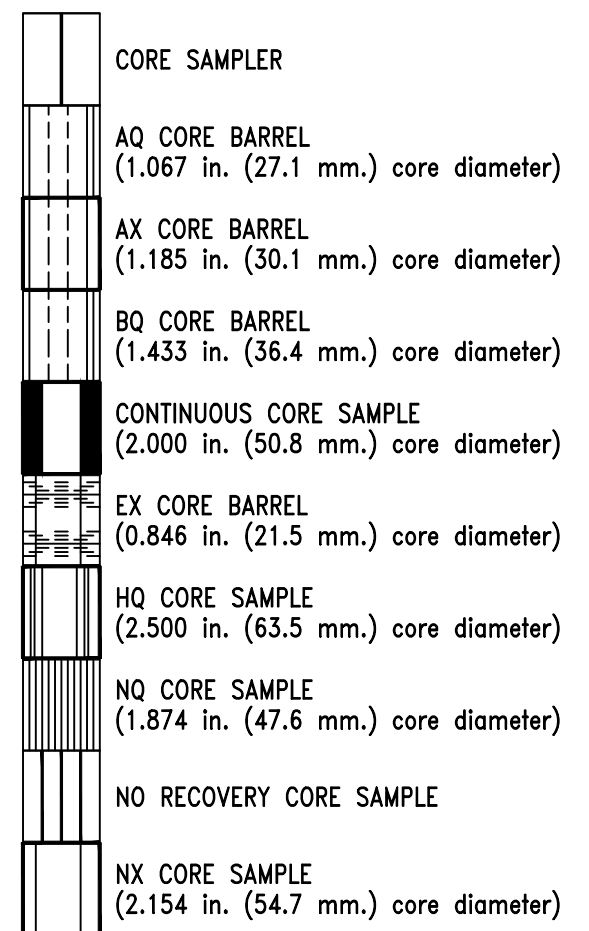
PROJECT NO.	20211296.004A
ISSUE DATE	8/6/2021
CURRENT REVISION	2
DESIGNED BY	SMM
DRAWN BY	SMM
CHECKED BY	DJD
APPROVED BY	ESB

5

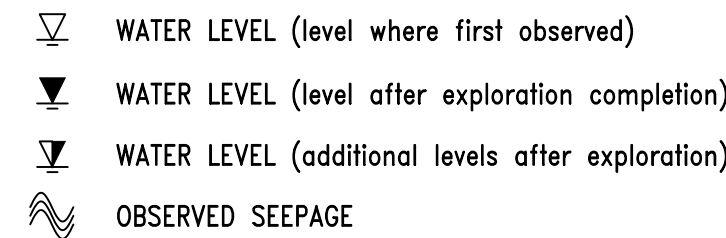
SAMPLER AND DRILLING METHOD GRAPHICS



CORE SAMPLER TYPE GRAPHICS



GROUND WATER GRAPHICS



NOTES

The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.

Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.

No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.

Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.

In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.

Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, i.e., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.

If sampler is not able to be driven at least 6 inches then 50/x indicates number of blows required to drive the identified sampler x inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS
WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	GRAVELS WITH <5% FINES	GRAVELS WITH 5% TO 12% FINES	GRAVELS WITH >12% FINES	SOIL CLASSIFICATION	DESCRIPTION
Cu > 4 and 1 < Cc < 3	GW	GP	GW-GM	GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
Cu < 4 and or > Cc > 3	GP	GP-GM	GP-GC	GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
Cu > 4 and 1 < Cc < 3	GW-GM	GP-GM	GP-GC	GP-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
Cu < 4 and or > Cc > 3	GP	GP-GM	GP-GC	GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
	GM	GM	GM	GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
	GC	GC	GC	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	GC-GM	GC-GM	GC-GM	GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
COARSE GRAINED SOILS (More than half of material is smaller than the #4 sieve)					
CLEAN SANDS WITH <5% FINES	Cu > 6 and 1 < Cc < 3	SW	SW	SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
Cu < 6 and or > Cc > 3	SP	SP	SP	SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
Cu > 6 and 1 < Cc < 3	SW-SM	SW-SM	SW-SM	SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
Cu < 6 and or > Cc > 3	SP-SM	SP-SM	SP-SM	SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
Cu > 6 and 1 < Cc < 3	SW-SC	SW-SC	SW-SC	SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
Cu < 6 and or > Cc > 3	SP-SC	SP-SC	SP-SC	SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
Cu > 6 and 1 < Cc < 3	SM	SM	SM	SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
Cu < 6 and or > Cc > 3	SC	SC	SC	SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
Cu > 6 and 1 < Cc < 3	SC-SM	SC-SM	SC-SM	SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)					
SILTS AND CLAYS (Liquid Limit less than 50)	ML	ML	ML	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
CL	CL	CL	CL	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
CL-ML	CL-ML	CL-ML	CL-ML	CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
OL	OL	OL	OL	OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
MH	MH	MH	MH	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
CH	CH	CH	CH	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
OH	OH	OH	OH	OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

GRAIN SIZE

DESCRIPTION	SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders	>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles	3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse 3/4 - 3 in. (19 - 76.2 mm.)	3/4 - 3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine #4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse #10 - #4	0.075 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium #40 - #10	0.017 - 0.075 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
Fines	fine #200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
	Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller

SECONDARY CONSTITUENT

Term of Use	AMOUNT	
	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	5 to <15%	15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST	
	Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water	
Wet	Visible free water, usually soil is below water table	

CEMENTATION

DESCRIPTION	FIELD TEST	
	Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure	
Strongly	Will not crumble or break with finger pressure	

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N60 (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Qu)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP < 0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP < 1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP < 2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP < 4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N60 (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

INFILLING TYPE

NAME	ABBR	NAME	ABBR
Albite	Al	Muscovite	Mus
Apatite	Ap	None	No
Biotite	Bi	Pyrite	Py
Clay	Cl	Quartz	Qz
Calcite	Ca	Sand	Sd
Chlorite	Ch	Sericite	Ser
Epidote	Ep	Silt	Si
Iron Oxide	Fe	Talc	Ta
Manganese	Mn	Unknown	Uk

DENSITY/SPACING OF DISCONTINUITIES

DESCRIPTION	SPACING CRITERIA
Unfractured	>6 ft. (>1.83 meters)
Slightly Fractured	2 - 6 ft. (0.61 - 1.83 meters)
Moderately Fractured	8 in - 2 ft. (203.20 - 609.60 mm)
Highly Fractured	2 - 8 in (50.80 - 203.30 mm)
Intensely Fractured	<2 in (<50.80 mm)

RELATIVE HARDNESS / STRENGTH DESCRIPTIONS

GRADE	UCS (Mpa)	FIELD TEST
R0	Extremely Weak	0.25 - 1.0 Indented by thumbnail
R1	Very Weak	1.0 - 5.0 Crumbles under firm blows of geological hammer, can be peeled by a pocket knife.
R2	Weak	5.0 - 25 Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer.
R3	Medium Strong	25 - 50 Cannot be scraped or peeled with a pocket knife, specimen can be fractured with a single firm blow of a geological hammer.
R4	Strong	50 - 100 Specimen requires more than one blow of geological hammer to fracture it.
R5	Very Strong	100 - 250 Specimen requires many blows of geological hammer to fracture it.
R6	Extremely Strong	> 250 Specimen can only be chipped with a geological hammer.

BEDDING CHARACTERISTICS

DESCRIPTION	Thickness [in (mm)]	Bedding Planes	Planes dividing the individual layers, beds, or stratigraphy of rocks. Fracture in rock, generally more or less vertical to bedding. Applies to bedding plane with unspecified degree of weather.
Very Thick Bedded	>36 (>915)	Joint	
Thick Bedded	12 - 36 (305 - 915)	Scam	
Moderately Bedded	4 - 12 (102 - 305)		
Thin Bedded	1 - 4 (25 - 102)		
Very Thin Bedded	0.4 - 1 (10 - 25)		
Laminated	0.1 - 0.4 (2.5 - 10)		
Thinly Laminated	<0.1 (<2.5)		

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

ROCK QUALITY DESIGNATION (RQD)

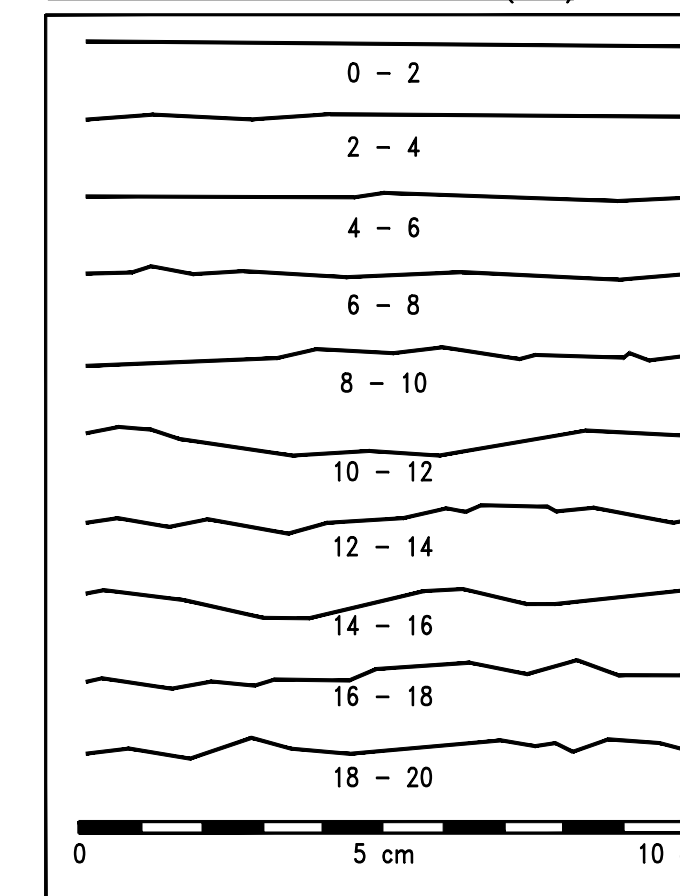
DESCRIPTION	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100

RQD - Rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm. or more.

APERTURE

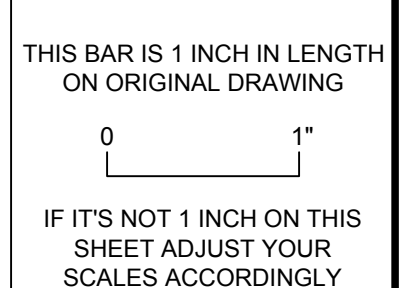
DESCRIPTION	CRITERIA [in (mm)]
Tight	<0.04 (<1)
Open	0.04 - 0.20 (1 - 5)
Wide	>0.20 (>5)

JOINT ROUGHNESS COEFFICIENT (JRC)



From Barton and Choubey, 1977

SCALE VERIFICATION



ORIGINAL DRAWING SIZE IS 22 x 34

ISSUED FOR REVIEW

UPPER DARBY B6
WO#16028420
UPPER DARBY, PENNSYLVANIA



PECO
25 FRONT STREET
CONSHOHOCKEN, PA 19428

BORING LOG KEY

PROJECT NO.	20211296.004A
ISSUE DATE	8/6/2021
CURRENT REVISION	2
DESIGNED BY	SMM
DRAWN BY	SMM
CHECKED BY	DJD
APPROVED BY	ESB

REVISIONS

REV	DESCRIPTION	DSN DWN	CHK APP	DATE
1	REVISED PER SEPTA COMMENTS	SMM KWS	JMB JMB	7/15/2021
2	REVISED PER SEPTA COMMENTS	SMM SMM	JMB JMB	8/6/2021

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 22 x 34

ISSUED FOR REVIEW

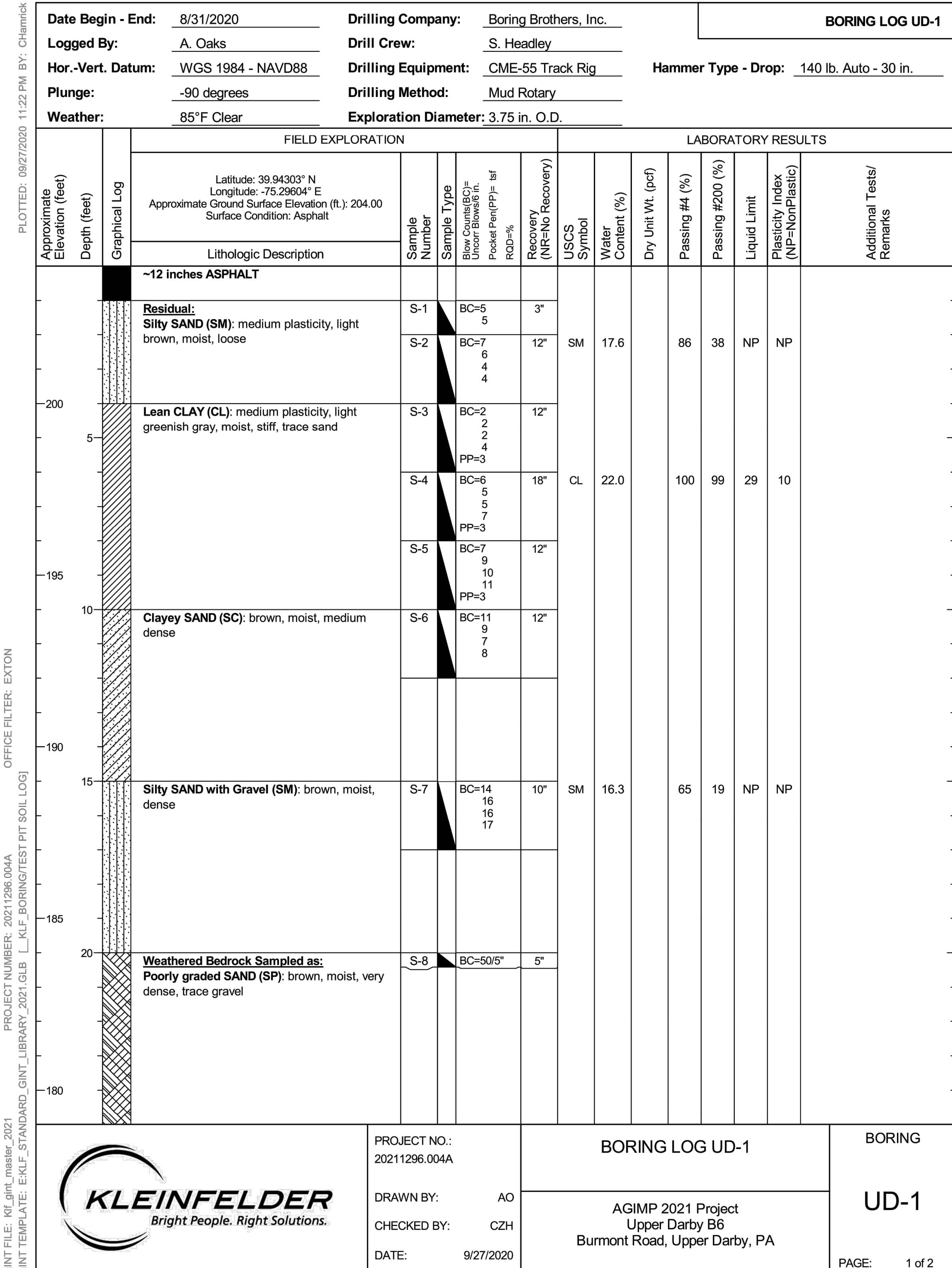
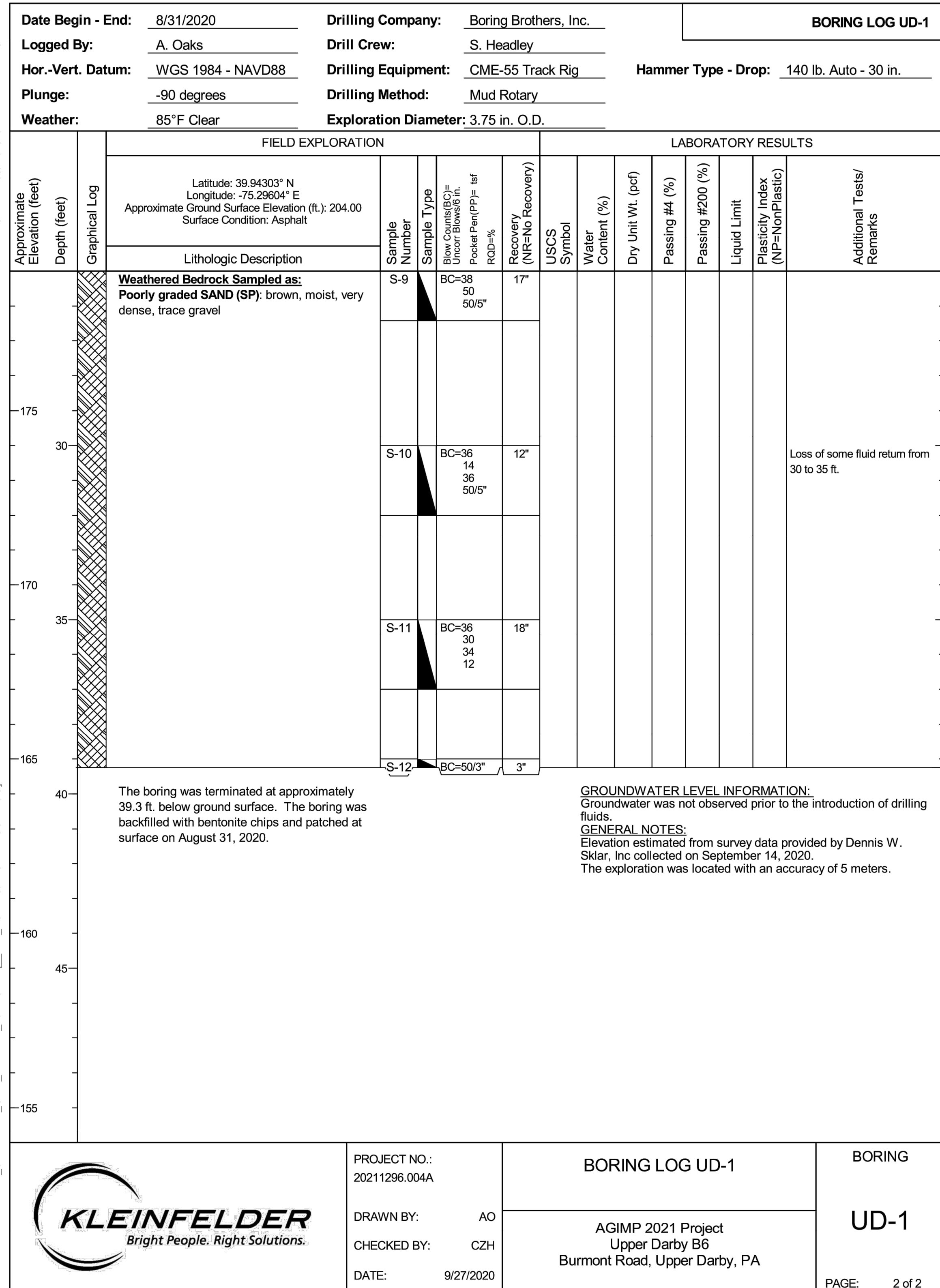
UPPER DARBY B6
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PECO
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BORING LOGS

PROJECT NO.	20211296.004A
ISSUE DATE	8/6/2021
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DESIGNED BY	SMM
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PROJECT NO.: 20211296.004A
DRAWN BY: AO
CHECKED BY: CZH
DATE: 9/27/2020

BORING LOG UD-1

BORING

UD-1

AGIMP 2021 Project
Upper Darby B6
Burmout Road, Upper Darby, PA

PAGE: 1 of 2



PROJECT NO.: 20211296.004A
DRAWN BY: AO
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BORING LOG UD-1

BORING

UD-1

AGIMP 2021 Project
Upper Darby B6
Burmout Road, Upper Darby, PA

PAGE: 2 of 2

