Appendix A
Test Boring 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 BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-18
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	2 – 2 – 3 – 1		S-1 Red-Brown **SILT & CLAY**, little^{+} cmf^{+} Sand, trace f Gravel.
	S-2 2-4'	4 – 4 – 6 – 5		S-2 Brown **CLAY & SILT**, trace f Sand.
--- 5'---	S-3 4-6'	25 – 41 – 41 – 43		S-3 Red-Brown **SILT & CLAY**, some^{-} mf Sand, little^{-} mf^{+} Gravel.
	S-4 6-8'	50/4" – X – X – X		S-4 Red-Brown **SILT & CLAY**, some^{+} cmf^{+} Gravel, little^{-} mf Sand. (completely weathered Shale)
	S-5 8-10'	38 – 50/1" – X – X		S-5 Same as **S-4**.
---10'---	S-6 10-12'	11 – 33 – 50/2" – X		S-6 Red-Brown **CLAY & SILT**, and cmf Gravel, trace^{+} cmf^{+} Sand. (completely weathered Shale)
---15'---	S-7 15-17'	50/1" – X – X – X		S-7 No Recovery.
				END OF BORING AT 15.1'
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

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

TEST BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-19
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
	S-1 0-2'	6 – 8 – 9 – 7		S-1	Light Brown **CLAY & SILT**, trace f Sand.
	S-2 2-4'	9 – 14 – 17 – 16		S-2	Red-Brown **SILT & CLAY**, some^{-} mf^{+} Sand, trace f Gravel.
--- 5'---	S-3 4-6'	30 – 30 – 50/6" – X		S-3	Red-Brown **CLAY & SILT**, some mf Gravel, trace^{+} cmf Sand. (completely weathered Shale)
	S-4 6-8'	50/5" – X – X – X		S-4	Same as **S-3**.
	S-5 8-10'	35 – 50/3" – X – X		S-5	Same as **S-3**.
---10'---	S-6 10-12'	50/5" – X – X – X		S-6	Same as **S-3**.
---15'---	S-7 15-17'	50/2" – X – X – X		S-7	No Recovery.
				END OF BORING AT 15.2'	
---20'---					
---25'---					
---30'---					
---35'---					

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

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

TEST BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-20
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
	S-1 0-2'	2 – 4 – 3 – 3		S-1	Brown **CLAY & SILT**, trace+ mf Sand.
	S-2 2-4'	5 – 10 – 14 – 30		S-2	Red-Brown **SILT & CLAY**, little cmf Sand, trace+ f Gravel.
--- 5'---	S-3 4-6'	50/3" – X – X – X		S-3	Red-Brown **CLAY & SILT**, little+ mf Sand, trace+ mf+ Gravel. (completely weathered Shale)
	S-4 6-8'	36 – 50/4" – X – X		S-4	Same as **S-3**.
---10'---	S-5 8-10'	44 – 50/4" – X – X		S-5	Red-Brown **SILT & CLAY**, little cmf+ Gravel, trace f Sand. (completely weathered Shale)
	S-6 10-12'	70 – 50/1" – X – X		S-6	Same as **S-5**.
---15'---	S-7 15-17'	50/3" – X – X – X		S-7	Red-Brown **SILT & CLAY**, some- cmf Gravel, trace+ cmf+ Sand. (highly weathered Shale)
					END OF BORING AT 15.3'
---20'---					
---25'---					
---30'---					
---35'---					

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

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

TEST BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-21
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 – 4 – 11 – 12		S-1 Red-Brown **SILT & CLAY**, and⁻ mf⁺ Sand, trace⁺ mf⁺ Gravel. (completely weathered Shale)
	S-2 2-4'	35 – 103 – 50/1" – X		S-2 Same as **S-1**.
--- 5'---	S-3 5-7'	50/1" – X – X – X		S-3 Red-Brown **CLAY & SILT**, some⁻ cmf Gravel, trace⁺ cmf⁺ Sand. (highly weathered Shale)
				END OF BORING AT 5.1'
---10'---				
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

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

TEST BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-22
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	8 – 10 – 5 – 5		S-1 Red-Brown **SILT & CLAY**, little⁻ mf Sand.
	S-2 2-4'	3 – 5 – 8 – 8		S-2 Brown **CLAY & SILT**, trace⁺ f Sand.
--- 5'---	S-3 4-6'	49 – 66 – 50/2" – X		S-3 Red-Brown **SILT & CLAY**, some⁻ mf Sand, trace⁺ f Gravel. (completely weathered Shale)
	S-4 6-8'	50 – 50/3" – X – X		S-4 Brown & Red-Brown **CLAY & SILT**, little⁺ cmf⁺ Gravel, little⁻ cmf⁺ Sand. (completely weathered Shale)
	S-5 8-10'	50/4" – X – X – X		S-5 Same as **S-4.**
---10'---	S-6 10-12'	32 – 50/5" – X – X		S-6 Same as **S-4.**
---15'---	S-7 15-17'	50/2" – X – X – X		S-7 Red-Brown **SILT & CLAY**, some⁺ cmf Gravel, trace f Sand. (highly weathered Shale)
				END OF BORING AT 15.2'
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

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

TEST BORING LOG

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY
(FPA PROJECT NO. 17038.001)

BORING NO.: B-23
SHEET: 1 OF 1

DATE STARTED: 4/2/2021
DATE FINISHED: 4/2/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: N/A
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
	S-1 0-2'	2 – 5 – 5 – 5		S-1	Red-Brown **SILT & CLAY**, little^{-} mf Sand.
	S-2 2-4'	12 – 15 – 31 – 30		S-2	Red-Brown **CLAY & SILT**, little^{+} cmf^{+} Sand, little^{-} mf Gravel.
--- 5'---	S-3 4-6'	30 – 66 – 50/3" – X		S-3	Same as **S-2**.
	S-4 6-8'	50/4" – X – X – X		S-4	Red-Brown **CLAY & SILT**, some^{-} cmf Gravel, little^{-} cmf^{+} Sand. (completely weathered Shale)
	S-5	32 – 27 – 45 – 50/4"		S-5	Brown **SILT & CLAY**, little mf Gravel, trace^{+} cmf Sand. (completely weathered Shale)
---10'---	8-10'				
	S-6 10-12'	81 – 100/5" – X – X		S-6	Red-Brown **CLAY & SILT**, some^{+} cm^{+}f Gravel, trace cmf Sand. (completely weathered Shale)
---15'---					
	S-7 15-17'	35 – 75/5" – X – X		S-7	Same as **S-6**.
					END OF BORING AT 15.9'
---20'---					
---25'---					
---30'---					
---35'---					

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: M. MILGROM
CONTRACTOR: BORING BROTHERS
DRILLER: S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. 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
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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-1
DATE: 3/17/2023

GROUND ELEV.: +66.4'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 42"	Dark Brown **Clayey SILT**, little* f Gravel, little mf* Sand.
42 – 60"	Reddish-Brown m*f **SAND**, some* Silt, little* Gravel. (decomposed Shale, cobbles ≈ 20% by volume)

END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-2
DATE: 3/17/2023

GROUND ELEV.: +64.4'±
DEPTH OF WATER: 48"
GROUNDWATER ELEV.: +60.4'±
DEPTH TO EST. SEASONAL HIGH WATER: 48"

DEPTH	DESCRIPTION
0 – 19"	Dark Brown **Clayey SILT**, little f Sand. (w/ roots)
6 – 36"	Red-Brown **Clayey SILT**, and f Gravel, little mf Sand. (cobbles ≈ 5% by volume)
36 – 60"	Red-Brown **Clayey SILT**, some mf Sand, some cmf Gravel. (decomposed Shale, cobbles ≈ 30% by volume)

END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-3
DATE: 3/17/2023

GROUND ELEV.: +64.8'±
DEPTH OF WATER: 54"
GROUNDWATER ELEV.: +60.3'±
DEPTH TO EST. SEASONAL HIGH WATER: 54"

DEPTH	DESCRIPTION
0 – 18"	Brown **Clayey Silt**, little mf+ Sand.
18 – 36"	Reddish-Brown **Clayey SILT**, some mf+ Sand, little+ mf Gravel.
36 – 60"	Red-Brown cmf **GRAVEL**, some+ Clayey Silt, little+ mf Sand. (decomposed Shale; cobbles ≈ 30% by volume)

END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-4
DATE: 3/17/2023

GROUND ELEV.: +63.8'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: NA
DEPTH TO EST. SEASONAL HIGH WATER: NA

DEPTH	DESCRIPTION
0 – 12"	Brown **Clayey SILT**, little mf* Sand.
12 – 24"	Red-Brown **Clayey SILT**, and f Gravel, little mf* sand. (decomposed Shale; cobbles ≈ 10% by volume)
24 – 60"	Red-Brown cmf **SAND**, some Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 5'

NOTES: Difficult excavation after 2'.

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-5
DATE: 3/17/2023

GROUND ELEV.: +63.4'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 24"	Red-Brown **Clayey SILT**, some* f Gravel, little mf Sand.
24 – 60"	Red-Brown cmf **GRAVEL**, some* Clayey Silt, little* mf Sand. (decomposed Shale; cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-6
DATE: 3/17/2023

GROUND ELEV.: +64.3'±
DEPTH OF WATER: 90"
GROUNDWATER ELEV.: +56.8'±
DEPTH TO EST. SEASONAL HIGH WATER: 90"

DEPTH	DESCRIPTION
0 – 15"	Dark Brown **CLAY & SILT**, little f Sand. (w/ roots)
12 – 50"	Reddish-Brown **SILT & CLAY**, some+ mf Gravel, little mf Sand.
50 – 90"	Red-Brown cmf **GRAVEL**, some+ Clayey Silt, little mf Sand. (decomposed shale, cobbles ≈ 25% by volume)

END OF TEST PIT AT 7'6"

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-7
DATE: 3/17/2023

GROUND ELEV.: +63.8'±
DEPTH OF WATER: 86"
GROUNDWATER ELEV.: +56.6'±
DEPTH TO EST. SEASONAL HIGH WATER: 86"

DEPTH	DESCRIPTION
0 – 20"	Dark Brown **Clayey SILT**, little mf Gravel, little mf Sand. (w/ roots)
20 – 50"	Reddish-Brown **Clayey SILT**, some* f Gravel, little mf Sand.
50 – 84"	Red-Brown **Clayey SILT**, and cmf Gravel, little mf Sand. (decomposed Shale, cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 7'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-8
DATE: 3/20/2023

GROUND ELEV.: +60.5'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 16"	Reddish-Brown **Clayey SILT**, some c-mf Gravel, little+ mf Sand.
16 – 40"	Brown **Clayey SILT**, little+ mf Sand, little mf Gravel.
40 – 72"	Red-Brown cmf **GRAVEL**, some+ Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 15% by volume)

END OF TEST PIT AT @ 9'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-9
DATE: 3/20/2023

GROUND ELEV.: +60.3'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER N/A

DEPTH	DESCRIPTION
0 – 20"	Reddish-Brown **Clayey SILT**, some* cmf Gravel, trace mf Sand.
20 – 50"	Brown **Clayey SILT**, little* m*f Sand, little mf Gravel.
20 – 96"	Brown cmf **GRAVEL**, and Clayey Silt, little mf Sand. (cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 8' (Refusal on Bedrock)

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-10
DATE: 3/20/2023

GROUND ELEV.: +64.3'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 12"	Dark Brown **SILT & CLAY**, little cmf Gravel, little f Sand.
12 – 20"	Reddish-Brown **Clayey SILT**, little mf Sand.
20 – 60"	Red-Brown cmf **GRAVEL** some+ Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-11
DATE: 3/20/2023

GROUND ELEV.: +63'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 10"	Dark Brown **Clayey SILT**, little* Sand.
10 – 36"	Reddish-Brown **SILT & CLAY**, some* f Gravel, little mf Sand.
36 – 60"	Red-Brown cmf **GRAVEL**, some* Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 15% by volume)
	END OF TEST PIT AT @ 5'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-12
DATE: 3/20/2023

GROUND ELEV.: +61.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 6"	Dark Brown **CLAY & SILT**, little mf Sand, little* mf Gravel.
6 – 16"	Reddish-Brown **Clayey SILT**, some* f Gravel, little mf Sand.
16 – 48"	Brown **SILT & CLAY**, little* f Gravel, little mf Gravel.
48 – 84"	Red-Brown cmf **GRAVEL**, some* Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 20% by volume)

END OF TEST PIT Ared-BT @ 7' (Refusal on Bedrock)

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-13
DATE: 3/20/2023

GROUND ELEV.: +60.2'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 40"	Brown **Clayey SILT**, little mf Sand, trace mf Gravel.
40 – 84"	Red-Brown cmf **GRAVEL**, some Clayey Silt, little mf Sand. (decomposed Shale, cobbles ≈ 20% by volume)

END OF TEST PIT AT @ 7' (Refusal)

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

ATRIUM DRIVE WAREHOUSE DEVELOPMENT
FRANKLIN TOWNSHIP, SOMERSET COUNTY, NEW JERSEY (FPA JOB NO. 17038.001)

TEST PIT NO.: TP-14
DATE: 3/20/2023

GROUND ELEV.: +60.7'±
DEPTH OF WATER: Dry
GROUNDWATER ELEV.: N/A
DEPTH TO EST. SEASONAL HIGH WATER: N/A

DEPTH	DESCRIPTION
0 – 36"	Brown **Clayey SILT**, little* mf Gravel, trace mf Sand.
36 – 60"	Brown cmf **SAND**, some* mf Gravel, little* Clayey Silt. (decomposed Shale, cobbles ≈ 5% by volume)
60 – 96"	Red-Brown cmf **GRAVEL**, some* Clayey Silt, little* mf Sand. (decomposed Shale, cobbles ≈ 25% by volume)

END OF TEST PIT AT @ 8'

NOTES:

SOILS ENGINEER: R. Knotz, PE	**CONTRACTOR:** Renova Construction
TEST PIT OBSERVER: M. Milgrom	**EXCAVATOR:** Linkbelt 80

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

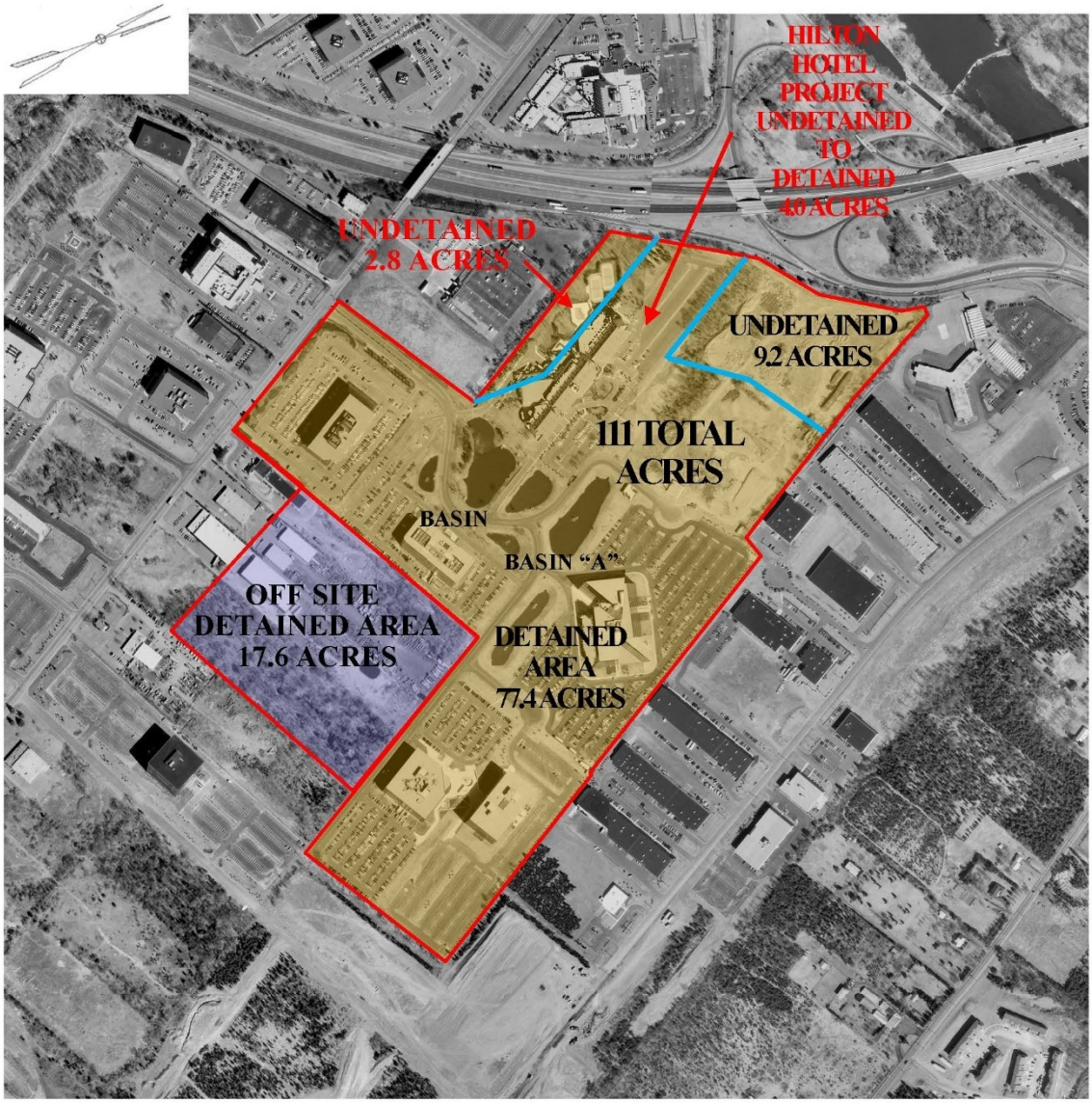
PROJECT: Atrium Drive Warehouse Development **PROJECT #:** 17038.001 **DATE:** 4/23

Boring & Sample Number	Depth (inches)	Classification	Natural Water Content %	Atterberg Limits		AASHTO T-290 Sulfate (ppm)	AASHTO T-291 Chloride (ppm)	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												
TP-1 S-1	19	Dark Brown Clayey SILT, little+ f Gravel, little mf+ Sand	23					78.6		0.14							
TP-2 S-1	34	Red-Brown Clayey SILT, and f Gravel, little mf Sand	15					109.1		1.1×10^{-3}							
TP-3 S-1	24	Reddish-Brown Clayey SILT, some mf+ Sand, little+ mf Gravel	9					115.1		5.2×10^{-3}							
TP-4 S-1	18	Red-Brown Clayey SILT, and- f Gravel, little mf+ sand	14					112.2		1.6×10^{-2}							
TP-5 S-1	32	Red-Brown cmf GRAVEL, some+ Clayey Silt, little+ mf Sand	13					103.0		0.14							
TP-6 S-1	27	Reddish-Brown SILT & CLAY, some+ mf Gravel, little mf Sand	11					116.8		2.7×10^{-4}							
TP-7 S-1	24	Reddish-Brown Clayey SILT, some+ f Gravel, little mf Sand	12					122.2		1.2×10^{-4}							
TP-8 S-1	22	Brown Clayey SILT, little+ mf Sand, little mf Gravel	13					113.2		2.1×10^{-4}							
TP-9 S-1	20	Brown Clayey SILT, little+ m+f Sand, little mf Gravel	14					107.7		9.0×10^{-4}							
TP-11 S-1	14	Reddish-Brown SILT & CLAY, some+ f Gravel, little mf Sand	14					110.6		1.1×10^{-3}							
TP-12 S-1	18	Brown SILT & CLAY, little+ f Gravel, little mf Gravel	19					104.5		8.4×10^{-4}							
TP-13 S-1	14	Brown Clayey SILT, little mf Sand, trace mf Gravel	17					112.3		2.0×10^{-4}							
TP-14 S-1	20	Brown Clayey SILT, little+ mf Gravel, trace mf Sand	13					119.8		3.6×10^{-5}							

* SEE TEST CURVES

Supervising Professional Engineer: Michael W. Schappert, PE

B. Existing Drainage Map



NEW JERSEY

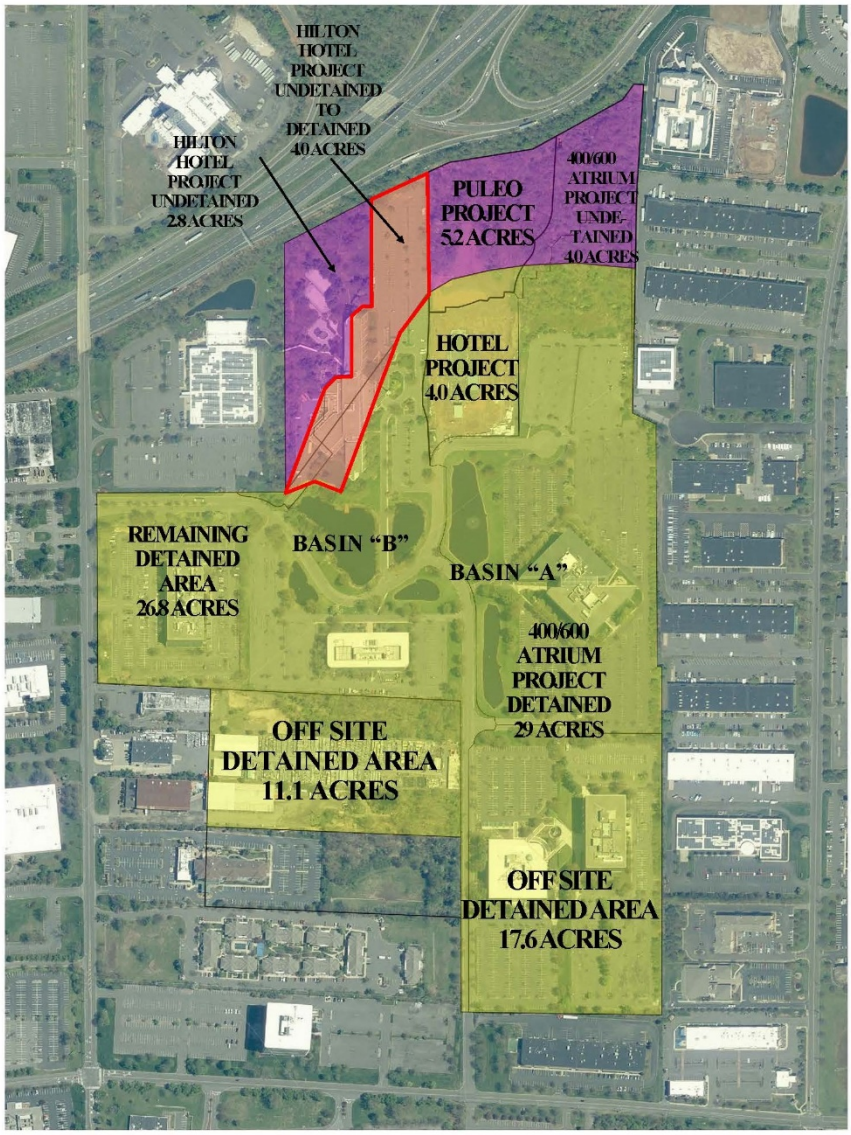
QUADRANGLE LOCATION

MODIFIED DRAINAGE AREA FOR HILTON HOTEL

BLOCK 468.01 LOTS 21.06 & 21.14
FRANKLIN TOWNSHIP
SOMERSET COUNTY
SOMERSET, NEW JERSEY 08873

Stires Associates, P.A.
43 West High Street
Somerville, New Jersey 08876
Ph: 908-725-0230
Fax: 908-707-0831

C. Proposed Drainage Map



ORIGINAL UNDETAINED REMAINING AREA AREA= 12 ACRES

ORIGINAL DETAINED LESS OFF-SITE TO SOUTHWEST AND UNDETAINED TO NORTH AREA=92.5 ACRES

NEW JERSEY

QUADRANGLE LOCATION

CURRENT DRAINAGE AREA FOR 400/600 ATRIUM DRIVE PROJECT

BLOCK 468.01 LOTS 21.06 & 21.14
FRANKLIN TOWNSHIP
SOMERSET COUNTY
SOMERSET, NEW JERSEY 08873

Stires Associates, P.A.
43 West High Street
Somerville, New Jersey 08876
Ph: 908-725-0230
Fax: 908-707-0831