FRENCH & PARRELLO ASSOCIATES

Advancing Our Client's Vision
IMPROVING OUR WORLD

Report of Geotechnical Engineering Assessment

Heritage at West Windsor

Township of West Windsor
Mercer County, New Jersey

Mr. Greg Kanter
AMERICAN PROPERTIES
517 Route One South, Suite 2100
Iselin, NJ 08830-3011

June 18, 2019
Revised January 30, 2020
FPA No. 14785.001R1

1800 Route 34, Suite 101 • Wall, NJ • 07719 • T 732.312.9800 • F 732.312.9801
Camden, NJ • Hackettstown, NJ • New York, NY• King of Prussia, PA
fpaengineers.com

FRENCH & PARRELLO ASSOCIATES

Corporate Office
1800 Route 34, Suite 101, Wall, New Jersey 07719
Regional Offices
King of Prussia, Pennsylvania
Hackettstown, New Jersey
Camden, New Jersey
New York, New York

June 18, 2019
Revised January 30, 2020

Mr. Greg Kanter
AMERICAN PROPERTIES
517 Route One South, Suite 2100
Iselin, New Jersey 08830-3011

Re: Report of Geotechnical Engineering Assessment
Heritage at West Windsor
Township of West Windsor, Mercer County, New Jersey
FPA No. 14785.001R1

Dear Mr. Kanter:

INTRODUCTION

This report presents the results of our Subsurface Exploration, Laboratory Testing and Geotechnical Engineering Assessment performed in connection with the proposed Residential Development to be located in the Township of West Windsor, Mercer County, New Jersey. The project site is situated along Old Trenton Road just west of its intersection with Princeton Hightstown Road and is designated as Lots 15 and 21 in Block 28 on the Township of West Windsor Tax Map. The property is predominantly cleared farm fields with several structures located within the southern portion of the property. It is our understanding that the residential development will include the construction of multi-family homes with basement levels, paved roadways, stormwater management basins, infiltration trenches and associated site utilities. The regional location of the project site is presented on Drawing No. 1, "Regional Location Plan."

A preliminary geotechnical exploration has previously been performed at the project site by Geo-Technology Associates, Inc. (GTA) in June 2013. FPA also performed a preliminary subsurface elevation at the project site in April 2019. The purpose for our involvement at this time was to perform additional subsurface explorations across the project site to further assist with the planning of the proposed building basement elevations as well as characterize the soil and groundwater conditions within the addition stormwater basin areas. The results of the previous FPA test pits performed were incorporated into our current Geotechnical Engineering Assessment. Our scope of work included the review of available geotechnical data, technical observation of 24 test pits, laboratory permeability testing of select samples recovered from the test pits, engineering evaluation of the encountered conditions and the preparation of this geotechnical report. Our services were performed in accordance with our revised proposal dated November 13, 2019.

PREVIOUS SUBSURFACE EXPLORATIONS

A preliminary geotechnical exploration has previously been performed at the project site by Geo-Technology Associates, Inc. (GTA) in June 2013. This work included the advancement of 7 test borings, 11 test pits, and limited laboratory testing. Based on our review of the available information, the subsurface conditions encountered within the GTA test pits were comprised predominantly of silts and clays underlain by silty and clayey sands at varying depths. Upon review of available topographic data from the time the GTA work was performed, it has been determined that the existing grades are different from the existing grades depicted on the current survey plans prepared by Ensurplan, Inc. dated January 23, 2019. Hence, we are not incorporating the subsurface information from the GTA explorations into our current geotechnical assessment.

2019 FPA SUBSURFACE EXPLORATION

French and Parrello Associates (FPA) observed the performance of 13 test pits on April 17, 2019 to characterize the subsurface soil and groundwater conditions within the area of the proposed improvements. The test pits were performed by an excavation subcontractor while under the full-time technical observation by a representative of FPA. The test pit locations were selected by MidAtlantic Engineering Partners, LLC and staked-out by others. The approximate test pit locations are presented on Drawing No. 2, “Test Pit Location Plan.”

The test pits, designated as FPA-1 through FPA-13, were excavated to depths ranging from approximately 9 feet to 10.5 feet below existing grade using a Komatsu PC 50 tracked excavator. Test pits FPA-1 through FPA-3 were performed within the vicinity of proposed stormwater infiltration basin and test pits FPA-4 through FPA-13 were located within the vicinity of the proposed infiltration trenches. The depth to the static groundwater level was monitored in all test pits as well as soil conditions (e.g., soil mottling) indicative of the seasonally high groundwater level. Soil samples were also collected from the test pits to assess the permeability of the in-situ soils. The exposed soil profiles were classified in accordance with the Burmister Soil Classification System. Details of the conditions encountered in the test pits are presented on the individual test pit logs included in Appendix A.

2020 FPA SUBSURFACE EXPLORATION

The subsurface soil and groundwater conditions within the area of the proposed improvements were further explored through the advancement of 24 test pits on November 25 and 26, 2019 to establish the minimum basement elevations. The test pits were performed by an excavation subcontractor while under the full-time technical observation by a representative of FPA. The test pit locations were selected by MidAtlantic Engineering Partners, LLC and as-dug locations were surveyed by FPA to obtain elevations. The approximate test pit locations are presented on Drawing No. 2, “Test Pit Location Plan.”

The test pits, designated as FPA-4A through FPA-13A and FPA-14 through FPA-27, were excavated to depths ranging from approximately 8.5 feet to 17.5 feet below existing grade using a Kobelco SK140 SR excavator. Test pits FPA-4A through FPA-13A were performed within the vicinity of previously performed test pits FPA-4 through FPA-13, but were excavated to deeper depths to accommodate potential basement levels. Test pits FPA-14 through FPA-20 were located throughout the proposed residential development, and test pits FPA-21 through FPA-27 were performed within the vicinity of the revised stormwater management basin locations.

The depth to the static groundwater level was monitored in all test pits as well as soil conditions (e.g., soil mottling) indicative of the seasonally high groundwater level. Soil samples were also collected from the test pits to assess the permeability of the in-situ soils. The exposed soil profiles were classified in accordance with the Burmister Soil Classification System. Details of the conditions encountered in the test pits are presented on the individual test pit logs included in Appendix B.

SOIL PERMEABILITY TESTING

The permeability of the in-situ soils was assessed by performing 6 laboratory flexible wall permeability tests in accordance with ASTM D5084, Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using Flexible Wall Permeameter. The laboratory permeability tests were performed on select samples recovered from 6 different test pits and are representative of the soils encountered at depths ranging from approximately 0.5 feet to 10 feet below the existing ground surface. The results of the permeability tests are discussed further in the Discussion & Recommendations section of this report and includes a tabulated summary of the test results. A Laboratory Test Summary Sheet of permeability test results is provided in Appendix C.

SITE CONDITIONS

Subsurface Conditions

The subsurface conditions encountered in the test pits generally consisted of a surficial layer of sandy silt and clay intermixed with variable amounts of gravel that extended to depths ranging from approximately 4.8 feet to 12 feet below the existing ground surface. Cobble-sized pieces of cemented sands were encountered within this surficial layer at depths ranging from approximately 1 foot to 10.5 feet in a majority of the test pits. The overall consistency of the surficial silt and clay layer was observed to be firm to stiff with difficult excavation occasionally observed within the cemented sands. It is noted buried debris was encountered within test pit FPA-20 to a depth of approximately 7 feet and consisted many pieces of wood, metal pipes and bricks.

Below the surficial sandy silt and clay, the test pits encountered predominantly coarse to fine sand intermixed with variable amounts of silt, clay and coarse to fine gravel that extended through the completion depths of the test pits. The sand and silty sand layer exhibited medium-dense relative density.

The static groundwater was observed within test pits FPA-15, FPA-24, FPA-27, TP-8 and TP-9 and test borings B-6 and B-7 at depths ranging from approximately 9 feet to 11 feet, corresponding to approximate elevations +84 feet to +89 feet. Indications of seasonal high groundwater based on soil mottling were observed within test pits FPA-4A, FPA-7A, FPA-8A, FPA-14, FPA-15, FPA-17, FPA-18, FPA-21 through FPA-24, FPA-26, FPA-27 and TP-7 through TP-11 at depths ranging from approximately 6 feet to 15.5 feet corresponding to approximate elevations +83.8 feet to +92.5 feet. For more detailed information regarding the subsurface conditions encountered in each test pit, please refer to the test pit logs in Appendices A and B.

DISCUSSION & RECOMMENDATIONS

General

Based on the results of our subsurface exploration and subsequent geotechnical engineering evaluation, it is our opinion that the proposed multi-family homes may be founded on conventional shallow foundations. The static groundwater was observed within test pits FPA-15, FPA-24, FPA-27, TP-8 and TP-9 and test borings B-6 and B-7 at depths ranging from approximately 9 feet to 11 feet, corresponding to approximate elevations +84 feet to +89 feet. We do not anticipate that groundwater will be encountered within foundation excavations. If perched groundwater is encountered, we anticipate that temporary construction dewatering may be performed using sump pumps placed within crushed stone. The in-situ soils contain appreciable amounts of fine-grained material, i.e. silt and clay, which are sensitive to moisture and may result in difficulties with handling and achieving proper compaction.

Shallow Foundations

Shallow foundations bearing on native soil material or compacted structural fills may be designed for a net allowable bearing pressure of 3,000 psf. We recommend that continuous footings and isolated column footings be a minimum of 24 inches and 36 inches in width, respectively. In accordance with IBC regulations, the bottom of all reinforced concrete foundations exposed to outside ambient temperatures should extend to a minimum depth of 36 inches below the proposed grade for frost protection.

As previously mentioned, the in-situ soils contain appreciable amounts of fine-grained material, i.e. silt and clay, which are sensitive to moisture and may result in an unstable foundation subgrade when mechanical disturbed by excavation equipment. Subgrade disturbance may also be minimized by utilizing an excavation bucket with no teeth.

We estimate that footings loaded to the recommended allowable static bearing pressure will undergo approximately one inch of total settlement. We anticipate that post construction differential settlements will be less than ½ inch over a horizontal distance of 50 feet.

Foundation Excavation and Subgrade Preparation

We anticipate that the contractor may utilize conventional earth excavating equipment for performing excavations within in-situ soil deposits. Excavations advanced through cobble-sized pieces of cemented-sands may require larger excavating equipment. We recommend that all excavations be hand trimmed, in a workmanlike manner, and that the footing subgrades be compacted using a walk-behind, sheepsfoot vibratory roller to further densify the subsoils and delineate soft regions. A vibratory plate compactor may be used in areas where space and access are limited. Any areas exhibiting excessive yielding should be over-excavated and backfilled using compacted Type "G" fill. Fills should be placed in maximum 12 inch lifts and compacted to a minimum of 95 percent of their maximum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test. The lift thickness should be reduced if the selected compaction equipment does not result in adequate compaction.

In the event that foundation excavations are conducted during inclement weather, or if the subgrades are left open overnight, we recommend that the foundation subgrades be over-excavated to allow for the placement of 6 inches of NJDOT No. 57 Coarse Graded Aggregate. The coarse graded aggregate will serve as a work mat to preclude disturbance of the subgrade due to construction and inclement weather and will facilitate in-trench dewatering, if necessary. The gradational requirements for NJDOT No. 57 Coarse Graded Aggregate and Type "G" fill are presented in Appendix D.

Floor Slabs

Provided that the required earthwork is accomplished in accordance with the recommendations contained in this report, it is our opinion that a modulus of subgrade reaction of 200 pci will be suitable for use in the structural design of the concrete slabs. Additionally, due to the presence of significant amounts of fine-grained soils, we recommend a minimum 4-inch thick layer of NJDOT No. 57 Coarse Graded Aggregate be placed beneath floor slabs. The gradational requirements for NJDOT No. 57 Coarse Graded Aggregate are presented in Appendix D.

Basement Considerations

Based on the results of our assessment, the incorporation of basements is viable provided the following recommendations are considered. Please see attached Summary of Groundwater Elevation Table which provides a summary of static and seasonal high groundwater elevations at each of the 44 proposed buildings.

We recommend that the basement floor slab be established at or above the seasonal high water depth, which should be considered the terminating depths of the test pits. If the basement slab

is situated 0 to 2 feet above the seasonal high water level, the slab should be provided with a drainage layer of coarse graded aggregate and should incorporate an underdrain, a sump pit and perimeter drain as well as exterior wall damp proofing to mitigate the adverse effects of stormwater seepage. We recommend that all sump pumps be provided with back-up power systems and redundant pumps. If the basement slab is situated 2 feet or higher above the seasonal high water elevation, no special provisions are required.

Below-Grade Walls

Below-grade walls will need to be designed to resist lateral earth forces, and potential hydrostatic pressures. The lateral earth pressure will be dependent on the type of backfill utilized. To facilitate the design of below-grade walls, we offer the following soil parameters:

	On-Site Soil	Type "G" Soil
Total Unit Weight of Soil (γ)	120 pcf	125 pcf
Angle of Soil Internal Friction (Φ)	30°	34°
Active Earth Pressure Coefficient (K_a)	0.33	0.28
At-Rest Earth Pressure Coefficient ($K_{o)}$	0.50	0.44
Passive Earth Pressure Coefficient (K_p)	3.00	3.53

Coefficient of Base Friction:

In-Situ Soils (μ)	0.35
Coarse Graded Aggregate (μ)	0.60

In the event that concentrated loads are located in the vicinity of the walls, we recommend that the potential for additional lateral pressures on the below-grade walls be evaluated. The magnitude of any lateral stress increases may be calculated using published solutions based on elastic theory. We recommend that any below-grade walls located adjacent to driveways be designed for a uniform surcharge of 250 psf at the ground surface. The use of heavy compaction equipment within 5 feet of any below-grade walls should be prohibited.

The below-grade walls should be backfilled with approved, readily compactable, on-site granular soils or imported fills conforming to the gradational requirements of Type "G" fill. Additionally, in landscaped areas located adjacent to basement walls, we recommend that the upper 2 feet be backfilled with less permeable soil to reduce the infiltration of surface waters adjacent to the basement walls. The final grade should be sloped away from the building for a minimum distance of 10 feet.

Site Preparation & Earthwork

Prior to the placement of fills in structural areas, the site should be stripped of all vegetation, miscellaneous debris, and soft/loose soil and proof-rolled using a minimum 10 ton, smooth drum vibratory roller. Additionally, since the site is predominantly cleared farmland, the removal of all

soft/loose surficial soils within structural areas should be carefully planned. We anticipate approximately 1 to 2 feet of surficial soil will need to be removed prior to placement of structural fills. A minimum of 4 passes should be made in all proposed building and pavement areas. The improvement efforts should extend 5 feet beyond the building limits. Any areas exhibiting excessive yielding should be over-excavated and backfilled using either approved on-site granular soils or imported Type "G" fill. We strongly recommend that a representative of FPA be on-site to observe the improvement efforts to verify compliance with our recommendations and to determine when competent soils are encountered.

We recommend that the fills required under or in the vicinity of any proposed structures and paved areas consist of approved on-site granular soils or imported Type "G" fill. Fills in structural areas and beneath pavements should be placed in maximum 12-inch thick layers compacted to a minimum of 95 percent of the optimum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test. Non-structural fills should be compacted to a minimum of 90 percent of the optimum dry density as determined by ASTM Test Method D-698, The Standard Proctor.

The existing on-site soils consist of primarily silts and clays underlain by silty sands. These surficial cohesive soils should only be used as fill in non-structural areas, such as landscaped areas and detention basins. We anticipate that the in-situ granular soils encountered below a depth of approximately 6 feet will be suitable for re-use as backfill material in structural areas provided they are placed and compacted at a moisture content that is within approximately 2 percent of the optimum moisture content. However, it should be noted that these materials contain moderate to significant amounts of silt and clay which make them moisture sensitive and are therefore easily softened and disturbed when exposed to precipitation. It should be expected that the on-site soils will require careful moisture conditioning, including reworking to aerate and dry these materials, to obtain the optimal moisture content for proper compaction to the minimum densities specified above. Imported well-graded, granular fill material (Type "G" Fill) may also be used for compacted structural fill and general grading fill placement and earthwork. The surface of all compacted fill subgrades should be graded or sloped to promote positive drainage of surface run-off. In addition, the surface of all prepared subgrades should be thoroughly compacted at the end of each day to seal the surface and minimize softening that may result from precipitation. The gradational requirements for Type "G" fill are presented in Appendix D.

Stormwater Management

The test pits performed at the proposed stormwater basin and infiltration trench locations encountered predominantly surficial cohesive soils. As mentioned, the cohesive soils consisted of silt and clay with minor to moderate amounts of sand and gravel. These soils exhibit very low permeability rates and will restrict the vertical percolation of stormwater.

The results of our laboratory permeability testing are presented below:

Laboratory Permeability Test Summary			
Test Pit & Sample No.	**Soil Classification**	**Soil Layer & Sample Depth (in.)**	**Soil Permeability (in./hr.)**
FPA-2, S-2	Light Grey & Tan-Brown **SILT**, trace^{+} f Sand.	70 - 120	4.53×10^{-2}
FPA-4, S-1	Light Brown **CLAY & SILT**, trace^{+} cmf Gravel, trace^{-} mf Sand.	6 - 38	4.56×10^{-5}
FPA-6, S-1	Orange-Brown **CLAY & SILT**, little^{+} cm^{+}f Gravel, trace f Sand.	31 - 63	9.41×10^{-5}
FPA-8, S-1	Light Brown **SILT & CLAY**, trace mf Gravel.	29 - 50	2.11×10^{-4}
FPA-10, S-1	Tan-Brown **CLAY & SILT**, and cm^{+}f Sand, little^{+} cm^{+}f Gravel.	23 - 101	1.57×10^{-4}
FPA-12, S-2	Light Brown **SILT & CLAY**, little mf Gravel, trace^{+} f Sand.	12 - 32	1.52×10^{-4}

In accordance with New Jersey Stormwater Regulations, the minimum design permeability rate acceptable to permit stormwater infiltration is 0.5 inches per hour (which equates to a tested permeability rate of 1 inch per hour considering a factor of safety of 2). Tested infiltration rates ranged from 9.41×10^{-5} to 4.53×10^{-2} inches per hour. It is well recognized that soils composed primarily of silts and clays exhibit permeability rates much lower than 1 inch per hour and will negatively impact the stormwater system should they be designed to rely on infiltration. Based on the laboratory test results and the available regional subsurface conditions, we strongly recommend that the designer consider utilizing either stormwater detention or retention systems which do not rely upon infiltration.

CLOSING & LIMITATIONS

The recommendations contained herein are contingent upon subsurface conditions remaining consistent with those encountered during our subsurface exploration. They are also contingent upon the basis that all foundation related aspects of construction, including stripping, controlled fill operation, foundation excavation and subgrade preparation, be observed by a representative of FPA. This is to observe compliance with the design concepts and specifications and to allow design changes in the event that subsurface conditions differ from those anticipated prior to construction.

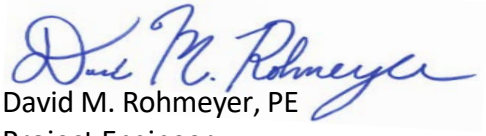
The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands, chemically hazardous, or biologically toxic materials in the soil, surface water, groundwater or air, on or below or around the site.

Services performed by FPA during this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty, guarantee, or fiduciary responsibility is included or intended in the services provided.

Should you have any questions, please feel free to contact us.

Sincerely,

FRENCH & PARRELLO ASSOCIATES



David M. Rohmeyer, PE
Project Engineer

Joseph M. Tierney, PE
Project Consultant, Manager of Geotechnical Services

JMT/DMR

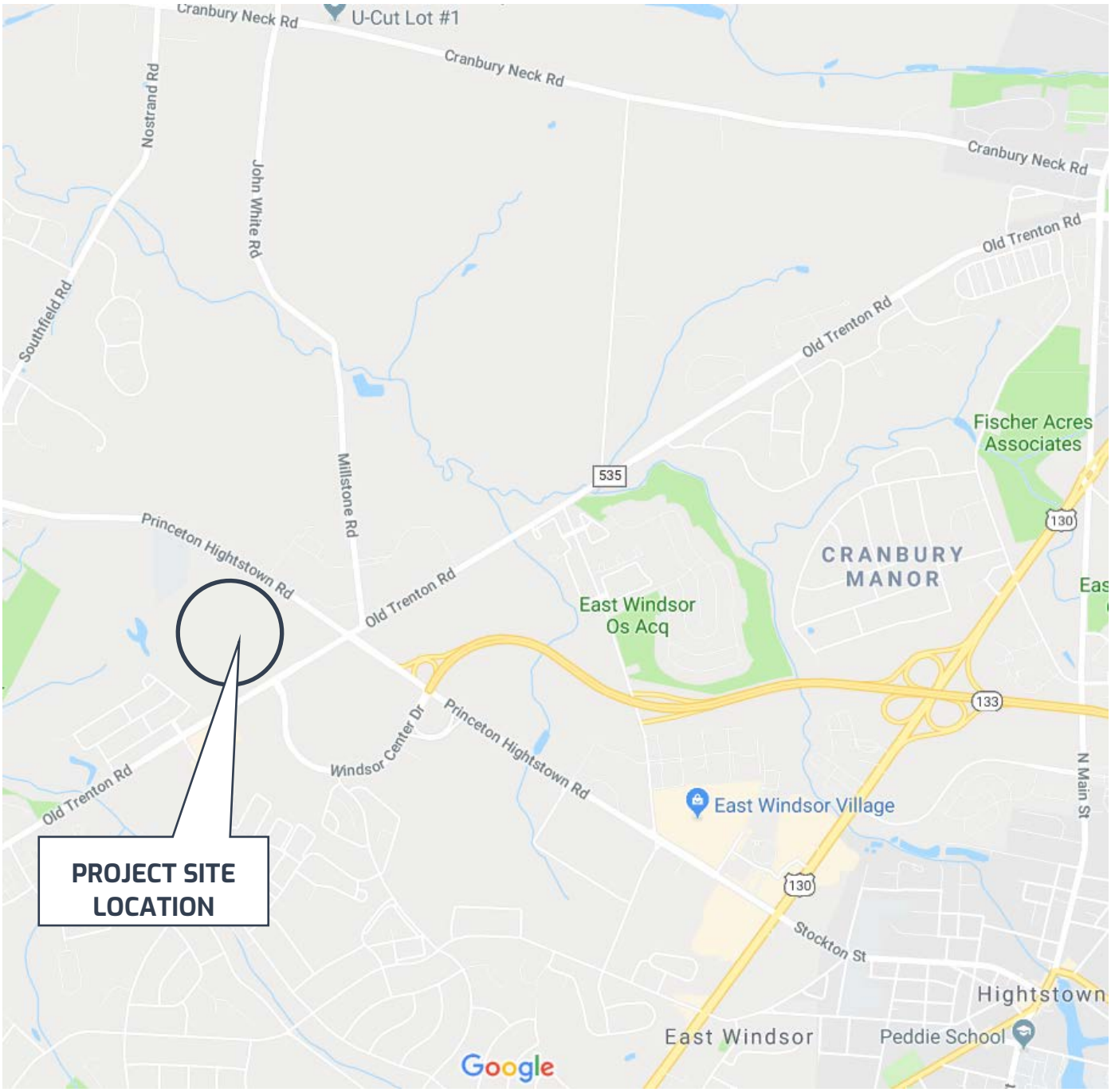
SUMMARY OF GROUNDWATER ELEVATIONS

Building	Relative Test Pits/ Test Borings	Existing Ground Elevation	Static Groundwater Elevation	Est. Seasonal High Groundwater Elevation
1	FPA-20	106’	Not Encountered	91.5’ (B.O.T.P.)
2	FPA-12A	107’	Not Encountered	89.5’ (B.O.T.P.)
3	FPA-11A & FPA-19	107’ & 106’	Not Encountered	90’ (B.O.T.P.)
4	FPA-11A & FPA-12A	107’	Not Encountered	90’ (B.O.T.P.) & 89.5’ (B.O.T.P.)
5	FPA-18	102’	Not Encountered	88’
6	FPA-17 & FPA-18	97.5’ & 102’	Not Encountered	89.5’ & 88’
7	FPA-17	97.5’	Not Encountered	89.5’
8	FPA-17	97.5’	Not Encountered	89.5’
9	FPA-17	97.5’	Not Encountered	89.5’
10	FPA-17	97.5’	Not Encountered	89.5’
11	FPA-17	97.5’	Not Encountered	89.5’
12	FPA-17	97.5’	Not Encountered	89.5’
13	FPA-3	95.6’	Not Encountered	86.1’ (B.O.T.P.)
14	FPA-2 & FPA-3	96.4’ & 95.6’	Not Encountered	86.4’ (B.O.T.P.) & 86.1’ (B.O.T.P.)
15	FPA-1 & FPA-2	95.5’ & 96.4’	Not Encountered	86.5’ (B.O.T.P.) & 86.4’ (B.O.T.P.)
16	FPA-16	95.5’	Not Encountered	87’ (B.O.T.P.)
17	FPA-1	95.5’	Not Encountered	86.5’ (B.O.T.P.)
18	FPA-16	95.5’	Not Encountered	87’ (B.O.T.P.)
19	FPA-4A & FPA-5A	102’ & 101.5’	Not Encountered	92.5’ & 90’ (B.O.T.P.)
20	FPA-16 & FPA-17	95.5’ & 97.5’	Not Encountered	87’ (B.O.T.P.) & 88’
21	FPA-5A	101.5’	Not Encountered	90’ (B.O.T.P.)
22	FPA-17	97.5’	Not Encountered	89.5’
23	FPA-18	102’	Not Encountered	88’
24	FPA-17	97.5’	Not Encountered	89.5’
25	FPA-18 & FPA-6A	102’ & 104.5’	Not Encountered	88’
26	FPA-8A & FPA-11A	105.5’ & 107’	Not Encountered	90’ & 90.2’ (B.O.T.P.)
27	FPA-6A	104.5’	Not Encountered	90’ (B.O.T.P.)
28	FPA-8A & FPA-9A	105.5’ & 106’	Not Encountered	90’ & 90.2’ (B.O.T.P.)
29	FPA-6A	104.5’	Not Encountered	90.2’ (B.O.T.P.)
30	FPA-15 & FPA-24	93.5’	84.5’	86’ & 87.1’
31	FPA-15 & FPA-21	93.5’	84.5’ & N/E	86’ & 85.5’
32	FPA-15	93.5’	84.5’	86’
33	FPA-15	93.5’	84.5’	86’
34	FPA-15	93.5’	84.5’	86’
35	FPA-15	93.5’	84.5’	86’
36	FPA-16	95.5’	Not Encountered	87’ (B.O.T.P.)
37	FPA-4A	102’	Not Encountered	92.5’
38	FPA-4A & FPA-7A	102’ & 103’	Not Encountered	92.5’ & 92’
39	FPA-7A & FPA-10A	103’ & 104.5’	Not Encountered	92’ & 90.5’ (B.O.T.P.)
40	FPA-9A	106’	Not Encountered	90.2’ (B.O.T.P.)
41	FPA-13A	106’	Not Encountered	90.5’ (B.O.T.P.)
42	FPA-13A	106’	Not Encountered	90.5’ (B.O.T.P.)
43	FPA-14	95’	Not Encountered	86.5’
44	FPA-14	95’	Not Encountered	86.5’

Notes: 1) B.O.T.P. refers to Bottom of Test Pit and may be considered the ESHW for design purposes.

2) If two or more Estimated Seasonal High Groundwater Elevations are provided, use higher elevation for design purposes.

FRENCH & PARRELLO ASSOCIATES



REGIONAL LOCATION PLAN

HERITAGE AT WEST WINDSOR

TOWNSHIP OF WEST WINDSOR, MERCER COUNTY, NEW JERSEY

SCALE:	DATE:	JOB NO.:	DRAWING NO.:
NTS	NOVEMBER 2019	14785.001	1

No.	Date	Revision	Revised By	Checked By

100 0 100 200
SCALE IN FEET

FRENCH & PARRELLO ASSOCIATES

Corporate Office
1800 Route 34, Suite 101
Wall, NJ 07719
732.312.9800
Regional Offices
Hackettstown, NJ
New York, NY

SUBSURFACE EXPLORATION LOCATION PLAN

FOR

HERITAGE AT WEST WINDSOR

TOWNSHIP OF WEST WINDSOR
MERCER COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JANUARY 2020	–	APPROX. 1"=100'	14785.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	DRAWING NO.:
DMR	JMT	–	2

G:\14K\14700\14785 – Heritage At West Windsor\CADD\14785.001 – TPLP24X36.dwg Existing

APPENDIX A
April 2019 Test Pit Logs

BURMISTER SOIL CLASSIFICATION SYSTEM

A. Cohesionless Soils: Particle Size Definitions

Soil	Fraction	U.S. Standard Sieve	Actual Sizes
Gravel	coarse	3 in. to 1 in.	76 mm to 25 mm
	medium	1 in. to 3/8 in.	25 mm to 9.5 mm
	fine	3/8 in. to No. 10	9.5 mm to 2.0 mm
Sand	coarse	No. 10 to No. 30	2.0 mm to 0.6 mm
	medium	No. 30 to No. 60	0.6 mm to 0.25 mm
	fine	No. 60 to No. 200	0.25 mm to 0.75 mm
Silt		< No. 200	< 0.075 mm

B. Terms Describing Gradation of Cohesionless Soils

Written Description	Symbol/Designation	Defining Proportions
coarse, medium to fine	cmf	all fractions > 10%
coarse to medium	cm	< 10% fine
medium to fine	mf	< 10% coarse
coarse	c	< 10% medium and fine
medium	m	< 10% coarse and fine
fine	f	< 10% coarse and medium

Note: Use (+) for upper limit and (-) for lower limit.

C. Cohesive Soils: Terms Describing Plasticity

Soil	Plasticity Index	Workability	Plasticity Description
SILT	0	--	Non-Plastic
Clayey SILT	1 to 5	1/4 in. thread	Slightly Plastic
SILT & CLAY	5 to 10	1/8 in. thread	Low Plasticity
CLAY & SILT	10 to 20	1/16 in. thread	Medium Plasticity
Silty CLAY	20 to 40	1/32 in. thread	High Plasticity
CLAY	>40	1/64 in. thread	Very High Plasticity

D. Terms Describing Overall Composition of Soil

Written Proportion	Proportion Symbol	Proportion Percent by Weight
and	a	35 to 50
some	s	20 to 35
little	l	10 to 20
trace	t	1 to 10

Note: Use (+) for upper limit and (-) for lower limit.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-1

SHEET NO.: 1 OF 1

GROUND ELEV.: +95.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace mf Gravel.
12 – 40"	Brown mf **SAND**, some- Silt & Clay, little cmf Gravel.
40 – 108"	Light Yellow-Brown and Light Grey **SILT**, little- f Sand.
	END OF TEST PIT AT 9'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-2

SHEET NO.: 1 OF 1

GROUND ELEV.: +96.4'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 9"	Grey-Brown **Clayey SILT**, trace mf Gravel.
9 – 32"	Brown **SILT & CLAY**, little^{+} mf Sand, little^{-} cmf Gravel.
32 – 70"	Light Tan-Brown f **SAND**, little^{+} cm^{+}f Gravel, little^{+} Silt. *(S-1)*
70 – 120"	Light Grey and Tan-Brown **SILT**, trace^{+} f Sand. *(S-2)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-3

SHEET NO.: 1 OF 1

GROUND ELEV.: +95.6'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, trace $m^{+}f$ Gravel.
8 – 20"	Light Brown **CLAY & SILT**, little f Sand, trace cmf Gravel.
20 – 63"	Tan-Brown **SILT & CLAY**, little mf Sand, $little^{-}$ mf Gravel.
63 – 114"	Light Grey and Light Tan **SILT**, $trace^{+}$ f Sand.
	END OF TEST PIT AT 9.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-4

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 6"	Grey-Brown **Clayey SILT**, trace mf Gravel.
6 – 38"	Light Brown **CLAY & SILT**, trace^{+} cmf Gravel, trace^{-} mf Sand. *(S-1)*
38 – 68"	Light Tan-Brown **SILT & CLAY**.
68 – 100"	Orange-Brown and Tan-Brown **SILT**, trace^{+} f Sand. *(S-2)*
100 – 120"	Yellow-Brown and Orange-Brown and Light Grey **SILT**, little^{-} f Sand. *(S-3)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-5

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 14"	Grey-Brown **Clayey SILT**, trace^{+} mf Gravel.
14 – 25"	Tan-Brown **CLAY & SILT**.
25 – 68"	Tan-Brown and Light Grey **SILT & CLAY**, trace mf Gravel. *(S-1)*
68 – 98"	Yellow-Brown c^{+}mf **SAND**, little^{-} cmf Gravel, little^{-} Silt. *(S-2)*
98 – 109"	Light Grey **SILT**, and^{-} mf^{+} Sand, little^{+} c^{+}mf Gravel, w/ some 4-6" size quartzite pieces ±20% by volume.
109 – 120"	Tan and Light Grey c^{+}mf **SAND**, some c^{+}mf Gravel, little Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-6

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.8'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 8"	Grey-Brown **Clayey SILT**, trace^{+} mf Gravel, trace^{-} f Sand.
8 – 31"	Light Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand.
31 – 63"	Orange-Brown **CLAY & SILT**, little^{+} cm^{+}f Gravel, trace f Sand. *(S-1)*
63 – 107"	Light Grey and Tan-Brown cmf **SAND**, some^{-} Clayey Silt, trace^{+} mf Gravel. *(S-2)*
107 – 126"	Light Grey **SILT & CLAY**, and^{-} c^{+}mf Sand, some^{-} cmf Gravel, w/ very few small cobbles and some quartzite pieces ±15% by volume. *(S-3)*
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE
TEST PIT OBSERVER: C. PULASKI

CONTRACTOR: FABCO INC.
EXCAVATOR: KOMATSU PC 50

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-7

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 17"	Grey-Brown **Clayey SILT**, trace mf Gravel.
17 – 73"	Tan-Brown **CLAY & SILT**, and^{-} mf Sand, trace mf^{+} Gravel.
73 – 92"	Tan-Brown c^{+}mf **GRAVEL**, little^{+} cmf Sand, little^{+} Clay & Silt, w/ few small cobbles and few quartzite pieces ±5% by volume.
92 – 120"	Light Tan-Brown cm^{+}f **SAND**, some^{-} Clay & Silt, little^{-} cm^{+}f Gravel.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-8

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace mf Gravel.
12 – 29"	Tan-Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand, w/ very few quartzite pieces ±5% by volume.
29 – 50"	Light Brown **SILT & CLAY**, trace mf Gravel, w/ very few cobbles and few quartzite pieces ±10% by volume. *(S-1)*
50 – 84"	Tan-Brown **CLAY & SILT**, some^{+} c^{-}mf Gravel, little^{-} cm^{+}f Sand, w/ few quartzite pieces >±5% by volume. *(S-2)*
84 – 112"	Tan-Brown **SILT & CLAY**, some^{+} cm^{+}f Gravel, some^{-} cm^{+}f Sand, w/ few small cobbles and few quartzite pieces >±5% by volume. *(S-3)*
112 – 120"	Tan-Brown c^{+}mf **SAND**, little^{+} cmf^{+} Gravel, little^{-} Clayey Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE
TEST PIT OBSERVER: C. PULASKI

CONTRACTOR: FABCO INC.
EXCAVATOR: KOMATSU PC 50

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-9

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 13"	Grey-Brown **Clayey SILT**, trace mf Gravel, trace^{-} f Sand.
13 – 74"	Tan-Brown **CLAY & SILT**, and c^{+}mf Sand, trace^{+} cm^{+}f Gravel, w/ few small cobbles and few quartzite pieces ±5% by volume. *(S-1)*
74 – 103"	Tan-Brown c^{+}mf **SAND**, and^{-} cmf Gravel, some^{-} Clay & Silt, w/ few small cobbles and few quartzite pieces ±5% by volume. *(S-2)*
103 – 119"	Light Tan-Brown m^{+}f **SAND**, little^{-} Silt, trace cm^{+}f Gravel. *(S-3)*
119 – 126"	Yellow-Brown mf^{+} **SAND**, little Silt, trace cm^{+}f Gravel.
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-10

SHEET NO.: 1 OF 1

GROUND ELEV.: +104.2'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 11"	Brown **Clayey SILT**, trace mf Gravel.
11 – 23"	Light Brown **SILT & CLAY**, trace mf Gravel.
23 – 101"	Tan-Brown **CLAY & SILT**, and cm^{+}f Sand, little^{+} cm^{+}f Gravel. *(S-1)*
101 – 116"	Tan-Brown cmf **SAND**, and cmf Gravel, little Clay & Silt. *(S-2)*
116 – 126"	Light Tan-Brown mf^{+} **SAND**, some^{+} Clayey Silt, trace^{+} mf Gravel.
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-11

SHEET NO.: 1 OF 1

GROUND ELEV.: +106.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 9"	Brown **SILT**, trace^{+} f Sand, trace^{+} cmf^{+} Gravel.
9 – 34"	Orange-Brown **CLAY & SILT**, little^{+} c^{-}mf Gravel, trace^{+} cm^{+}f Sand. *(S-1)*
34 – 98"	Light Tan-Brown **Clayey SILT**, little^{+} cm^{+}f Gravel, trace^{+} cm^{+}f Sand, w/ some small cobbles and 4-8" size quartzite pieces ±15% by volume. *(S-2)*
98 – 102"	Light Yellow-Brown cm^{+}f **SAND**, trace^{+} Silt, trace^{-} f Gravel. *(S-3)*
102 – 120"	Light Yellow-Brown cmf **GRAVEL**, some^{-} cm^{+}f Sand, little^{+} Clayey Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-12

SHEET NO.: 1 OF 1

GROUND ELEV.: +107.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **SILT**, trace mf Sand, trace cmf Gravel. *(S-1)*
12 – 32"	Light Brown **SILT & CLAY**, little mf Gravel, trace^{+} f Sand. *(S-2)*
32 – 90"	Orange-Brown **Clayey SILT**, some^{+} mf^{+} Sand, trace c^{-}mf Gravel, w/ few 4-8" size quartzite pieces ±10% by volume. *(S-3)*
90 – 110"	Tan-Brown **SILT & CLAY**, and^{-} cm^{+}f Gravel, little^{+} cm^{+}f Sand, w/ very few 4-8" size quartzite pieces ±5% by volume. *(S-4)*
110 – 120"	Light Yellow-Brown c^{+}mf **SAND**, little^{+} f Gravel, trace Silt. *(S-5)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-13

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.9'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 10"	Grey-Brown **Clayey SILT**.
10 – 106"	Tan-Brown **CLAY & SILT**, and^{-} cm^{+}f Sand, some^{-} cm^{+}f Gravel, w/ very few 4-8" size quartzite pieces ± 5% by volume.
106 – 120"	Light Tan-Brown cm^{+}f **SAND**, some^{+} Silt & Clay, trace cmf Gravel.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

APPENDIX B
November 2019 Test Pit Logs

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-4A

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 9.5'

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, trace^{+} cmf Sand, trace mf Gravel.
8 – 40"	Light Orange-Brown **CLAY & SILT**, some cmf Sand, some^{-} cmf Gravel.
40 – 79"	Light Tan-Brown **SILT & CLAY**, trace^{+} mf Gravel.
79 – 138"	Light Orange-Brown cmf^{+} **SAND**, trace^{+} mf Gravel, trace^{+} Clayey Silt.
138 – 174"	Light Orange-Brown and Light Grey cmf^{+} **SAND** , some^{+} cmf Gravel, little^{-} Silt, w/ few cobbles and 3-8" quartzite pieces ±10% by volume
	END OF TEST PIT AT 14.5'

NOTES: Mottling observed at 9.5'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-5A

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, some^{-} cm^{+}f Gravel, trace^{+} mf Gravel.
8 – 84"	Orange-Brown **CLAY & SILT**, some cmf Sand, trace^{+} mf Gravel.
84 – 108"	Light Orange-Brown **CLAY & SILT**, some cmf Gravel, some c^{+}mf Sand, w/ few cobbles, boulders and 3-6" quartzite pieces ±10% by volume
108 – 138"	Light Orange-Brown & Light Grey c^{+}mf **SAND**, some^{+} cm^{+}f Gravel, little^{-} Clayey Silt.
	END OF TEST PIT AT 11.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-6A

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.8'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 11"	Brown **Clayey SILT**, trace^{+} f Sand.
11 – 84"	Orange-Brown **CLAY & SILT**, some^{-} c^{+}mf Sand, trace f Gravel.
84 – 174"	Orange-Brown & Light Grey c^{+}mf **SAND**, little cmf Gravel, little^{-} Silt & Clay.
	END OF TEST PIT AT 14.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-7A

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 11'

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 17"	Brown **Clayey SILT**, trace^{+} cmf Sand, trace mf Gravel.
17 – 28"	Light Brown **SILT & CLAY**, trace mf^{+} Gravel.
28 – 58"	Orange-Brown **CLAY & SILT**, some cmf Sand, little cmf Gravel.
58 – 78"	Light Orange-Brown c^{+}mf **SAND**, and^{-} cmf Gravel, little^{+} Clay & Silt, w/ few cobbles, boulders and 3-6" quartzite pieces ±10% by volume.
78 – 162"	Light Orange-Brown cm^{+}f **SAND**, some^{+} cm^{+}f Gravel, some Clay & Silt.
	END OF TEST PIT AT 13.5'

NOTES: Mottling observed at 11'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-8A

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 15.5'

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace^{+} mf Gravel.
12 – 42"	Tan-Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand.
42 – 60"	Orange-Brown **SILT & CLAY**, some cm^{+}f Sand, little^{+} cm^{+}f Gravel.
60 – 144"	Tan-Brown **CLAY & SILT**, some^{+} c^{+}mf Sand, some^{+} cmf Gravel, w/ few cobbles and quartzite pieces ±10% by volume.
144 – 192"	Light Orange-Brown & Orange-Brown cmf **SAND**, little^{+} cmf Gravel, little Clayey Silt, w/ few pockets of Red-Brown Silt & Clay and cobbles ±5% by volume.
	END OF TEST PIT AT 16'

NOTES: Mottling observed at 15.5'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-9

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace^{+} cmf Gravel, trace mf Sand.
12 – 36"	Tan-Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand.
36 – 72"	Orange-Brown **SILT & CLAY**, some cm^{+}f Sand, little^{+} cm^{+}f Gravel.
72 – 108"	Light Orange-Brown c^{+}mf **SAND**, some^{+} cmf Gravel, trace^{+} Clayey Silt, w/ few cobbles and quartzite pieces ±5% by volume.
108 – 132"	Light Orange-Brown cm^{+}f **SAND**, and^{-} cmf^{+} Gravel, trace^{+} Silt.
132 – 190"	Light Orange-Brown c^{+}mf **SAND**, some^{+} cmf Gravel, little^{-} Clayey Silt. w/ few cobbles and quartzite pieces ±5% by volume.
	END OF TEST PIT AT 15.8'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-10A

SHEET NO.: 1 OF 1

GROUND ELEV.: +104.2'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, trace^{+} mf Gravel.
8 – 24"	Light Brown **SILT & CLAY**, trace mf Gravel.
24 – 84"	Orange-Brown **CLAY & SILT**, and cmf Sand, little^{+} cm^{+}f Gravel.
84 – 108"	Orange-Brown **CLAY & SILT**, and cmf Sand, some^{+} cm^{+}f Gravel.
108 – 156"	Light Tan-Brown c^{+}mf **SAND**, some cmf^{+} Gravel, little^{+} Clay & Silt, w/ few cobbles and quartzite pieces ±5% by volume.
156 – 168"	Light Tan-Brown cmf **SAND**, some^{+} cmf^{+} Gravel, little^{-} Clay & Silt
	END OF TEST PIT AT 14'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-11A

SHEET NO.: 1 OF 1

GROUND ELEV.: +106.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 10"	Brown **SILT**, little^{-} mf^{+} Sand, trace^{+} cmf^{+} Gravel.
10 – 40"	Orange-Brown **CLAY & SILT**, little^{+} cmf^{+} Gravel, trace^{+} cm^{+}f Sand.
40 – 123"	Light Orange-Brown cm^{+}f **SAND**, little^{+} cm^{+}f Gravel, little Clayey Silt, w/ some small cobbles and 3-6" size quartzite pieces ±12% by volume.
123 – 144"	Light Brown c^{+}mf **SAND**, some^{-} cmf^{+} Gravel, trace^{+} Silt, w/ some small cobbles and 3-6" size quartzite pieces ±12% by volume.
144 – 192"	Light Orange-Brown & Orange-Brown cmf **SAND**, and^{-} Silt & Clay, some^{+} cmf Gravel.
	END OF TEST PIT AT 17'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-12A

SHEET NO.: 1 OF 1

GROUND ELEV.: +107.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **SILT**, trace mf Sand, trace cmf Gravel.
12 – 36"	Light Brown cmf **GRAVEL**, some cm^{+}f Sand, little Clayey Silt.
36 – 96"	Orange-Brown **Clayey SILT**, some^{+} cmf^{+} Sand, trace^{+} cmf^{+} Gravel, w/ few 3-6" size quartzite pieces ±10% by volume.
96 – 210"	Light Orange-Brown c^{+}mf **SAND**, some cmf^{+} Gravel, little^{+} Silt, w/ few pockets of Clayey Silt and cobbles ±10% by volume.
	END OF TEST PIT AT 17.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-13A

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.9'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 10"	Brown **SILT**, trace^{+} mf Gravel, trace f Sand.
10 – 36"	Tan-Brown **SILT & CLAY**, some cmf Gravel, trace f Sand.
36 – 108"	Orange-Brown **CLAY & SILT**, some^{+} cmf Gravel, some^{-} c^{+}mf Sand, w/ few cobbles and 3-6" quartzite pieces ±10% by volume.
108 – 186"	Light Orange-Brown c^{+}mf **SAND**, some^{+} c^{+}mf Gravel, some^{-} Silt & Clay, w/ few pieces of decomposed quartzite pieces <5% by volume.
	END OF TEST PIT AT 15.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-14

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 8.5'

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 13"	Brown **SILT**, some^{-} cmf^{+} Sand, trace^{+} mf Gravel.
13 – 36"	Orange-Brown & Light Tan-Brown **CLAY & SILT**, little^{+} cmf Gravel, little^{-} cmf Sand.
36 – 108"	Orange-Brown **CLAY & SILT**, and^{-} mf^{+} Sand.
108 – 144"	Orange-Brown c^{+}mf **SAND**, little^{-} Clayey Silt. (Wet)
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 8.5'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-15

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: 9'±
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 7.5'

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, trace^{+} f Sand.
8 – 32"	Tan-Brown **CLAY & SILT**, some^{-} cmf^{+} Gravel, little cmf^{+} Sand.
32 – 72"	Light Grey-Brown & Orange-Brown **CLAY & SILT**, trace^{+} cmf^{+} Gravel.
72– 132"	Light Grey-Brown & Orange-Brown cmf **SAND**, little^{+} Clayey Silt.
	END OF TEST PIT AT 11'

NOTES: Mottling observed at 7.5'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-16

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 18”	Brown **SILT**, trace mf Gravel, trace f Sand.
18 – 38”	Brown **Clayey SILT**, trace mf Gravel, trace f Sand.
36 – 84”	Light Grey-Brown **Clayey SILT**, trace^{+} cmf^{+} Sand.
84– 102”	Light Grey-Brown mf^{+} **SAND**, little^{+} Clayey Silt.
	END OF TEST PIT AT 8.5’

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-17

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 8'

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **SILT**, little cmf Sand, trace^{+} mf Gravel.
12 – 60"	Tan-Brown **CLAY & SILT**, some cmf Gravel, little^{+} cmf Sand.
60 – 72"	Light Tan-Brown & Grey-Brown c^{+}mf **SAND**, some Clay & Silt, trace^{+} mf Gravel.
72– 180"	Light Grey-Brown & Light Orange-Brown cmf **SAND**, little^{+} cmf Gravel, little^{-} Silt, w/ some pockets of Clay & Silt, cobbles and boulders ±5% by volume.
	END OF TEST PIT AT 15'

NOTES: Mottling observed at 8'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-18

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 14'

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 13"	Brown **Clayey SILT**, little^{-} cmf^{+} Gravel, trace^{+} mf Sand.
13 – 48"	Tan-Brown cmf **SAND**, and cmf Gravel, little Clayey Silt.
48 – 108"	Orange-Brown **CLAY & SILT**, and^{-} cmf Sand, little cmf Gravel.
108 – 168"	Light Grey-Brown & Light Orange-Brown c^{+}mf **SAND**, trace^{+} cmf Gravel, trace^{+} Silt.
168 – 192"	Light Grey-Brown & Light Orange-Brown c^{+}mf **SAND**, little^{+} cmf Gravel, little^{-} Clay & Silt, w/ many pockets of Clay & Silt.
	END OF TEST PIT AT 16'

NOTES: Mottling observed at 14'

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-19

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/25/2019

DEPTH	DESCRIPTION
0 – 10”	Brown **SILT**, trace^{+} f Sand.
10 – 36”	Tan-Brown **CLAY & SILT**, some^{+} cmf^{+} Gravel, little cmf Sand.
36 – 60”	Orange-Brown **CLAY & SILT**, some cmf Sand, little^{+} cmf Gravel.
60 – 106”	Orange-Brown cmf **SAND**, and^{-} Clay & Silt, some^{+} cmf Gravel, w/ few pieces of quartzite, cobbles and boulders ±10% by volume.
106 – 192”	Orange-Brown c^{+}mf **SAND**, some^{+} cmf Gravel, trace^{+} Clay & Silt, w/ pieces of quartzite, cobbles and boulders ±10% by volume.
	END OF TEST PIT AT 16’

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-20

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 18”	Tan-Brown **SILT & CLAY**, some^{+} cmf^{+} Sand, trace^{+} mf Gravel.
18 – 84”	Orange-Brown **CLAY & SILT**, little cmf Sand, little cmf Gravel.
84 – 144”	Light Orange-Brown & Light Tan-Brown cm^{+}f **SAND**, little^{+} cmf Gravel, trace^{+} Silt, w/ few pockets of Clay & Silt.
144 – 174”	Light Tan-Brown mf **SAND**, trace^{+} Silt.
	END OF TEST PIT AT 14.5’

NOTES: Buried debris kept collapsing into the test pit from the eastern side. The fill extended to a depth of 7’ and it was composed of pieces of wood, metal pipes and many bricks.

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-21

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 8'

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 18"	Dark Grey **SILT**, little^{+} cmf Sand, trace^{+} mf Gravel.
18 – 24"	Tan-Grey **CLAY & SILT**, trace^{+} mf^{+} Sand. *(S-1)*
24 – 54"	Tan-Grey & Orange-Brown **CLAY & SILT**, some^{+} cmf^{+} Gravel, some^{+} cmf Sand. *(S-2)*
54 – 72"	Light Grey & Orange-Brown **Clayey SILT**, and^{-} mf^{+} Sand. *(S-3)*
72 – 144"	Light Grey & Orange-Brown cm^{+}f **SAND**, some^{-} Clayey Silt. *(S-4)*
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 8'.

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-22

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 6'

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 11"	Dark Grey **SILT**, little^{+} cmf Sand, trace^{+} mf Gravel.
11 – 28"	Tan-Brown cm^{+}f **SAND**, little^{-} Silt, trace^{+} f Gravel.
28 – 36"	Tan-Brown & Orange-Brown **Clayey SILT**, and^{-} cmf^{+} Sand, some^{-} cmf^{+} Gravel.
36 – 48"	Tan-Brown & Orange-Brown cm^{+}f **SAND**, little^{+} cmf Gravel, little Silt, w/ some pockets of Clay & Silt. *(S-1)*
48 – 60"	Light Grey **CLAY & SILT**, little^{-} f Sand, trace^{+} f Gravel. *(S-2)*
60 – 126"	Light Grey & Orange-Brown cm^{+}f **SAND**, some^{+} Clayey Silt, little^{-} cmf Gravel. *(S-3)*
126 – 144"	Light Grey & Orange-Brown cmf **SAND**, and^{-} cmf Gravel, some^{+} Clayey Silt. *(S-4)*
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 6'.

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-23

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 6'-4"

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **SILT**, little^{+} cmf Sand, trace^{+} mf Gravel.
8 – 29"	Tan-Brown & Orange-Brown cmf^{+} **SAND**, and^{-} Clayey Silt, some^{-} cmf^{+} Gravel. *(S-1)*
29 – 64"	Orange-Brown & Light Tan-Brown **CLAY & SILT**, and^{-} cmf Sand. *(S-2)*
64 – 124"	Light Grey & Orange-Brown mf^{+} **SAND**, some^{-} Clayey Silt. *(S-3)*
124 – 144"	Light Grey cmf **SAND**, and^{-} cm^{+}f Gravel, some^{+} Clayey Silt.
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 6'- 4".

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-24

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: 9'±
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 6'-5"

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 20"	Dark Grey **SILT**, little^{+} cmf Sand, trace^{+} mf Gravel.
20 – 48"	Tan-Grey & Orange-Brown **CLAY & SILT**, trace^{+} f Sand. *(S-1)*
48 – 132"	Tan-Grey & Orange-Brown cmf **SAND**, some^{+} Clayey Silt, little^{-} cmf Gravel, w/ some pockets of Clay & Silt. *(S-2)*
132 – 144"	Light Grey c^{+}mf **SAND**, and^{-} cmf Gravel, little^{+} Clayey Silt. *(S-3)*
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 6'- 5".

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-25

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 16”	Brown **SILT**, trace^{+} mf^{+} Sand, trace f Gravel.
16 – 28”	Orange-Brown cmf **SAND**, some^{+} cmf Gravel, little^{-} Clayey Silt.
28 – 72”	Light Tan-Brown & Light Orange-Brown mf **SAND**, little Silt, w/ many pockets of Clay & Silt. *(S-1)*
72 – 96”	Light Tan-Brown & Light Orange-Brown mf **SAND**, little^{-} Silt, trace^{+} cmf Gravel.
96 – 120”	Light Grey cm^{+}f **SAND**, some^{+} Clayey Silt, trace^{+} cmf Gravel. *(S-2)*
120 – 144”	Light Grey cmf **SAND**, and^{-} cm^{+}f Gravel, some^{+} Clayey Silt. *(S-3)*
	END OF TEST PIT AT 12’

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-26

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: N/A
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 9'-8"

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 20"	Brown **SILT**, trace^{+} mf^{+} Sand, trace f Gravel.
20 – 30"	Tan-Brown cm^{+}f **SAND**, and^{-} cmf^{+} Gravel, little^{-} Silt.
30 – 72"	Light Tan-Brown & Orange-Brown c^{+}mf **SAND**, and^{-} Clay & Silt, little^{-} cmf Gravel. *(S-1)*
72 – 104"	Light Tan-Brown & Orange-Brown mf^{+} **SAND**, some^{-} Clayey Silt. *(S-2)*
104 – 126"	Light Grey & Orange-Brown mf **SAND**, little^{-} Silt.
126 – 144"	Light Grey & Orange-Brown cmf **SAND**, some cmf Gravel, little^{+} Clayey Silt. *(S-3)*
	END OF TEST PIT AT 12'

NOTES: Mottling observed at 9'- 8".

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-27

SHEET NO.: 1 OF 1

GROUND ELEV.: N/A
DEPTH OF WATER: 11'±
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: 10'-4"

DATE: 11/26/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **SILT**, trace^{+} mf^{+} Sand, trace f Gravel.
8 – 19"	Tan-Brown **CLAY & SILT**, some cmf Sand, little^{+} cmf^{+} Gravel. *(S-1)*
19 – 40"	Light Tan-Brown & Orange-Brown mf^{+} **SAND**, some^{-} Clayey Silt, trace^{+} mf Gravel. *(S-2)*
40 – 104"	Light Tan-Brown mf **SAND**, little^{-} Silt. *(S-3)*
104 – 144"	Light Tan-Brown & Orange-Brown cmf **SAND**, some^{-} Clayey Silt, trace^{+} f Gravel. *(S-4)*
	END OF TEST PIT AT 12'

NOTES: Test Pit was left opened for 4 hours. Mottling observed at 10'- 4".

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: H. RIOS, EIT	**EXCAVATOR:** KOBELKO SK140 SR

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-1

SHEET NO.: 1 OF 1

GROUND ELEV.: +95.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace mf Gravel.
12 – 40"	Brown mf **SAND**, some- Silt & Clay, little cmf Gravel.
40 – 108"	Light Yellow-Brown and Light Grey **SILT**, little- f Sand.
	END OF TEST PIT AT 9'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-2

SHEET NO.: 1 OF 1

GROUND ELEV.: +96.4'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 9"	Grey-Brown **Clayey SILT**, trace mf Gravel.
9 – 32"	Brown **SILT & CLAY**, little^{+} mf Sand, little^{-} cmf Gravel.
32 – 70"	Light Tan-Brown f **SAND**, little^{+} cm^{+}f Gravel, little^{+} Silt. *(S-1)*
70 – 120"	Light Grey and Tan-Brown **SILT**, trace^{+} f Sand. *(S-2)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-3

SHEET NO.: 1 OF 1

GROUND ELEV.: +95.6'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 8"	Brown **Clayey SILT**, trace $m^{+}f$ Gravel.
8 – 20"	Light Brown **CLAY & SILT**, little f Sand, trace cmf Gravel.
20 – 63"	Tan-Brown **SILT & CLAY**, little mf Sand, $little^{-}$ mf Gravel.
63 – 114"	Light Grey and Light Tan **SILT**, $trace^{+}$ f Sand.
	END OF TEST PIT AT 9.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-4

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 6"	Grey-Brown **Clayey SILT**, trace mf Gravel.
6 – 38"	Light Brown **CLAY & SILT**, trace^{+} cmf Gravel, trace^{-} mf Sand. *(S-1)*
38 – 68"	Light Tan-Brown **SILT & CLAY**.
68 – 100"	Orange-Brown and Tan-Brown **SILT**, trace^{+} f Sand. *(S-2)*
100 – 120"	Yellow-Brown and Orange-Brown and Light Grey **SILT**, little^{-} f Sand. *(S-3)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-5

SHEET NO.: 1 OF 1

GROUND ELEV.: +101.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 14"	Grey-Brown **Clayey SILT**, trace^{+} mf Gravel.
14 – 25"	Tan-Brown **CLAY & SILT**.
25 – 68"	Tan-Brown and Light Grey **SILT & CLAY**, trace mf Gravel. *(S-1)*
68 – 98"	Yellow-Brown c^{+}mf **SAND**, little^{-} cmf Gravel, little^{-} Silt. *(S-2)*
98 – 109"	Light Grey **SILT**, and^{-} mf^{+} Sand, little^{+} c^{+}mf Gravel, w/ some 4-6" size quartzite pieces ±20% by volume.
109 – 120"	Tan and Light Grey c^{+}mf **SAND**, some c^{+}mf Gravel, little Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-6

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.8'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 8"	Grey-Brown **Clayey SILT**, trace^{+} mf Gravel, trace^{-} f Sand.
8 – 31"	Light Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand.
31 – 63"	Orange-Brown **CLAY & SILT**, little^{+} cm^{+}f Gravel, trace f Sand. *(S-1)*
63 – 107"	Light Grey and Tan-Brown cmf **SAND**, some^{-} Clayey Silt, trace^{+} mf Gravel. *(S-2)*
107 – 126"	Light Grey **SILT & CLAY**, and^{-} c^{+}mf Sand, some^{-} cmf Gravel, w/ very few small cobbles and some quartzite pieces ±15% by volume. *(S-3)*
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE
TEST PIT OBSERVER: C. PULASKI

CONTRACTOR: FABCO INC.
EXCAVATOR: KOMATSU PC 50

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-7

SHEET NO.: 1 OF 1

GROUND ELEV.: +103.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 17"	Grey-Brown **Clayey SILT**, trace mf Gravel.
17 – 73"	Tan-Brown **CLAY & SILT**, and^{-} mf Sand, trace mf^{+} Gravel.
73 – 92"	Tan-Brown c^{+}mf **GRAVEL**, little^{+} cmf Sand, little^{+} Clay & Silt, w/ few small cobbles and few quartzite pieces ±5% by volume.
92 – 120"	Light Tan-Brown cm^{+}f **SAND**, some^{-} Clay & Silt, little^{-} cm^{+}f Gravel.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-8

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, trace mf Gravel.
12 – 29"	Tan-Brown **SILT & CLAY**, trace^{+} cmf Gravel, trace f Sand, w/ very few quartzite pieces ±5% by volume.
29 – 50"	Light Brown **SILT & CLAY**, trace mf Gravel, w/ very few cobbles and few quartzite pieces ±10% by volume. *(S-1)*
50 – 84"	Tan-Brown **CLAY & SILT**, some^{+} c^{-}mf Gravel, little^{-} cm^{+}f Sand, w/ few quartzite pieces >±5% by volume. *(S-2)*
84 – 112"	Tan-Brown **SILT & CLAY**, some^{+} cm^{+}f Gravel, some^{-} cm^{+}f Sand, w/ few small cobbles and few quartzite pieces >±5% by volume. *(S-3)*
112 – 120"	Tan-Brown c^{+}mf **SAND**, little^{+} cmf^{+} Gravel, little^{-} Clayey Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE
TEST PIT OBSERVER: C. PULASKI

CONTRACTOR: FABCO INC.
EXCAVATOR: KOMATSU PC 50

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-9

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 13"	Grey-Brown **Clayey SILT**, trace mf Gravel, trace^{-} f Sand.
13 – 74"	Tan-Brown **CLAY & SILT**, and c^{+}mf Sand, trace^{+} cm^{+}f Gravel, w/ few small cobbles and few quartzite pieces ±5% by volume. *(S-1)*
74 – 103"	Tan-Brown c^{+}mf **SAND**, and^{-} cmf Gravel, some^{-} Clay & Silt, w/ few small cobbles and few quartzite pieces ±5% by volume. *(S-2)*
103 – 119"	Light Tan-Brown m^{+}f **SAND**, little^{-} Silt, trace cm^{+}f Gravel. *(S-3)*
119 – 126"	Yellow-Brown mf^{+} **SAND**, little Silt, trace cm^{+}f Gravel.
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-10

SHEET NO.: 1 OF 1

GROUND ELEV.: +104.2'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 11"	Brown **Clayey SILT**, trace mf Gravel.
11 – 23"	Light Brown **SILT & CLAY**, trace mf Gravel.
23 – 101"	Tan-Brown **CLAY & SILT**, and cm^{+}f Sand, little^{+} cm^{+}f Gravel. *(S-1)*
101 – 116"	Tan-Brown cmf **SAND**, and cmf Gravel, little Clay & Silt. *(S-2)*
116 – 126"	Light Tan-Brown mf^{+} **SAND**, some^{+} Clayey Silt, trace^{+} mf Gravel.
	END OF TEST PIT AT 10.5'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-11

SHEET NO.: 1 OF 1

GROUND ELEV.: +106.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 9"	Brown **SILT**, trace^{+} f Sand, trace^{+} cmf^{+} Gravel.
9 – 34"	Orange-Brown **CLAY & SILT**, little^{+} c^{-}mf Gravel, trace^{+} cm^{+}f Sand. *(S-1)*
34 – 98"	Light Tan-Brown **Clayey SILT**, little^{+} cm^{+}f Gravel, trace^{+} cm^{+}f Sand, w/ some small cobbles and 4-8" size quartzite pieces ±15% by volume. *(S-2)*
98 – 102"	Light Yellow-Brown cm^{+}f **SAND**, trace^{+} Silt, trace^{-} f Gravel. *(S-3)*
102 – 120"	Light Yellow-Brown cmf **GRAVEL**, some^{-} cm^{+}f Sand, little^{+} Clayey Silt.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-12

SHEET NO.: 1 OF 1

GROUND ELEV.: +107.1'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 12"	Brown **SILT**, trace mf Sand, trace cmf Gravel. *(S-1)*
12 – 32"	Light Brown **SILT & CLAY**, little mf Gravel, trace^{+} f Sand. *(S-2)*
32 – 90"	Orange-Brown **Clayey SILT**, some^{+} mf^{+} Sand, trace c^{-}mf Gravel, w/ few 4-8" size quartzite pieces ±10% by volume. *(S-3)*
90 – 110"	Tan-Brown **SILT & CLAY**, and^{-} cm^{+}f Gravel, little^{+} cm^{+}f Sand, w/ very few 4-8" size quartzite pieces ±5% by volume. *(S-4)*
110 – 120"	Light Yellow-Brown c^{+}mf **SAND**, little^{+} f Gravel, trace Silt. *(S-5)*
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST PIT LOG

HERITAGE AT WEST WINDSOR
WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY
(FPA JOB NO. 14785.001)

TEST PIT NO.: FPA-13

SHEET NO.: 1 OF 1

GROUND ELEV.: +105.9'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DATE: 4/17/2019

DEPTH	DESCRIPTION
0 – 10"	Grey-Brown **Clayey SILT**.
10 – 106"	Tan-Brown **CLAY & SILT**, and^{-} cm^{+}f Sand, some^{-} cm^{+}f Gravel, w/ very few 4-8" size quartzite pieces ± 5% by volume.
106 – 120"	Light Tan-Brown cm^{+}f **SAND**, some^{+} Silt & Clay, trace cmf Gravel.
	END OF TEST PIT AT 10'

NOTES:

SOILS ENGINEER: J. TIERNEY, PE	**CONTRACTOR:** FABCO INC.
TEST PIT OBSERVER: C. PULASKI	**EXCAVATOR:** KOMATSU PC 50

The information shown hereon indicates the subsurface conditions encountered at the specified test pit location on the date(s) of excavation. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

APPENDIX C
Laboratory Testing

SUMMARY OF LABORATORY TESTING

PROJECT: Heritage @ West Windsor **PROJECT #:** 14785.001 **DATE:** 5/19

Boring & Sample Number	Depth (inches)	Classification	Natural Water Content %	Atterberg Limits		Unconfined Compression		Unit Dry Weight PCF	Specific Gravity	Permeability inches / hour @ 20 deg C	Compaction	Grain Size	Consolidation	Triaxial	% Passing #200	pH	Organic Content %
				Liquid Limit	Plastic Limit	Stress TSF	Strain %										
TP-2 S-2	**70 - 120**	**Light Grey and Tan-Brown SILT, trace+ f Sand**	**23**					**96.5**		**4.53×10^{-2}**							
TP-4 S-1	**6 - 38**	**Light Brown CLAY & SILT, trace+ cmf Gravel, trace- mf Sand**	**17**					**109.1**		**4.56×10^{-5}**							
TP-6 S-1	**31 - 63**	**Orange-Brown CLAY & SILT, little+ cm+f Gravel, trace f Sand**	**16**					**112.0**		**9.41×10^{-5}**							
TP-8 S-1	**29 - 50**	**Light Brown SILT & CLAY, trace mf Gravel**	**21**					**103.4**		**2.11×10^{-4}**							
TP-10 S-1	**23 - 101**	**Tan-Brown CLAY & SILT, and cm+f Sand, little+ cm+f Gravel**	**15**					**121.2**		**1.57×10^{-4}**							
TP-12 S-2	**12 - 32**	**Light Brown SILT & CLAY, little mf Gravel, trace+ f Sand**	**16**					**116.1**		**1.52×10^{-4}**							

* SEE TEST CURVES

APPENDIX D
Gradational Requirements

Allowable Gradational Envelope

AASHTO M43

Standard Sizes of Coarse Aggregate Size No. 57

U.S. Standard Sieve Size	Percent Finer by Weight
1 ½”	100
1”	95 - 100
½”	25 - 60
No. 4	0 - 10
No. 8	0 - 5

Allowable Gradational Envelope

Type "G" Fill

GRANULAR FILL

U.S. Standard Sieve Size	Percent Finer By Weight
2"	100
1"	80 – 100
3/8"	70 – 100
No. 10	50 – 100
No. 30	30 – 85
No. 60	15 – 65
No. 200	5 - 15