Appendix D
Test Pit Photo Logs

AECOM

PHOTOGRAPHIC LOG
RIDOT Bridge Group 51B

Client Name:	**Site Location:**	**Project No.**
Rhode Island Department of Transportation	Cranston, Rhode Island	60680132

Photo No. 1	**Date:** 4/26/2022

Description: TP-1

TP-1 excavated to approximately 6 ft bgs.

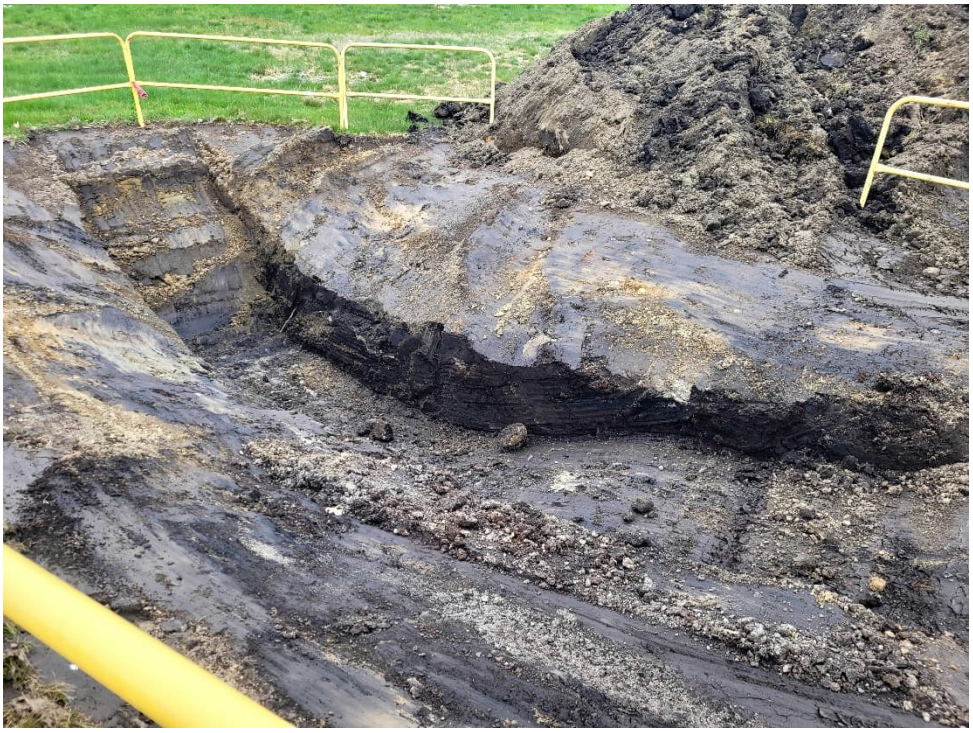


Photo No. 2	**Date:** 4/26/2022

Description: TP-1

Double ring infiltrometer test setup at 6 ft bgs.

AECOM	PHOTOGRAPHIC LOG RIDOT Bridge Group 51B	
Client Name: Rhode Island Department of Transportation	**Site Location:** Cranston, Rhode Island	**Project No.** 60680132

Photo No. 3	**Date:** 4/26/2022

Description: TP-1

TP-1 excavated to approximately 11 feet.

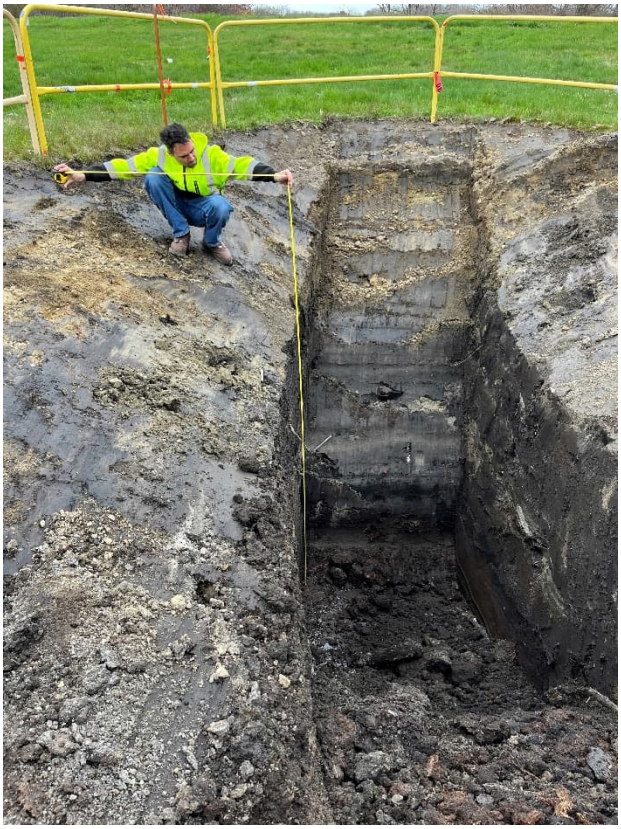
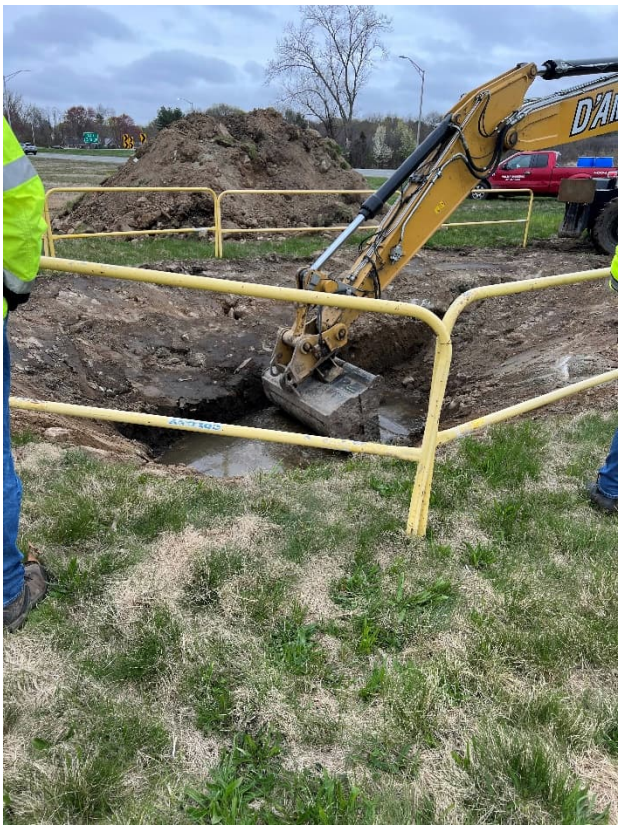


Photo No. 4	**Date:** 4/26/2022

Description: TP-2

TP-2 excavated to approximately 6 ft bgs. Significant water infiltration observed.



AECOM	PHOTOGRAPHIC LOG RIDOT Bridge Group 51B	
Client Name: Rhode Island Department of Transportation	**Site Location:** Cranston, Rhode Island	**Project No.** 60680132

Photo No. 5	**Date:** 4/26/2022

Description: TP-2

TP-2 excavated to approximately 6 ft bgs. Significant water infiltration observed.

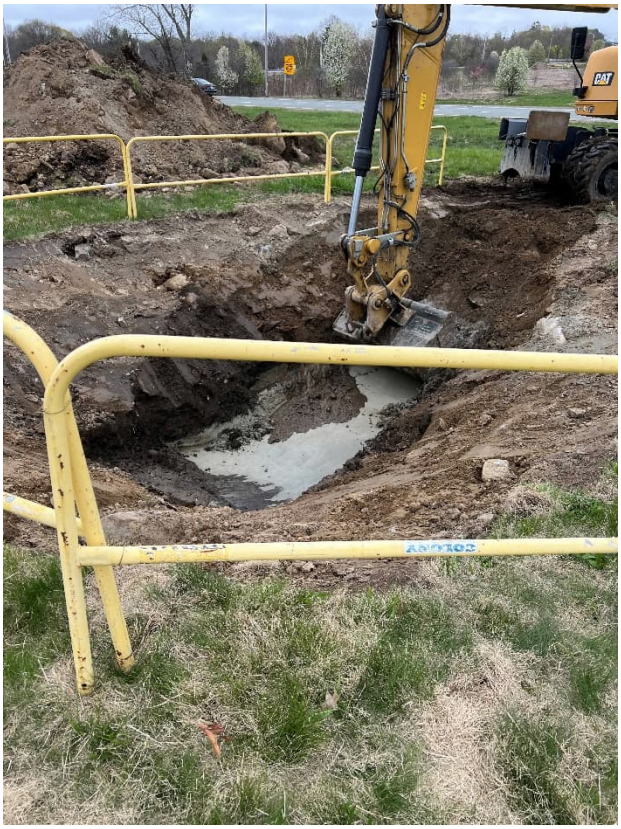


Photo No. 6	**Date:** 4/26/2022

Description: TP-3

TP-3 excavated to approximately 6 ft bgs.

AECOM	PHOTOGRAPHIC LOG RIDOT Bridge Group 51B	
Client Name: Rhode Island Department of Transportation	**Site Location:** Cranston, Rhode Island	**Project No.** 60680132

Photo No. 7	**Date:** 4/26/2022

Description: TP-3

Double ring infiltrometer test setup at 6 ft bgs.

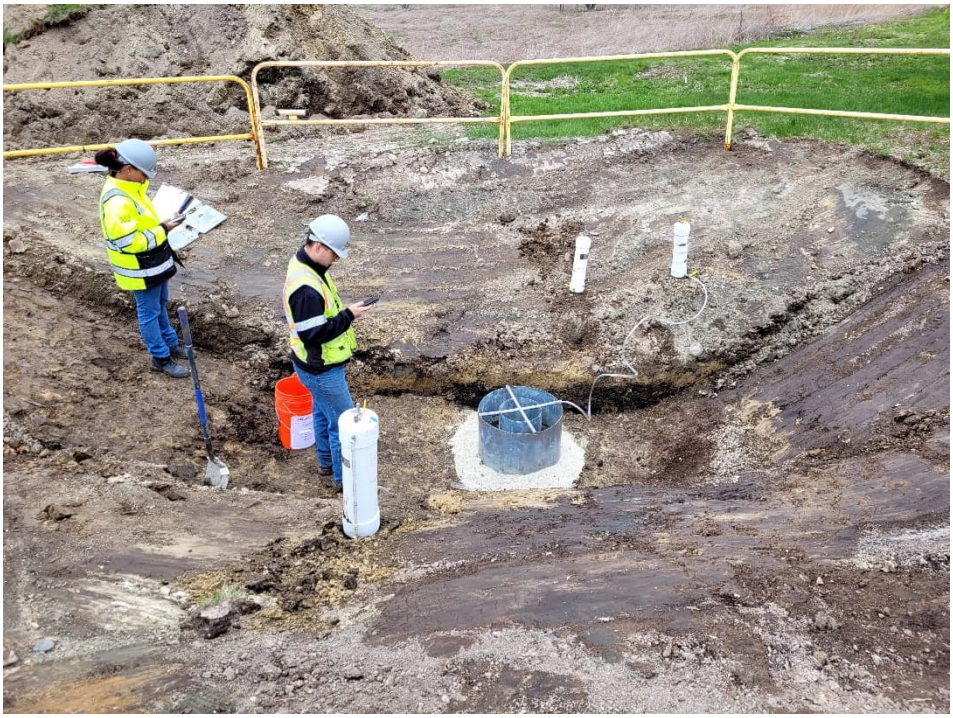
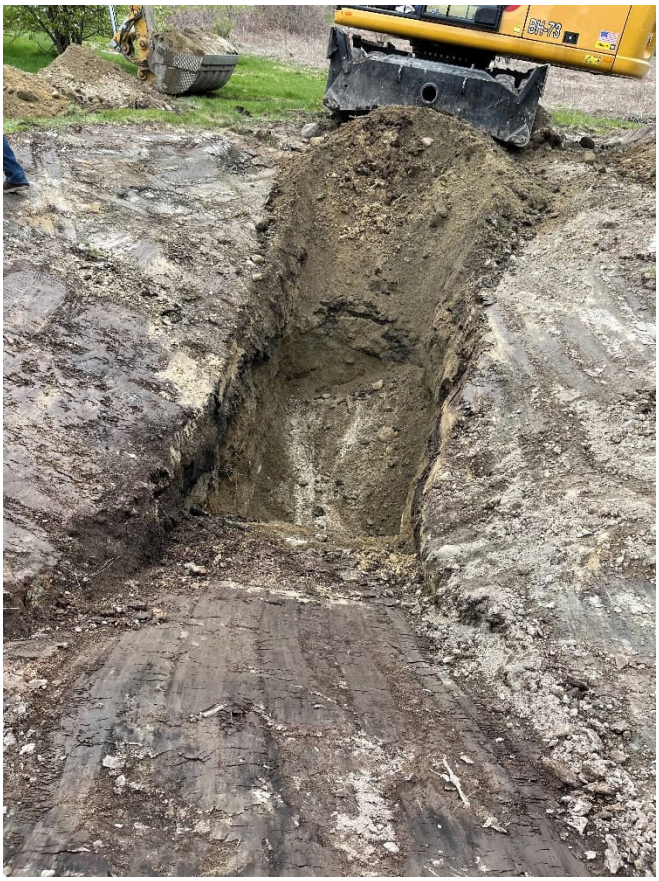


Photo No. 8	**Date:** 4/27/2022

Description: TP-3

TP-3 excavated to approximately 12 ft bgs.



AECOM

PHOTOGRAPHIC LOG
RIDOT Bridge Group 51B

Client Name:	**Site Location:**	**Project No.**
Rhode Island Department of Transportation	Cranston, Rhode Island	60680132

Photo No. 9	**Date:** 4/26/2022

Description: TP-4

TP-4 excavated to approximately 6 ft bgs.

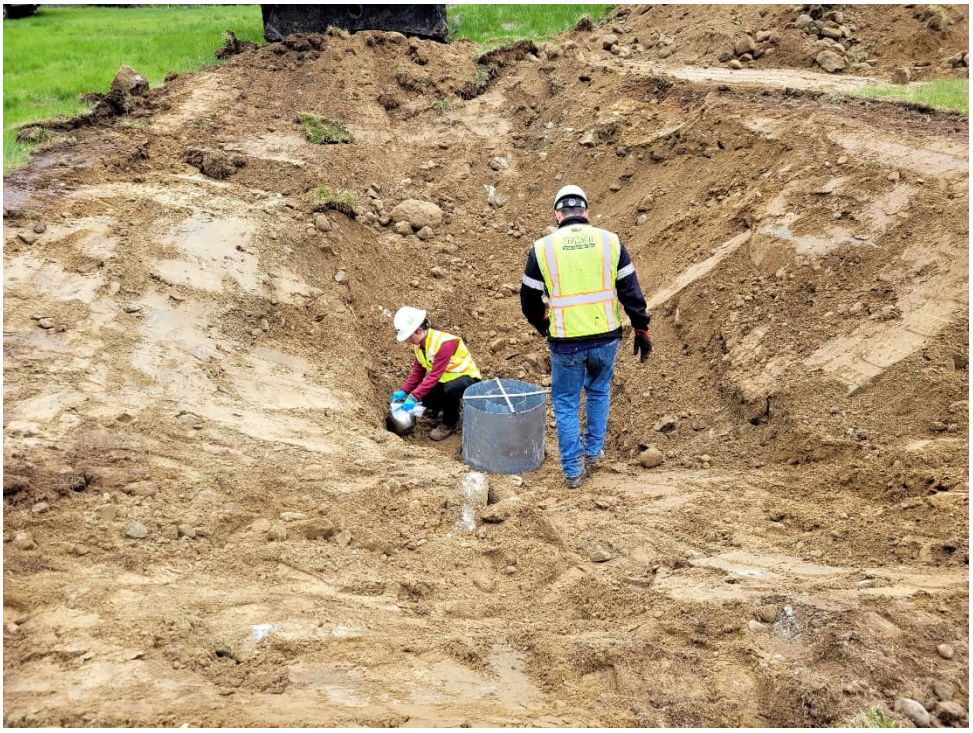
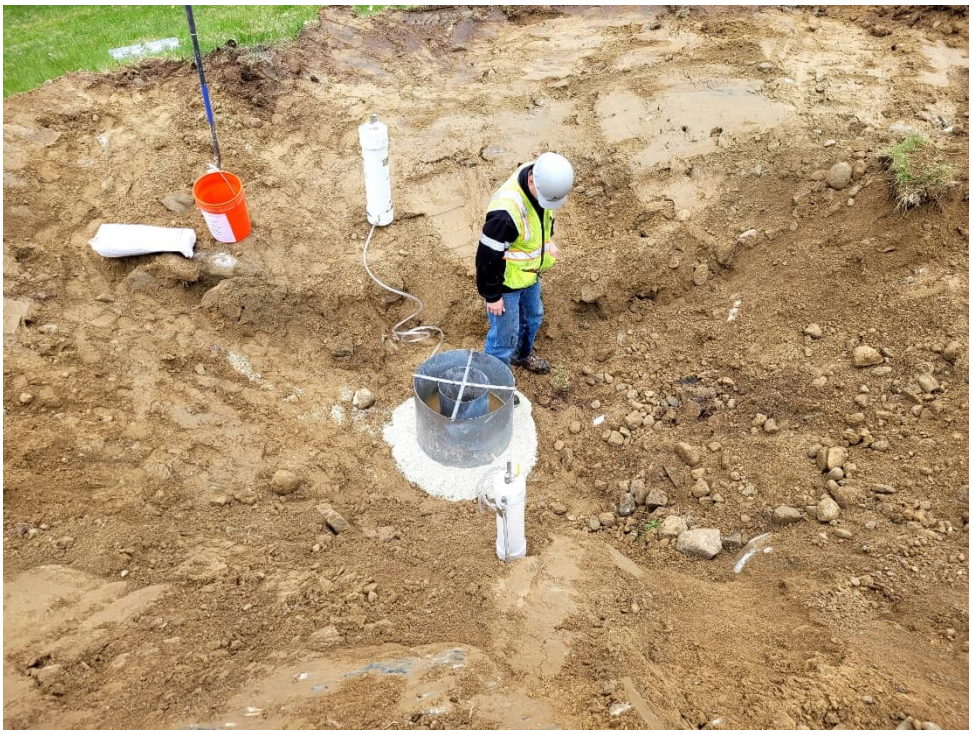


Photo No. 10	**Date:** 4/26/2022

Description: TP-4

TP-4 Double ring infiltrometer test setup at 6 ft bgs.



AECOM

PHOTOGRAPHIC LOG
RIDOT Bridge Group 51B

Client Name:	**Site Location:**	**Project No.**
Rhode Island Department of Transportation	Cranston, Rhode Island	60680132

Photo No. 11	**Date:** 04/27/2022

Description: TP-4

TP-4 excavated to approximately 11 ft bgs. Increased boulder quantity with depth.

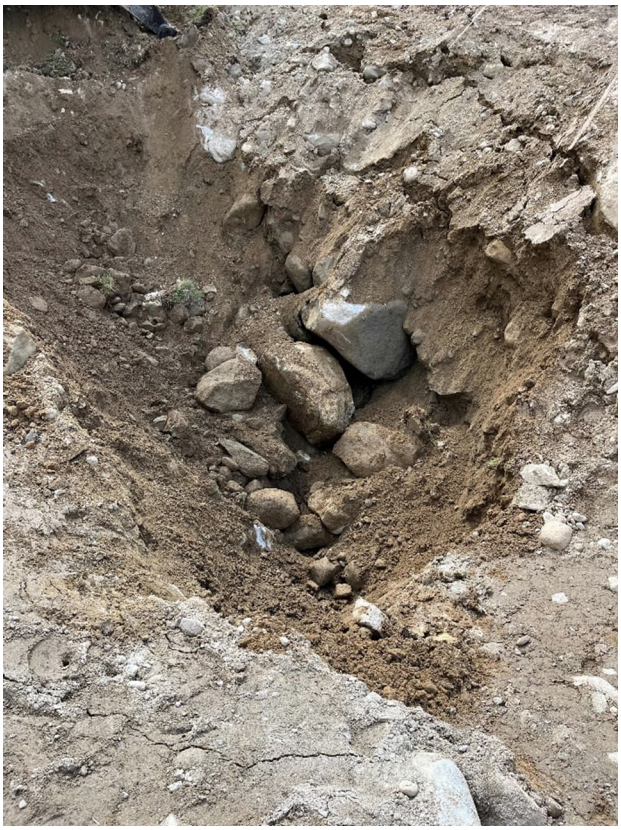
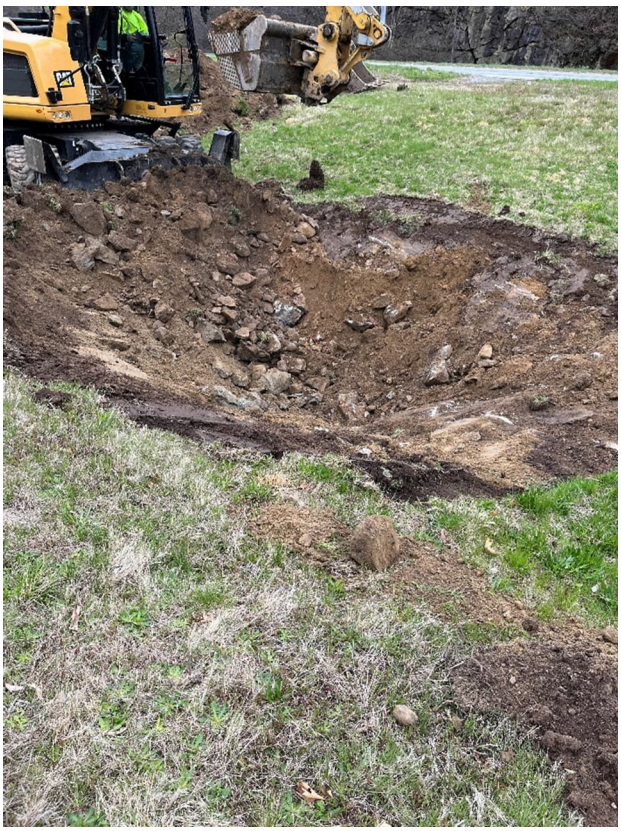


Photo No. 12	**Date:** 04/26/2022

Description: TP-5

TP-5 excavated to approximately 4 ft bgs.



AECOM	PHOTOGRAPHIC LOG RIDOT Bridge Group 51B	
Client Name: Rhode Island Department of Transportation	**Site Location:** Cranston, Rhode Island	**Project No.** 60680132

Photo No. 13	**Date:** 04/26/2022

Description: TP-5

TP-5 excavated to approximately 10 ft bgs. Note excavated rock pile in the background.

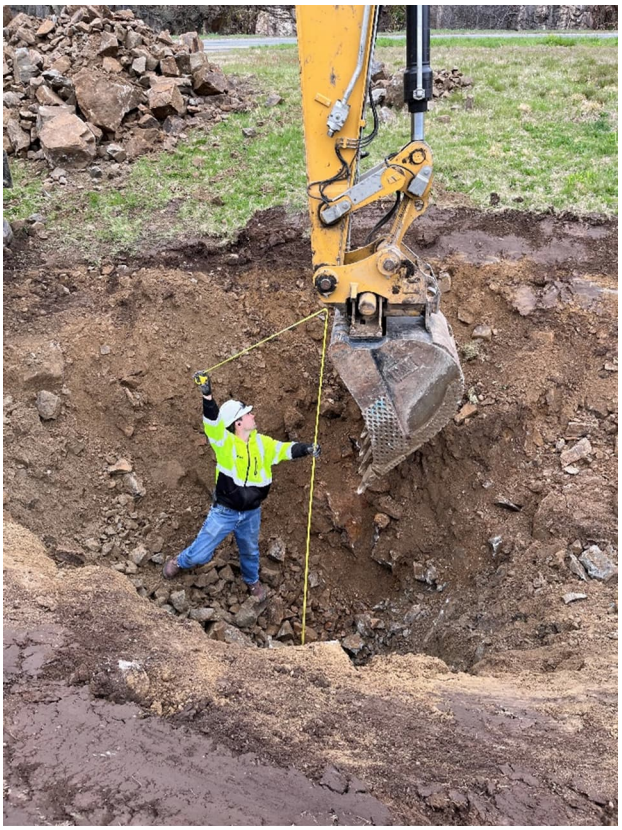
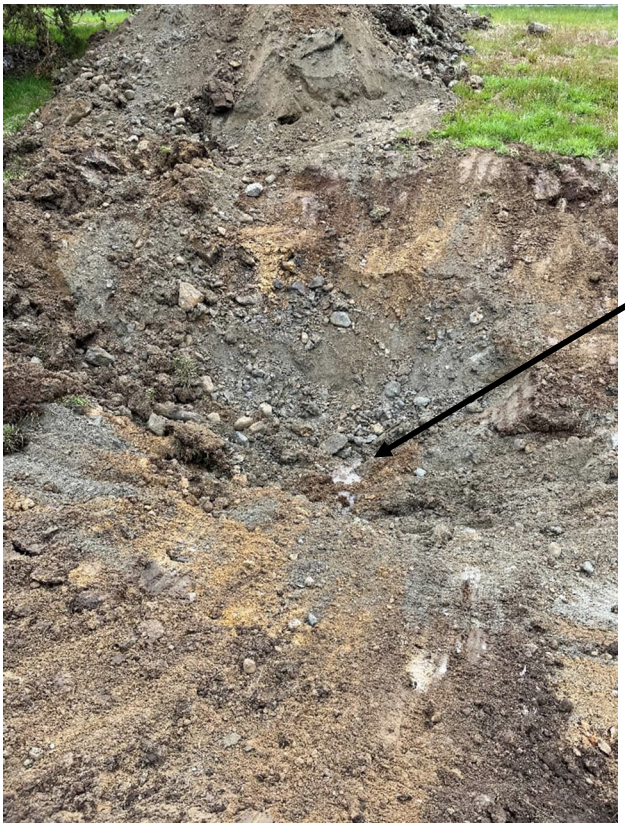


Photo No. 14	**Date:** 04/27/2022

Description: TP-6

TP-6 excavated to approximately 4 ft bgs. Groundwater infiltration observed in the center of the test pit.



AECOM	PHOTOGRAPHIC LOG RIDOT Bridge Group 51B	
Client Name: Rhode Island Department of Transportation	**Site Location:** Cranston, Rhode Island	**Project No.** 60680132

Photo No. 15	**Date:** 04/27/2022

Description: TP-6

TP-6 excavated to approximately 6 ft bgs. Groundwater infiltration observed in the center of the test pit.

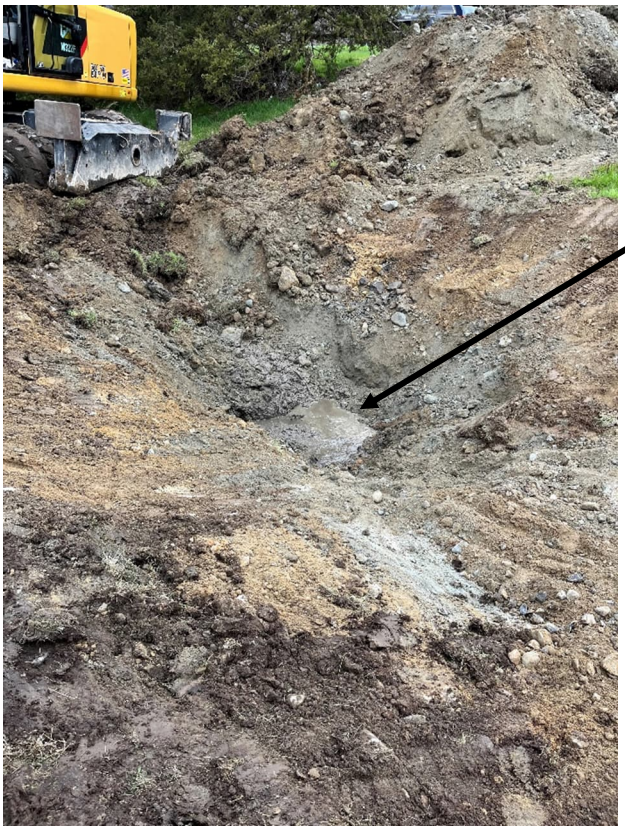
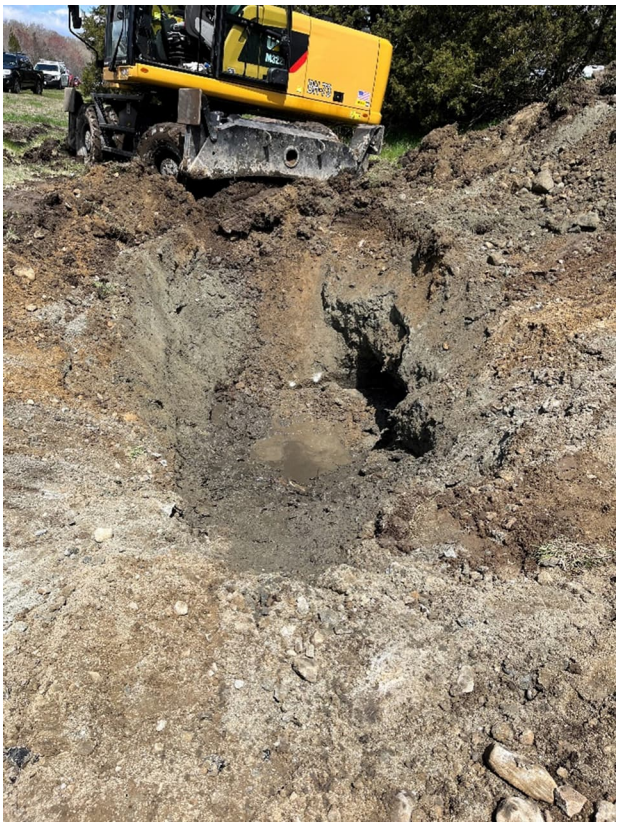


Photo No. 16	**Date:** 00/00/00

Description: TP-6

TP-6 excavated to approximately 9 ft bgs. Large boulders prevented the excavation from proceeding deeper.



AECOM

PHOTOGRAPHIC LOG
RIDOT Bridge Group 51B

Client Name:	**Site Location:**	**Project No.**
Rhode Island Department of Transportation	Cranston, Rhode Island	60680132

Photo No. 17	**Date:** 04/27/2022

Description: TP-7

TP-7 excavated to approximately 6 ft bgs.

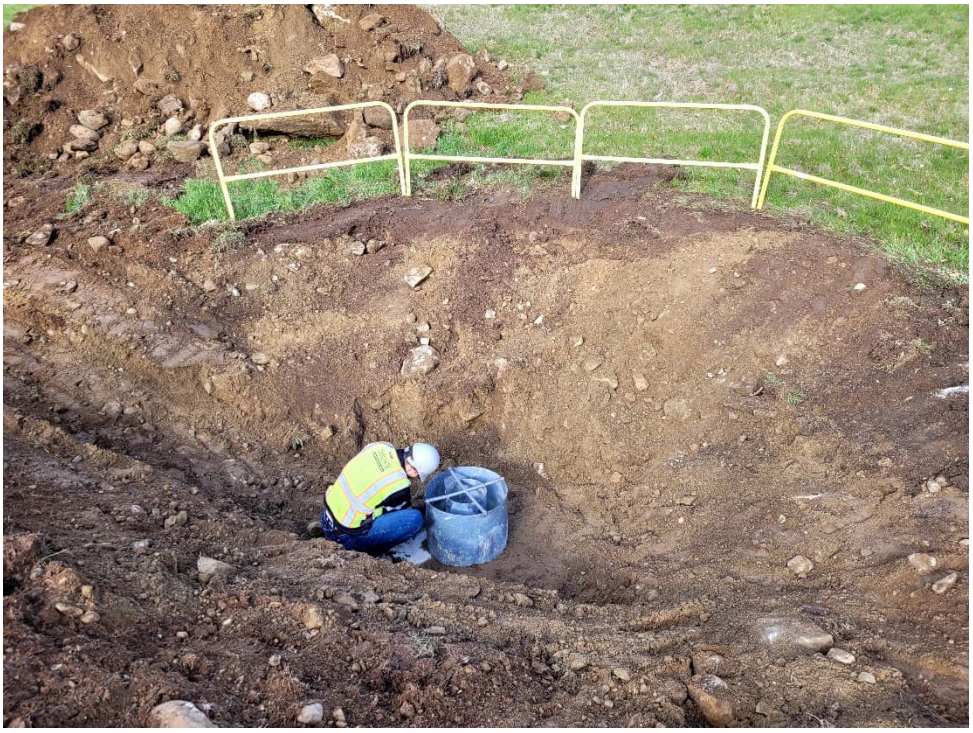
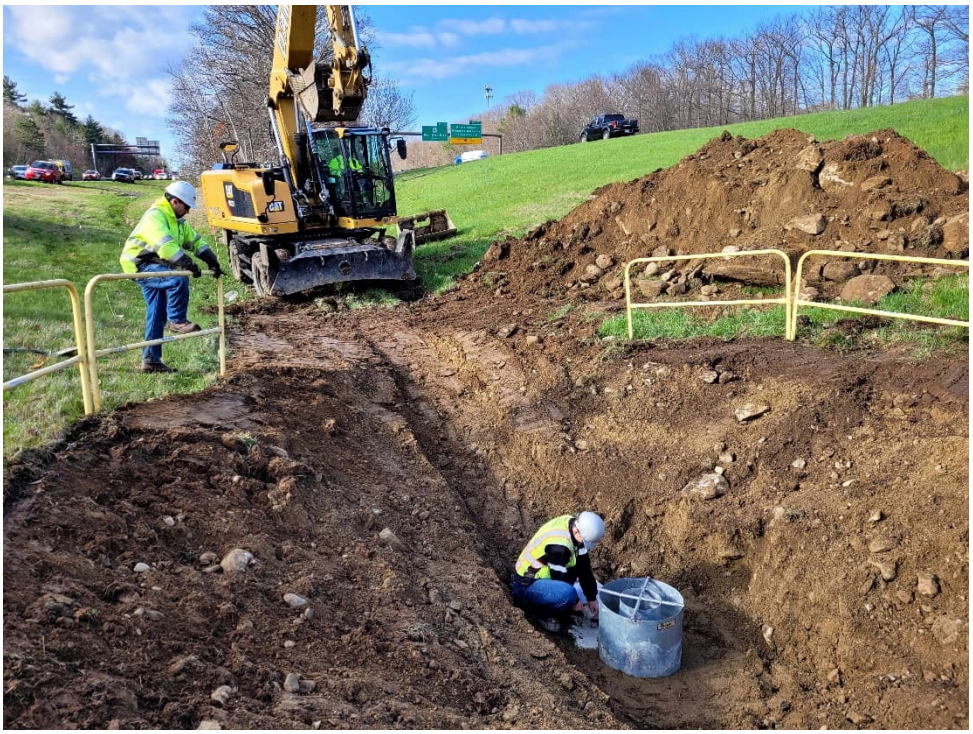


Photo No. 18	**Date:** 04/27/2022

Description: TP-7

TP-7 double ring infiltrometer test setup.



AECOM

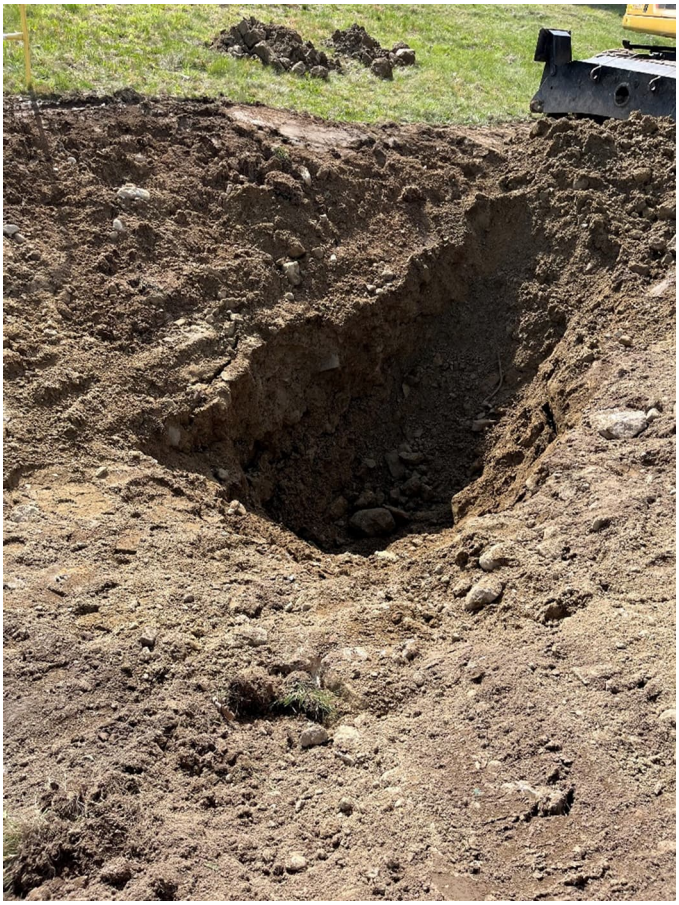
PHOTOGRAPHIC LOG
RIDOT Bridge Group 51B

Client Name:	**Site Location:**	**Project No.**
Rhode Island Department of Transportation	Cranston, Rhode Island	60680132

Photo No. 19	**Date:** 04/27/2022

Description: TP-7

TP-7 excavated to approximately 12 ft bgs.



Appendix E
Soil Boring Logs

Project: RIDOT Bridge Group 51B

Project Location: Cranston, RI

Project Number: 60680132

Log of Test Boring B-101

Sheet 1 of 3

Date(s) Drilled	October 3, 2022	Logged By	E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash 4" steel casing	Drill Bit Size/Type	Roller bits	Total Depth of Borehole	61.0´ bgs
Drill Rig Type	Diedrich D120	Drilling Contractor	New England Boring	Surface Elevation	69.0 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand, Asphalt cold patch	Sampling Method(s)	2" split spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 244057 E 333191 (ft)	Groundwater Level(s)	Measured @ 35' on October 4		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
	0								69.0 — 0.0 12" ASPHALT	
									68.0 — 1.0	
		SS	SS1	12 14 15 30	29	21			Dark gray, Poorly graded SAND (SP) with Gravel , fine to coarse grained, few non-plastic fines [FILL]	
65		SS	SS2	19 31 33 35	64	10			Light brown, Poorly graded SAND (SP), fine to medium grained, few fine gravel, few non-plastic fines [FILL]	
	5	SS	SS3	24 32 33 27	65	5			Light brown to gray, Poorly graded SAND with Silt (SP-SM), fine to medium grained, litte non-plastic fines [FILL]	
		SS	SS4	23 21 16 20	37	11			Light brown, Poorly graded SAND with Silt (SP-SM), fine to coarse grained, little non-plastic fines, few fine to coarse gravel [FILL]	
60		SS	SS5	13 7 9 7	16	9			Similar to SS4 [FILL]	
	10									
									55.0 — 14.0	
55		SS	SS6	11 14 14 13	28	3			Light brown, Poorly graded SAND with Silt (SP-SM) and Gravel, fine to coarse grained, some fine to coarse gravel, few non-plastic fines	*%G=39.6 %S=50.2 %F=10*
	15									
50		SS	SS7	10 8 12	20	4			Similar to SS6	
	20									
45		SS	SS8	5 8 11 13	19	3			Light brown, Poorly graded SAND with Silt (SP-SM), fine to coarse grained, few non-plastic fines, trace gravel	
	25									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-101

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
40									40.0 — 29.0 Light brown, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, trace gravel	
	30	SS	SS9	5 3 5 5	8	6				*%G=0.9 %S=93.5 %F=5.6*
35									No Recovery ▽	
	35	SS	SS10	4 4 6 7	10	0				
30									Brown, Poorly graded SAND (SP), fine to coarse grained, few non-plastic fines, few gravel, wet	
	40	SS	SS11	11 8 9 8	17	0				*Sampled with 3" SPT due to poor recovery, gravel stuck in tip*
25									25.0 — 44.0 Gray, Poorly graded SAND with Silt (SP-SM) and Gravel, fine to coarse grained, few fine to coarse gravel, few non-plastic fines, wet	
	45	SS	SS12	10 6 7 9	13					
20									Gray, Poorly graded SAND Silt (SP-SM) and Gravel, fine to coarse grained, little fine to coarse gravel, few non-plastic fines, wet	
	50	SS	SS13	5 5 6 6	11	11				*%G=24.2 %S=69.4 %F=6.4*
15									No Recovery	
	55	SS	SS14	6 5 7 6	12	0				*Sampled with 3" SPT due to poor recovery*

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-101

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
10										
	60	SS	15	7 6 13 12	19	10			Gray, Poorly graded SAND Silt (SP-SM) and Gravel, fine to coarse grained, little fine to coarse gravel, few non-plastic fines, wet 8.0 61.0 Boring Terminated at 61 ft bgs	
5										
0										
-5										
-10										
-15										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-102

Sheet 1 of 1

Date(s) Drilled	June 10 to 15, 2022	Logged By	R. Munschauer, E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with with 3" to 5" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	6.0´ bgs
Drill Rig Type	Strata Star 5	Drilling Contractor	New England Boring	Surface Elevation	57.6 ft NAVD88
Borehole Backfill	Soil Cuttings	Sampling Method(s)	2" split spoon, 3" spit spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 244165 E 333330 (ft)	Groundwater Level(s)	Undetermined		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
	0								57.6 0.0 57.4 3" TOPSOIL 0.2 Dark brown, SILT with Sand [ML], little fine to coarse grained sand, few fine to coarse subround to subangular gravel [FILL] @1' Light brown, Poorly graded SAND (SP), fine to medium grained, trace fine subrounded gravel [FILL] @2' Brown, Well-graded SAND with gravel (SW), fine to coarse grained, fine to coarse subrounded gravel	
		SS	SS1	5 8 10 10	18	21				
55		SS	SS2	10 18 16 18	34	22				
	5	SS	SS3	16 16 40 14	56	23			53.1 4.5 Dark brown to gray, Silty SAND (SM) with gravel, fine to coarse, little non-plastic fines, some fine to coarse subrounded to subangular gravel 51.6 @5' Black carboniferous Schist as gravel and cobble 6.0 Boring Terminated at 6 ft bgs	*%G=33.3 %S=38.6 %M=26.0 %C=2.0* *@5' Organic Matter = 1.3%, possible top of native.* *Elevated SPT blow count due to Schist cobble. Rods deviated 4" so hole off-set 2' south*
50										
45										
40										
35										

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-102A

Sheet 1 of 4

Date(s) Drilled	June 10 to 15, 2022	Logged By	R. Munschauer, E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with with 3" to 5" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	101.3´ bgs
Drill Rig Type	Strata Star 5	Drilling Contractor	New England Boring	Surface Elevation	57.6 ft NAVD88
Borehole Backfill	Soil Cuttings	Sampling Method(s)	2" split spoon, 3" spit spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 244165 E 333330 (ft)	Groundwater Level(s)	Undetermined		

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
57.6	0.0									*B-102A offset 2' south, refer to B-102 log for samples 0' to 6'*
55	0									
53.1	4.5								Dark brown to gray, Silty SAND (SM) with gravel, fine to coarse, little non-plastic fines, some fine to coarse subrounded to subangular gravel @5' Black carboniferous Schist as gravel and cobble	
	5	SS	SS4	7 5 6 8	11	17				
50.4	7.2								Light brown to gray, Well-graded SAND (SW), fine to coarse grained, little subrounded gravel, few non-plastic fines	*%G=28.8 %S=61.7 %F=9.5* *Switched to drive and wash*
50		SS	SS5	9 9 8 7	17	7				
	10									
45										
42.6	15.0									
	15	SS	SS6	3 4 4 4	8	3			Gray, Poorly graded SAND (SP), fine to coarse grained, few trace gravel, few non-plastic fines	*On 6/13/22 advanced 5" casing from start of hole*
40		SS	SS7	2 WOH WOH 2	0	0			No recovery	*@18' No recovery in 2" SPT. Advanced 3" spoon and recovered probable wash*
	20									
35										
		SS	SS8	8 6 12 37	18	3			Gray, Poorly graded SAND (SP), fine to coarse grained, trace gravel	
	25									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-102A

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
30	30	SS9	7 7 13 25	20	12			Light brown, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines	
25	35	SS10	14 8 8 21	16	4			Light brown, Poorly graded SAND (SP), fine to coarse grained, trave gravel	
20	40	SS11	6 2 4 9	6	15			19.6 38.0 Light brown, Silty SAND (SM), fine grained, some non-plastic fines	*%G=0 %S=59.9 %M=38 %C=2.1*
15	45	SS12	8 11 13 17	24	17			Light brown, Silty SAND (SM), fine to medium grained, little non-plastic fines	
10	50	SS13	8 10 8 7	18	18			Light brown, Silty SAND (SM), fine grained, some non-plastic fines	
5	55	SS14	10 14 15 20	29	19			Light brown, Silty SAND (SM), fine to medium grained, little non-plastic fines	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-102A

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
0									
	60	SS15	12 10 12 5	22	0			No recovery	*Used 3" SPT becasue no recovery in 2", no recovery in 3"*
-5									
	65	SS16	11 12 11 46	23	0			No recovery	*Adding benetonite powder for better recovery*
-10								-10.4 / 68.0	
	70	SS17	8 10 10 10	20	18			Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines	
-15									
	75	SS18	10 17 15 19	32	17			Dark brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines	
-20									
	80	SS19	9 16 16 35	32	19			Light brown/orange brown Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines	
-25									
	85	SS20	20 24 23 32	47	18			Light brown/orange brown Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines -26.3 / 83.9 Dark gray, Silty GRAVEL (GM) with sand, fine to medium grained, some medium to fine sand, few non-plastic silt	

Project: RIDOT Bridge Group 51B

Project Location: Cranston, RI

Project Number: 60680132

Log of Test Boring B-102A

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-30										
		SS	21	35 60/5"	0/5"	8			Dark gray, Silty GRAVEL (GM) with sand, fine to medium grained, some medium to fine sand, few non-plastic silt, fragments of fractured decomposed rock in tip 31.4 89.0	*Drill rig chatter* *Top of rock at 89', Advanced 2' into rock to drive 3" casing*
	90									
-35									Medium strong, fresh, slightly fractured, Light grayish to blue until 94.5', SANDSTONE, fine to very coarse grained, from 94.5-97 dark gray fine to medium grained Drilling Rate (min/ft): 2:28, 1:29, 1:06, 1:21, 1:43	
	95	C	1	RQD = 85%		51				
-40									Medium strong, fresh, slightly fractured, Light grayish blue, SANDSTONE, fine to coarse grained Drilling Rate (min/ft): 1:36, 1:27, 1:44, 1:28, 2:50	
	100	C	2	RQD = 94%		48				*@101' Core bit jammed. Boring terminated*
									43.6 101.2 Boring Terminated at 101.25 ft bgs	
-45										
-50										
-55										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-103

Sheet 1 of 2

Date(s) Drilled	May 24 to 26, 2022	Logged By	E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	45.5´ bgs
Drill Rig Type	Diedrich D120 Truck-Mounted	Drilling Contractor	New England Boring Company	Surface Elevation	78.3 ft NAVD88
Borehole Backfill	Soil Cuttings and Bagged sand	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 245284 E 334270 (ft)	Groundwater Level(s)	Measured @ 28' on May 26		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									78.3 / 0.0	
	0								78.0 / 0.3 4" TOPSOIL	
		SS	SS1	4 18 17 19	35	17			Light brown Poorly graded SAND (SP), fine to coarse grained, few non-plastic fines, trace fine to coarse grained gravel [FILL]	
75		SS	SS2	26 20 20 22	40	15			Light gray to brown Poorly graded SAND with Gravel (SP), fine to coarse grained, little fine to coarse grained gravel [FILL]	
									74.3 / 4.0	
	5	SS	SS3	10 20 23 34	43	13			Light brown Silty SAND with Gravel (SM), fine to coarse grained, some fine to coarse grained gravel, few non-plastic fines	*%G=42.8 %S=44.2 %F=13.0*
									72.3 / 6.0	
		SS	SS4	39 25 19 22	44	13			Light brown Poorly graded SAND (SP), fine to coarse grained, few fine to coarse gravel	
70		SS	SS5	13 16 19 22	35	11			Light brown Poorly graded SAND (SP), fine to coarse grained, few fine to coarse gravel, trace non-plastic fines	
	10									
65		SS	SS6	6 8 8 12	16	11			Light Brown Poorly graded SAND (SP), fine to coarse grained, few fine to coarse gravel, moist	
	15									
									60.3 / 18.0	*SS7A %G=19.1 %S=70.7 %M=8.2 %C=2.0*
60		SS	SS7	4 12 19 21	31	11			59.8 / 18.5 Top 5" Light brown Well-graded SAND with Silt and Gravel (SW-SM), fine to coarse grained, little fine to coarse gravel, few non-plastic silt, moist	*SS7B %G=2.0 %S=50.3 %M=39.7 %C=8.0*
	20								Bottom 6" Gray, Silty SAND (SM), some non-plastic fines, moist	
55		SS	SS8	60/2"	60/2"	0			No Recovery	
	25									

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-103

Sheet 2 of 2

Elevation, feet / Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									Attempted to core at 26' but losing water, adding casing to create a better seal.
50.3 / 25.0									
50	SS9		12 15 60/4"	60/4"				Gray Poorly graded SAND with Silt (SP-SM), fine grained, few non-plastic fines, few fine to coarse subrounded gravel, moist	*Added 3" casing and drove through possible boulder or cobble zone. Drill bit penetrated the zone. No water return.*
48.9 / 29.4									
30	C1		RQD = 8%		14			Probable Boulder	
45									
43.8 / 34.5									
35	C2		RQD = 86%		26			Strong, fresh, light blueish gray, SANDSTONE [Rhode Island Formation], fine to medium grained Core Times (min/ft): 5:11, 3:45, 4:24	*C2 2.5' due to core rod jam and break. Retrieved broken core rod 5/26/22.*
40	C3		RQD = 50%		41			Medium strong to strong, fresh, light blue to dark gray, iron stains, SANDSTONE [Rhode Island Formation], fine to medium grained moderately wide discontinuities, dip angle 25-30 degrees Core Time (min/ft): 3:13, 3:19, 2:22 3:28, 3:18 @ 37' Quartz vein Lost Rock 38.5-40.2'	*From 39'-41' Probable weak/highly weathered rock, return in wash was fine sand.*
35	C4		RQD = 14%		18			Medium to strong, fresh, light blue to gray, iron stains, SANDSTONE [Rhode Island Formation], fine to medium grained Core Time (min/ft): 4:21, 5:04, 2:36 Weak Rock 42.1-42.6' Residual Soil @ 43.5'	*C4 Significant return water loss. Probable loss in sand seam. Mechanical fractures from trying to release rock from hole.*
45									
32.8 / 45.5								Intermittent Silt/Sand/Weathered rock zones	
								Boring Terminated at 45.5 ft bgs	
30									
25									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-104

Sheet 1 of 3

Date(s) Drilled	May 23 to 24, 2022	Logged By	E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	58.0´ bgs
Drill Rig Type	Diedrich D120 Truck-Mounted	Drilling Contractor	New England Boring Company	Surface Elevation	75.3 ft NAVD88
Borehole Backfill	Soil Cuttings and Bagged sand	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 245141 E 334321 (ft)	Groundwater Level(s)	Measured @ 28' on May 24		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
75	0								75.3 0.0 74.9 5" TOPSOIL 0.4	
		SS	SS1	3 9 12 10	21	15			Light brown Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, trace roots in top 5" [FILL]	
		SS	SS2	10 16 15 10	31	8			Similar to SS1 [FILL]	
70	5	SS	SS3	15 11 9 7	20	10			Light brown Poorly graded SAND (SP), fine to coarse grained, trace fine to coarse gravel [FILL]	
		SS	SS4	9 7 6 10	13	15			Similar to SS4 [FILL]	
		SS	SS5	5 8 10 11	18	7			67.3 8.0 Brown Poorly graded GRAVEL with Silt and Sand (GP-GM), fine to coarse grained, medium to coarse grained sand, few non-plastic fines, wet [FILL]	*%G=60.6 %S=32.8 %M=5.6 %C=1*
65	10								63.8 11.5 Brown Well-graded SAND with Silt (SW-SM), fine to coarse grained, few fine to coarse grained gravel, few non-plastic fines, wet	
		SS	SS6	10 9 7 11	16	8				
60	15									
		SS	SS7	6 8 9 10	17	8			Grayish-brown Well-graded SAND with Silt (SW-SM), fine to coarse grained, few fine to coarse grained gravel, few non-plastic fines, wet	*%G=7.1 %S=85.7 %F=7.2*
55	20								52.3 23.0	
		SS	SS8	23 25 25 28	50	16			Gray Silty SAND (SM), fine to medium grained, little non-plastic fines, trace fine to coarse grained gravel, wet [TILL]	
50	25									

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-104

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		SS	SS9	32 41 38 33	79	16			Similar to SS8 [TILL]	
45	30								42.3 / 33.0	
		SS	SS10	67 54 60/2"	60/2"	11			Gray Poorly graded SAND with Silt (SP-SM), fine grained, few non-plastic fines, trace decomposed rock [TILL]	
40	35								37.3 / 38.0	
		SS	SS11	60/1"	60/1"	1			Gray Decomposed Rock as non-plastic Silt	
35	40									
		SS	SS12	60	0	0			Black Decomposed Rock	
30	45								27.3 / 48.0	
		C	C1	RQD = 96%		59			Medium strong, fresh to slightly weathered, slightly fractured, light to dark gray, SANDSTONE [Rhode Island Formation], fine to medium grained, moderately spaced discontinuity, planar discontinuities Core times (min/ft): 3:18, 3:00, 3:18, 3:18, 2:30	
25	50									
		C	C2	RQD = 81%		51			Similar to C1 Core times (min/ft): 3:36, 3:54, 2:54, 3:30, 2:54	
20	55									

Project: RIDOT Bridge Group 51B

Project Location: Cranston, RI

Project Number: 60680132

Log of Test Boring B-104

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		C2		RQD = 81%		51			17.3 to 58.0: Boring Terminated at 58 ft bgs	
15										
10										
5										
0										
-5										
-10										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-105

Sheet 1 of 2

Date(s) Drilled	June 6, 2022	Logged By	R. Munschauer	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	34.7′ bgs
Drill Rig Type	Strata Star 5 ATV-mounted	Drilling Contractor	New England Boring Company	Surface Elevation	75.0 ft NAVD88
Borehole Backfill	Soil Cuttings and Bagged sand	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 245332 E 334505 (ft)	Groundwater Level(s)	Undetermined		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
75	0								75.0 / 0.0	*Vacuumed to 8′*
70	5								67.0 / 8.0	
		SS	SS1	26 36 50/4"	50/4"	12			Light gray, Poorly graded SAND (SP), trace non-plastic fines, trace subrounded gravel	
65	10								62.0 / 13.0	
		SS	SS2	36 63 54 57	117	14			Gray Silty SAND with Gravel (SM), fine to coarse grained, little subrounded to subangular gravel, little non-plastic fines	*%G=17.2 %S=58.0 %F=24.8*
60	15									
		SS	SS3	45 78 68 75/2"	146	13			Light gray, Silty SAND with Gravel (SM), fine to coarse grained, little gravel, little non-plastic fines	*%G=25.9 %S=52.8 %F=21.3*
55	20									*19.7-21′ Possible cobbles/boulders or weathered rock, increased drilling resistance*
		SS	SS4	50/2"	50/2"	0			No recovery	*4" casing advanced to 23′*
50	25								50.0 / 25.0	
		C	C1	RQD = 48%		55			Strong to medium strong, fresh, dark gray, SANDSTONE [Rhode Island Formation], moderately fractured, fine	*3" casing advanced to 25′*

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-105

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									grained Core times (min/ft): 3:00, 3:45, 4:30, 8:15, 8:00	*Down pressure 350 psi, RPM:1250*
		C	C1	RQD = 48%		55				*Increasing drilling down pressure to 450 psi*
-45	30							45.0	30.0	
		C	C2	RQD = 39%		57			Moderately strong to weak, fresh to slightly weathered, highly to moderately fractured, black, poorly foliated Carboniferous SCHIST [Rhode Island Formation], aphanitic Core times (min/ft): 3:30, 3:45, 3:60, 7:15, 5:15	
								40.3	34.7	
-40									Boring Terminated at 34.7 ft bgs	
-35										
-30										
-25										
-20										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-106

Sheet 1 of 2

Date(s) Drilled	May 23, 2022	Logged By	E. daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	36.0´ bgs
Drill Rig Type	Diedrich D120 Truck-Mounted	Drilling Contractor	New England Boring Company	Surface Elevation	75.5 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand, Bentonite	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 245210 E 334496 (ft)	Groundwater Level(s)	Measured @ 22.5 on May 23		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
75	0								75.5 0.0	*Vacuumed to 8'*
70	5								67.5 8.0	
65	10	SS	SS1	18 23 24 20	47	13			Gray Silty SAND (SM), fine grained, few coarse gravel, some non-plastic fines, wet	*%G=12.0 %S=56.2 %F=31.8*
60	15	SS	SS2	30 17 21 27	38	13			Gray Silty SAND with Gravel (SM), fine to coarse grained, little fine to coarse gravel, some non plastic fines, wet	*%G=16.7 %S=42.7 %F=40.6*
55	20	SS	SS3	21 27 27 27	54	16			57.5 18.0 Gray Poorly graded SAND (SP), fine to medium grained, trace coarse gravel ▽ 23.0	
		SS	SS4	52 60/2"	60/2"	8			52.5 23.0 Black weathered rock, slightly cohesive, probable Decomposed Rock	
50	25	C	C1	RQD= 60%		51			50.5 25.0 Medium strong, slightly weathered, moderately fractured, black, SCHIST [Rhode Island Formation]	

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-106

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									Core Times (min/ft): 2:24, 2:06, 2:30, 1:54, 2:06	
		C	C1	RQD= 60%		51				
	30								45.5 30.0	
45		C	C2	RQD = 55%		9			Similar to C1 Core Times (min/ft): 2:36/9" 44.8 30.8	*C2: Possible fragment from C1 barrel jam*
		C	C3	RQD = 22%		47			Top 1.7' Medium strong, slightly weathered, moderately fractured, black, SCHIST [Rhode Island Formation] Bottom 3.3' becomes highly weathered, highly fractured @34.5' gauge filled seams bottom 15" decomposed Core Times (min/ft): 2:00, 3.06, 2:36, 4:06, 1:36	*Chatter while coring*
	35								39.5 36.0	
40									Boring Terminated at 36 ft bgs	
35										
30										
25										
20										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-107

Sheet 1 of 4

Date(s) Drilled	May 26, 27, 31, & June 1, 2022	Logged By	E.daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" & 5" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	107.0´ bgs
Drill Rig Type	Diedrich D120 Truck-Mounted	Drilling Contractor	New England Boring Company	Surface Elevation	53.8 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand, Bentonite	Sampling Method(s)	2" split spoon, 3" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 245036 E 333438 (ft)	Groundwater Level(s)	Measured @ 8' on June 1		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
53.8	0.0								2" TOPSOIL	*Used 3" SPT to sample for SS1 to SS6*
53.6	0.2	SS	SS1	2 3 3 2	6	4			Dark brown, Silty SAND with Gravel (SM), fine to coarse grained, little fine to coarse subround to subangular gravel, little non-plastic fines, dry [FILL]	
		SS	SS2	4 7 7 9	14	2			Yellowish brown, Poorly graded SAND (SP), fine to medium grained, few non-plastic fines, wet [FILL] becomes Light brown, trace non-plastic fines, wet	
50		SS	SS3	12 12 9 8	21	0			Light olive gray, Silty SAND (SM), fine to coarse grained, little non-plastic fines, few fine subrounded and subangular gravel, wet [FILL]	*%G=10.7 %S=68.3 %F=21.0*
5		SS	SS4	8 10 15 22	25	4			Light gray, Poorly graded SAND with Silt and Gravel (SP-SM), medium to coarse grained, little fine to coarse subrounded to subangular gravel, few non-plastic fines, wet [FILL]	
45		SS	SS5	9 9 8 7	17	0			SS5A - Light gray, Poorly graded SAND with Silt and Gravel (SP-SM), medium to coarse grained, little fine to coarse subrounded to subangular gravel, few non-plastic fines, wet [FILL]	*Probable Native*
44.2	9.6								SS5B - Light brown Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	
10										
40		SS	SS6	4 4 4 6	8	0			Light brown, Poorly graded SAND (SP), fine to coarse grained, trace fine subangular to subrounded gravel, wet	
38.8	15.0								Grayish brown, Silty SAND with Gravel (SM), fine to coarse grained, little fine subrounded gravel, wet	*%G=21.8 %S=65.2 %F=13.0* *Drove 3" SPT @ 15-17' to confirm material recovered in 13-15'*
15		SS	SS7	5 3 3 6	6	5				
35.8	18.0								Light brown, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, wet	
35		SS	SS8	9 5 6 9	11	9				
20										
30		SS	SS9	3 3 4 6	7	7			Light brown, Poorly graded SAND (SP), fine to medium grained, wet	
25										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-107

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
25	30	SS10	3 4 4 5	8	9			Light brown, Poorly graded SAND (SP), fine to medium grained, wet	*Switched from 5" casing to 4"*
20	35	SS11	5 7 9 9	16	11			Similar to SS10, wet	
15	40	SS12	3 7 5 6	12	11			Light olive brown, Poorly graded SAND (SP), fine to coarse grained, few fine subangular gravel, trace non-plastic fines, wet	*%G=12.6 %S=84.8 %F=2.6*
10	45	SS13	3 4 6 6	10	9			Similar to SS12, wet	
5	50	SS14	8 4 6 7	10				5.8 — 48.0 Light brown, Well-graded SAND (SW), fine to coarse grained, trace fine to coarse gravel, wet	
0	55	SS15	5 9 6 8	15	11			0.8 — 53.0 Light brown, Poorly graded SAND (SP), fine to medium grained, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-107

Sheet 3 of 4

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									-4.2 / 58.0 Light reddish brown, Well-graded SAND (SW), fine to coarse grained, trace fine to coarse subrounded to subangular gravel, wet	
-5	60	SS	SS16	6 11 12 15	23	15				
									-9.2 / 63.0 Light brown, Poorly graded SAND (SP), fine to medium grained, wet	*Gravel stuck in tip of sampler*
-10	65	SS	SS17	5 7 11 12	18	3				
									-14.2 / 68.0 Light grayish brown, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few non-plastic fines, wet	*%G=0.8 %S=88.8 %F=10.4*
-15	70	SS	SS18	8 9 10 15	19	13				
									-19.2 / 73.0 Light brown, Poorly graded SAND (SP), fine to medium grained, moist	
-20	75	SS	SS19	9 9 12 16	21	22				
									Similar to SS19, wet	
-25	80	SS	SS20	7 6 9 16	15	19				
									Light brown, Poorly graded SAND (SP), fine to medium grained, moist becomes gray, fine grained, trace non-plastic fines	
-30	85	SS	SS21	15 16 15 22	31	12				

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-107

Sheet 4 of 4

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									-34.2 / 88.0 Gray, Weathered Rock, trace fine to medium grained sand, moist	*Bit grinding, weathered rock*
-35	90	SS	SS22	35 18 14 15	32	7				
									-39.2 / 93.0 Gray, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few non-plastic fines, trace weathered rock, moist	
-40	95	SS	SS23	18 60/2"	60/2"	5			-42.2 / 96.0 Medium strong to strong, fresh to slightly weathered, moderately fractured, dark grayish blue SANDSTONE, fine to coarse grained planar discontinuity Drill Rate (min/ft):3:28, 3:17, 2:37, 1:39, 1:41 @ 97-98.6' moderately fractured, silt veins	
-45	100	C	C1	RQD = 69%		53				
		C	C2	RQD = 33%		11			Similar to C1 Drill Rate (min/ft): 3:08	*@101' Core jammed*
-50	105	C	C3	RQD = 55%		59			Medium strong to strong, fresh to slightly weathered, moderately fractured, dark grayish blue SANDSTONE, fine to coarse grained, planar discontinuity Drill Rate (min/ft): 2:35, 2:17, 2:14, 2:26, 1:50 @ 104.7 becomes medium strong, fresh to slightly weathered, moderately fractured, dark gray, carboniferous SILTSTONE, aphanitic to medium grained -53.2 / 107.0	*No water return, probable sand seam*
-55									Boring Terminated at 107 ft bgs	
-60										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-108

Sheet 1 of 4

Date(s) Drilled	June 6 to 8, 2022	Logged By	E.daSilva	Checked By	B. Reyes
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	93.5´ bgs
Drill Rig Type	GTech GT8 Truck-mounted	Drilling Contractor	New England Boring Company	Surface Elevation	54.8 ft NAVD88
Borehole Backfill	Soil Cuttings	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 244906 E 333491 (ft)	Groundwater Level(s)	Measured @ 11.3' on June 8		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
									54.8 0.0	
	0								54.3 6" TOPSOIL 0.5	
			SS1	3 7 11 12	18	24			Light brown, Poorly graded SAND (SP), fine to medium grained, trace fine to coarse subrounded to subangular gravel [FILL]	
			SS2	11 14 15 14	29	20			Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines [FILL]	
50	5		SS3	11 10 10 10	20	17			Similar to SS2 [FILL]	*Safety hammer in upper 10'*
			SS4	9 8 8 7	16	24			Light brown, Poorly graded SAND (SP), fine to medium grained, wet [FILL]	
									46.8 8.0	
			SS5	6 5 4 4	9	20			Grayish brown, Poorly graded SAND (SP), fine grained, trace non plastic fines, wet	*%G=0 %S=97.4 %F=2.6*
45	10		SS6	3 3 3 4	6	14			Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet ▽	
40	15		SS7	3 2 3 3	5	12			Similar to SS6, wet	
35	20		SS8	3 4 4 4	8	11			Light brown, Poorly graded SAND (SP), fine to medium grained, wet	
30	25		SS9	4	8				Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-108

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		SS	SS9	6 2 8	8					
25	30	SS	SS10	4 6 7 8	13	8			Similar to SS9 - Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	
20	35	SS	SS11	4 6 5 8	11	8			Similar to SS9	
15	40	SS	SS12	3 5 6 9	11	13			Similar SS9	
10	45	SS	SS13	6 6 7 11	13	14			Light brown, Poorly graded SAND (SP), fine grained, trace non-plastic fines, wet	
5	50	SS	SS14	2 3 6 8	9	15			4.8 — 50.0 Grayish brown, Sandy SILT, moist (ML)	*%G=0 %S=47.8 %F=52.2*
0	55	SS	SS15	7	17	14			-0.2 — 55.0 Light brown, Poorly graded SAND (SP), fine to medium grained, moist	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-108

Sheet 3 of 4

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		SS	SS15	8 9 9	17	14				*Drilling mud used to keep the hole open*
-5	60	SS	SS16	5 7 7 8	14	18			Light brown, Poorly graded SAND (SP), fine to coarse grained, moist	
-10	65	SS	SS17	8 7 6 8	13	18			Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, moist	*Drill bit grinding*
-15	70	SS	SS18	60/0"	0	0			-16.7 No recovery 71.5	
		C	C1			25			Boulder	*Probable boulder/cobble zone, top 2.5' normal core rate, bottom 2.5' no resistance*
-20	75	SS	SS19	3 3 10 15	13	8			-21.7 76.5 Dark gray, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, few non-plastic fines, wet	*%G=34.1 %S=59.9 %F=6*
-25	80									*Tried to sample at 80' but spoon sitting up on possible running sands*
-30	85	C	C2	RQD = 95%		57			-28.7 83.5 Medium strong to strong, fresh, slightly fracture, dark grayish SANDSTONE, medium grained Core Times (min/ft): 3:25, 3:21, 4:12, 4:25, 3:22	

Project: RIDOT Bridge Group 51B

Project Location: Cranston, RI

Project Number: 60680132

Log of Test Boring B-108

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		C2		RQD = 95%		57				
-35	90	C3		RQD = 95%		63			Similar to C1, @91.5 changed to a fine grained SANDSTONE, with no anthracite pieces Core Times (min/ft): 1:54, 1:26, 1:54, 2:07, 2:24	
									-38.7 93.5 Boring Terminated at 93.5 ft bgs	
-40										
-45										
-50										
-55										
-60										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-109

Date(s) Drilled	June 17, 20, 23-24, 28-29, 2022	Logged By	R. Munschauer, T.Dwyer, E.daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 3" & 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	101.5´ bgs
Drill Rig Type	CME-75 Truck-mounted & Mobile B-53 Track-mounted	Drilling Contractor	New England Boring Company	Surface Elevation	53.0 ft NAVD88
Borehole Backfill	Soil Cuttings	Sampling Method(s)	2" split spoon, Nx-sized core barrel	Hammer Data	140 lb auto-hammer & Cathead
Boring Location	N 244961 E 333191 (ft)	Groundwater Level(s)	Measured 6.4' on June 17		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
	0								53.0 0.0	
				7					52.6 5" TOPSOIL 0.4	*4" solid auger to 10'*
		SS	SS1	4 9 6	13	17			51.9 Brown, Well-graded SAND with Silt and gravel (SW-SM), fine to coarse grained, few fine to coarse grained subangular to subrounded gravel, few non-plastic fines, dry [FILL] 1.1	
50				6					Light brown, Poorly graded SAND (SP), fine to medium grained, moist	
		SS	SS2	13 14 11	27	18				
	5			3					Light brown, Poorly graded SAND (SP), fine to medium grained, moist	
		SS	SS3	5 5 4	10	19				
				4					Light brown, Poorly graded SAND (SP), fine to medium grained, wet ▽	
		SS	SS4	4 5 3	9	18				
45				2					45.0 8.0 Light brown, Poorly graded SAND with Silt (SP-SM), fine grained, wet	*%G=0.0 %S=92.1 %F=7.9*
		SS	SS5	2 2 2	4	16				
	10			4					Similar to SS5, wet	*Driller switched to drive and wash*
		SS	SS6	3 3 2	6	13				
40										
	15			2					38.0 15.0 Light brown, Silty SAND (SM), fine grained, little fines, wet	*%G=0.0 %S=76.1 %F=23.9*
		SS	SS7	2 1 2	3	10				
35										
	20			2					No Recovery	
		SS	SS8	2 2 2	4	0				
30										
	25									
		SS	SS9	3	6	21			Similar to SS7, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-109

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
		SS	SS9	3 3 6	6	21				
25										
	30	SS	SS10	2 3 2 3	5	23			Light brown, Silty SAND (SM), fine grained, little fines, wet	
20										
	35	SS	SS11	WOR 3 4 6	7	18			Similar to SS10, wet	
15										
	40	SS	SS12	8 8 9 10	17	12		12.6	SS12A - Top 5" Similar to SS10, wet 40.4 SS12B - Brown, Poorly graded GRAVEL with Silt and Sand (GP-GM), some coarse to fine sand, few fines, wet	*%G=45.3 %S=44.6 %F=10.1*
10								8.0	45.0	
	45	SS	SS13	6 5 6 8	11	14		6.7	SS13A - Top 15.6" Brown, Well-graded SAND (SW), fine to coarse grained, trace fine grained subrounded to round gravel, wet 46.3 SS13B - Bottom 8.4" Light brown, Poorly graded SAND (SP), fine grained, wet	
5										
	50	SS	SS14	11 10 8 9	18	16		3.0	50.0 Brown, Well-graded SAND (SW), fine to coarse grained, trace fine grained round to subrounded gravel, wet	*Driller attempted to drill open hole with the use of drilling mud but unsuccessful*
0										
	55	SS	SS15	11	21	15			Similar to SS14, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-109

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
			SS15	11 10 9	21	15				
-5										
	60		SS16	4 5 6 11	11	12			-7.0 60.0 Brown, Poorly graded SAND (SP), fine grained, trace non-plastic fines, wet	*Running sands, SPT may have been influenced*
-10										
	65		SS17	12 15 23 23	38	10			Similar to SS16, wet	*Drove 4" casing to 64' then drove 3"*
-15										
	70		SS18	4 5 5 12	10				-17.0 70.0 Brown Silty SAND (SM), fine grained, little non-plastic fines, wet	*%G=0.0 %S=53.4 %F=46.6* *Running sands*
-20										
	75		SS19	7 9 16 16	25	14			Similar to SS18, wet	
-25										
	80		SS20	10 12 16 22	28	12			Similar to SS18, wet	
-30										
	85		SS21	11 10 16	26	20			Top 19" Brown Silty SAND (SM), fine grained, little non-plastic fines, wet -33.6 86.6	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-109

Sheet 4 of 4

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
				23					Bottom 1" Orange, Poorly graded SAND with Silt (SP-SM), fine to medium grained, trace non-plastic fines, wet	
-35									-36.0 89.0	
		SS	22	10 65/5"	65/5"	5			Dark gray, Silty SAND (SM), fine grained, decomposed rock, little non-plastic fines, wet -36.9 89.9	
	90								Probable Boulder	
		C	1	RQD = 58.3%		20			-39.8 92.8	
-40									Medium strong to strong, fresh to slightly weathered, moderately to highly fractured, dark blueish gray, SANDSTONE, fine to medium grained	
		C	2	RQD = 0%		12			Core Times (min/ft): 2:05, 0:34, 2:58, 8:56	
	95									*Core barrel jammed @ 96.5'*
									Similar to C1, thin carboniferous schist interbedding	
-45									Core Times (min/ft): 11:59, 4:03, 0:22, 4:36, 4:39	
		C	3	RQD = 0%		22				*Mechanical fractures over C2, C3*
	100									*Poor water return*
									-48.5 101.5	
									Boring Terminated at 101.5 ft bgs	
-50										
-55										
-60										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-110

Date(s) Drilled	June 1 to 3, 2022	Logged By	E.daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" & 5" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	100.0´ bgs
Drill Rig Type	Diedrich D120 Truck-Mounted	Drilling Contractor	New England Boring Company	Surface Elevation	52.5 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand, Bentonite	Sampling Method(s)	2" split spoon, 3" spit spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 244839 E 333229 (ft)	Groundwater Level(s)	Measured @ 7' on June 2, 7.3' on June 3		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
52.5	0.0								6" TOPSOIL	
52.0	0.5	SS	SS1	6 12 11 22	23	20			Light brown, Silty SAND (SM), fine to medium grained, little non-plastic fines, trace fine to coarse grained subangular gravel, dry [FILL]	
50		SS	SS2	39 25 29 27	54	20			Light brown, Silty SAND (SM), fine to coarse grained, little non-plastics, trace fine to coarse gravel, dry [FILL]	*Gravel stuck in tip*
5		SS	SS3	13 12 5 3	17	7			Gray, Silty SAND (SM), fine to coarse grained, little non-plastic fines, trace fine to coarse subangular gravel, dry [FILL]	
46.0	6.5	SS	SS4	3 1 1 WH	2	11			SS4A Top 6" - Dark brown, Silty SAND with Gravel (SM), fine to medium grained, little non-plastic fines, little fine to coarse gravel, dry [FILL]	*WC=24.6% %G=21.6 %S=51.8 %M=24.6 %C=2.0*
45									SS4B - Yellowish brown, Sandy SILT (ML), some fine to medium sand, wet	*SS4B: WC= 27.1% %G = 4.4 %S = 45.6 %M =48.0 %C = 2.0*
44.5	8.0	SS	SS5	5 7 8 6	15	8			Light brown, Well-graded SAND with Silt (SW-SM), few non-plastic fines, few fine subrounded gravel, wet	
10										
40										
39.5	13.0	SS	SS6	3 2 4 4	6	0			Light brown, Well-graded SAND with gravel (SW), little fine to coarse subrounded gravel, trace non-plastic fines, wet	*Gravel stuck in tip, drove 3" spoon*
15										
35										
		SS	SS7	3 2 3 4	5	11			Light brown, Well-graded SAND (SW), fine to coarse grained, trace non-plastic fines, wet	
20										
30										
29.5	23.0	SS	SS8	1 2 1 4	3	8			Light brown, Poorly graded SAND (SP), fine grained, trace fine subrounded gravel, wet	
25										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-110

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
25									24.5 — 28.0	
	30	SS	SS9	2 2 3 4	5	12			Grayish brown, Poorly graded SAND with Silt (SP-SM), fine grained, few non-plastic fines, wet	*%G=1.2 %S=87.4 %F=11.4*
20		SS	SS10	3 4 5 4	9	15			Similar to SS9, wet	
	35									
15		SS	SS11	2 3 4 4	7	18			Similar to SS9, wet	
	40									*Stopped driving 5" casing, switched to 4" casing*
10		SS	SS12	1 2 3 5	5	17			Similar to SS9, wet	
	45									
5									4.5 — 48.0	
	50	SS	SS13	3 2 6 7	8	14			Light brown, Poorly graded SAND (SP), trace non-plastic fines, wet	*Drill bit grinding*
0									0.5 — 53.0	
	55	SS	SS14	21 18 10 9	28	8			Olive brown, Silty GRAVEL with Sand (GM), fine to coarse grained, little sand and non-plastic fines, wet	*%G=58.7 %S=21.9 %M=18.4 %C=1.0 %F=19.4*

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-110

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-5									-5.5 58.0 Gray, Well-graded SAND (SW), fine to coarse grained, trace non-plastic fines, wet	
	60	SS	SS15	11 8 8 5	16	5				
-10									Similar to SS15, wet	
	65	SS	SS16	7 9 13 17	22	20				
-15									-16.3 Gray, Well-graded SAND (SW), fine to coarse grained, trace non-plastic fines, wet 68.8 Light brown Poorly graded SAND (SP), fine grained, wet	
	70	SS	SS17	6 7 11 13	18	18				
-20									-20.5 73.0 Light brown, Silty SAND (SM), fine to coarse grained, little non-plastic fines, wet	
	75	SS	SS19	4 5 8 10	13	5				
-25									Light yellowish brown, Silty SAND (SM), fine to coarse grained, little non-plastic fines, wet	*%G=0.0 %S=78.9 %F=21.1*
	80	SS	SS20	4 7 8 11	15	13				
-30									Similar to SS19, wet	
	85	SS	SS21	3 5 7 8	12	23				

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring B-110

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-35									35.5 — 88.0	
		SS22		27 60/2"	60/2"	8			Gray, Silty SAND (SM), fine to medium grained, possible decomposed rock, moist [RESIDUUM]	
	90								37.5 — 90.0 Medium strong, fresh to slightly weathered, slightly fractured, light grayish blue, SANDSTONE, fine to coarse grained, wide discontinuities Core Times (min/ft): 2:45, 2:26, 1:20, 0:37, 1:31	
-40			C1	RQD = 37.5%		27				*Probable sand seam, mechanic fractures, poor water return*
	95								Medium strong to strong, fresh, sections of highly weathered rock, slightly fractured, Dark grayish blue, SANDSTONE, fine to coarse grained Core Times (min/ft): 3:38, 3:03, 2:07, 1:18, 2:02	*Poor water return, probable sand seam or completely weathered rock*
-45			C2	RQD = 36%		30				
	100								47.5 — 100.0 Boring Terminated at 100 ft bgs	
-50										
-55										
-60										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-1

Sheet 1 of 5

Date(s) Drilled	June 16,17, 20-22, 2022	Logged By	M. Fasca, E.daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 3" to 5" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	123.0´ bgs
Drill Rig Type	Strata Star 5 track mounted, CME 75 truck mounted	Drilling Contractor	New England Boring Company	Surface Elevation	64.0 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand	Sampling Method(s)	2" split spoon, 3" spit spoon, Nx-sized core barrel	Hammer Data	140 lb. auto-hammer
Boring Location	N 243967 E 333171 (ft)	Groundwater Level(s)	Measured @ 14.3' on June 22		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
64.0	0.0								TOPSOIL	
63.0	1.0	SS	SS1	5 12 14 16	26	23			Light brown, Silty SAND with Gravel (SM), fine to coarse grained, little non plastic fines, few fine subangular gravel, dry	
		SS	SS2	9 10 10 11	20	17			Light brown Silty SAND (SM), medium to coarse grained, little non-plastic fines, trace fine subangular gravel, dry	
60	5	SS	SS3	6 7 6 8	13	21			Light brown, Silty SAND (SM), fine to medium grained, non-plastic fines, trace subangular gravel, dry	
		SS	SS4	8 8 12 11	20	18			Light brown, Silty SAND (SM), fine to medium grained, non-plastic fines, trace coarse gravel, dry	
56.0	8.0	SS	SS5	8 10 8 8	18	20			Brown, Poorly graded SAND with Silt (SP-SM), fine to coarse grained, few non-plastic fines, trace subangular gravel, dry	
55	10									
		SS	SS6	6 5 4 4	9	6			Dark brown, Poorly graded SAND with Silt (SP-SM), medium to fine, few non-plastic fines, few coarse gravel, wet ▽	*%G=7.2 %S=86.7 %F=6.1* *Used a 3" spoon*
50	15									
		SS	SS7	7 3 4 6	7	0			No Recovery	*No recovery using 3" spoon*
45	20									
41.0	23.0	SS	SS8	8 16 13 11	29	8			Brown, Poorly graded SAND with Gravel (SP), fine to coarse grained subangular gravel, trace non-plastic fines, wet	
40	25									

AECOM

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-1

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
35	30	SS9	16 12 15 48	27	4			Similar to SS8, wet	
								31.0 — 33.0	
30	35	SS10	31 28 26 18	54	8			Brown, Poorly graded GRAVEL with Silt and Sand (GP-GM), fine to coarse, little fine to coarse sand, few non-plasitc fines, wet	*%G=66.3 %S=26.2 %F=7.2*
								26.0 — 38.0	
25	40	SS11	16 11 12 33	23	9			Dark brown, Poorly graded SAND (SP), fine grained, trace non-plastic fines, wet	
20	45	SS12	13 15 15 18	30	3			Dark brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	
15	50	SS13	15 11 10 16	21	5			Brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	
10	55	SS14	12 14 17 24	31	12			Light brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-1

Elevation, feet	Depth, feet	Sample Type	Sample Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-5	60		SS15	28 6 5 12	11	5			Brown, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, trace fine subangular gravel, wet	
0	65		SS16	16 20 60 73	80	2			Similar to SS15, wet	
-5	70		SS17	7 6 8 11	14	5			Brown, Poorly graded SAND (SP), fine to medium grained, trace non-plastic fines, wet	
									-9.0 / 73.0	
-10	75		SS18	10 9 12 14	21	0			Light brown, Silty SAND (SM), medium to fine, few non-plastic fines, wet	*%G=1.7 %S=85.9 %F=12.4*
										No recovery with 2" spoon so sampled with 3" spoon
-15	80		SS19	13 13 16 22	29	0			No recovery	*No recovery with 2" spoon and 3" spoon*
									-19.0 / 83.0	
-20	85		SS20	11 18 21 21	39	12			Light brown, Poorly graded SAND (SP), fine to coarse grained, trace fine to coarse gravel, wet	

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-1

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-25	90	SS21	14 13 16 17	29	11			Gray, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, wet	*Washed down to 90', Running sands, Telescoping 3" casing*
-30	95	SS22	34 25 24 29	49	11			Light brown, Poorly graded SAND (SP), fine to coarse grained, few gravel, wet	
								-34.0 / 98.0	
-35	100	SS23	33 25 20 18	45	6			Light brown, Silty GRAVEL (GM), trace fine to coarse grained sand, wet	
-40	105	SS24	45 67 70/4"	70/4"	0			No recovery	*Drill rig chatter*
-45	110	SS25	35 27 17 20	44	6			Dark reddish brown, Silty GRAVEL (GM), trace fine to medium grained sand, wet	
								-49.0 / 113.0	
-50	115	SS26	45 70 50/2"	50/2"				Dark gray, Residual Soil as Silty SAND (SM), decomposed rock, wet	*Water return color change to a dark gray*

Project: RIDOT Bridge Group 51B

Project Location: Cranston, RI

Project Number: 60680132

Log of Test Boring RW-1

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
-55		SS	SS27	30 35 60/1"	60/1"	11			Similar to SS26, wet	
									-56.0	
	120	SS	SS28	60/1"	60/1"	1			Dark gray/black residual soil	
		C	C1	RQD = 0%	0	0				*Attempted to core from 121 to 123', no water return, no recovery. Trace material in cutter is Residual Soil*
									-59.0	
-60									Boring Terminated at 123 ft bgs	
-65										
-70										
-75										
-80										

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-2

Sheet 1 of 3

Date(s) Drilled	October 11, 12, 2022	Logged By	R. Munschauer	Checked By	K. Scancarello
Drilling Method	Drive and Wash 4" steel casing	Drill Bit Size/Type	Roller bits	Total Depth of Borehole	60.0´ bgs
Drill Rig Type	Diedrich D120	Drilling Contractor	New England Boring	Surface Elevation	56.5 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand	Sampling Method(s)	2" split spoon, 3" spit spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 244078 E 333155 (ft)	Groundwater Level(s)	Measured @ 11.2' on October 12		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
56.5	0.0								Dark brown, Sandy SILT with Gravel (ML), non-plastic, little fine to coarse sand, little fine to coarse subrounded to subangular gravel, dry [FILL]	
		SS	SS1	5 5 12 12	17	14				
									SS2A Top 13" - Similar to SS1, dry	
		SS	SS2	7 5 6 15	11	19				
53.4	3.1								SS2B Bottom 6" - Brown to gray, Silty SAND (SM), fine to coarse grained, some non-plastic fines, trace fine to coarse subangular gravel, dry	
		SS	SS3	14 22 21 16	43	16				
									SS4A Top 10" - Brown, Silty SAND (SM), fine to coarse grained, some non-plastic fines, dry	
49.7	6.8	SS	SS4	9 7 5 5	12	15			SS4B Bottom 5" - Brown, Sandy SILT (ML), non-plastic, some fine sand, dry	*%G=7.0 %S=28.1 %M=60.0 %C=5.0*
48.5	8.0	SS	SS5	WOR WOR WOH 2	0	12			Dark brown, ORGANIC SILT (OH), medium plasticity, little Peat, few fine to medium sand, wet	*LL=57.0 PL=42.0 PI=15.0 %G=2.1 %S=12.1 %M=75.0 %C=11.0 %F=53.2 Organic Content = 9.1%*
43.5	13.0	SS	SS6	7 5 6 9	11	18			Light greenish brown, SILT with Sand (ML), non-plastic, little fine sand, trace organics, wet	
38.5	18.0	SS	SS7	12 12 14 11	26	0			Brown, Silty SAND with Gravel (SM), fine to coarse grained, little non-plastic fines, little fine to coarse subrounded to subangular gravel, wet	*No recovery with 2" SPT took additional sample via 3" SPT*
33.5	23.0	SS	SS8	4 4 6 7	10	9			Brown to light brown, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, some fine to coarse subrounded gravel, few non-plastic fines, wet	*%G=33.2 %S=56.0 %F=11.0*

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Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-2

Sheet 2 of 3

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
30									
		SS9	5 6 5 5	11	0			28.5 — 28.0 Brown to light brown, Well-Graded SAND with Gravel (SW), fine to coarse grained, little fine to coarse subrounded gravel, trace non-plastic fines, wet	*No recovery with 2" SPT took additional sample via 3" SPT*
	30								
25									
		SS10	4 4 6 5	10	12			Light brown, Well-Graded SAND (SW), fine to coarse grained, few fine subrounded to round gravel, trace non-lastic fines, wet	
	35								
20									
		SS11	18 16 10 8	26	11			SS11 Top 2" - Similar to SS10, wet SS11 Bottom 9"- Brown, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, little non-plastic fines, little fine to coarse angular to subangular gravel, wet	
	40								
15								13.5 — 43.0 Brown, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, little fine to coarse angular to subangular gravel, few non-plastic fines, wet	*%G=27.0 %S=65.2 %F=7.8* *SS12 had a piece of gravel wedge in shoe*
		SS12	6 5 6 8	11	12				
	45								
10								8.5 — 48.0 Grayish brown, Well-Graded SAND (SW), few fine to coarse subrounded to subangular gravel, trace non-plastic fines, wet	*No recovery with 2" SPT took additional sample via 3" SPT*
		SS13	8 5 7 7	12	0				
	50								
5									
		SS14	4 4 5 5	9	10			Similar to SS13, wet	
	55								

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-2

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
0									
		SS15	4 3 4 4	7	7			Brown, Well-Graded SAND (SW), few fine to coarse subrounded gravel, few fines, wet	
								-3.5	
60								60.0 Boring Terminated at 60 ft bgs	
-5									
-10									
-15									
-20									
-25									
-30									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-3

Sheet 1 of 3

Date(s) Drilled	June 10, 2022	Logged By	E.daSilva	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	62.0´ bgs
Drill Rig Type	GTech GT8	Drilling Contractor	New England Boring Company	Surface Elevation	57.2 ft NAVD88
Borehole Backfill	Soil Cuttings	Sampling Method(s)	2" split spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 244,240.8627 E 333,358.3907	Groundwater Level(s)	Measured @ 13' taken on June 10, 2022		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resist. Blows/6" OR CORE% RQD	Recovery, inches	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	REMARKS AND OTHER DETAILS
	0							57.2 / 0.0		
								56.7 / 0.5 Top 6" Light brown, Silty SAND with Gravel (SM), trace organics, dry		
			SS1	4 12 9 12	19			Light brown, Poorly graded SAND (SP), fine to coarse grained, trace non-plastic fines, trace gravel, dry		
55			SS2	18 18 12 15	16			Light brown, Poorly graded SAND (SP), fine to medium grained, dry		
	5		SS3	17 15 17 13	20			Similar to SS2, trace fine to coarse gravel, dry		*Used safety hammer first 10'*
50			SS4	9 13 9 10	16			Similar to SS2, dry		
			SS5	8 8 9 6	12			Similar to SS2, trace fine to coarse gravel, dry		
	10		SS6	3 4 9 12	10			Light brown, Poorly graded SAND (SP), fine to medium grained, trace fine gravel, dry		
45								▽		
	15		SS7	3 4 4 4	7			42.2 / 15.0 Light brown, Poorly graded SAND with Silt (SP-SM), fine to coarse grained, few non-plastic fines, trace gravel, wet		*%G=1.5 %S=92.3 %F=7.2*
40										
	20		SS8	3 4 4 5	11			37.2 / 20.0 Light brown, Poorly graded SAND (SP), fine to coarse grained, wet		
35										
	25		SS9	4	7			Similar to SS8, wet		

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Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-3

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resist. Blows/6" OR CORE% RQD	Recovery, inches	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	REMARKS AND OTHER DETAILS
		SS	SS9	5 6 6	7					
30	30	SS	SS10	4 5 5 6	11			27.2 — 30.0 Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet		*%G=0 %S=84.5 %F=15.5*
25	35	SS	SS11	5 6 7 8	17			Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet		
20	40	SS	SS12	5 6 8 7	12			Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet		
15	45	SS	SS13	1 3 4 5	14			Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet		
10	50	SS	SS14	3 5 5 6	14			Similar to SS13, wet		
5	55	SS	SS15	3	14			Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet		*%G=0 %S=71.6 %F=28.4*

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-3

Sheet 3 of 3

Elevation, feet	Depth, feet	SAMPLES Type Number	Sampling Resist. Blows/6" OR CORE% RQD	Recovery, inches	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	REMARKS AND OTHER DETAILS
0		SS15	4 4 6	14					
	60	SS16	6 7 8 10	11			Light brown, Silty SAND (SM), fine grained, little non-plastic fines, wet -4.8 62.0 Boring Terminated at 62´ bgs		
-5									
-10									
-15									
-20									
-25									

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Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-4

Sheet 1 of 3

Date(s) Drilled	June 8, 10, 2022	Logged By	R. Munschauer	Checked By	K. Scancarello
Drilling Method	Drive and Wash with 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	60.0´ bgs
Drill Rig Type	Strata Star 5 Track mounted	Drilling Contractor	New England Boring Company	Surface Elevation	57.1 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand	Sampling Method(s)	2" split spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 244328 E 333366 (ft)	Groundwater Level(s)	Undetermined		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
57.1	0.0								
56.9	0.2								2" TOPSOIL	*Took extra 3" SPT 0-2 for environmental samples*
56.1	1.0	SS	SS1	6 10 13 10	23	20			SS1A - Top 10" Dark brown, Silty SAND with Gravel (SM), fine to coarse grained, little non-plastic fines, little coarse gravel [FILL]	
55	2.0	SS	SS2	16 20 21 20	41	20			SS1B - Bottom 8" Light brown, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few fine to coarse round to subrounded gravel, few non-plastic fines	
	5	SS	SS3	9 12 9 8	21	20			Light brown, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few fine to coarse round to subrounded gravel, few non-plastic fines	
50		SS	SS4	5 5 5 7	10	23			Light brown, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few non-plastic fines, trace fine to coarse round subrounded gravel	*%G=0.6 %S=87.6 %F=11.8*
		SS	SS5	10 8 13 9	21	17			Similar to SS3	
	10									*Switched to drive and wash*
45										
43.6	13.5	SS	SS6	23 30 33 28	63	19			Brown, Well-graded SAND with Gravel (SW), fine to coarse grained, little subrounded fine to coarse gravel	
	15									
40										
39.1	18.0	SS	SS7	6 10 4 6	14	7			Brown, Poorly graded SAND with Gravel (SP), medium to coarse grained, little, fine to coarse subrounded gravel	
	20									
35										
		SS	SS8	13 8 8 8	16	6			Similar to SS7	
	25									
31.1	26.0									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-4

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
30									Brown, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, little fine subrounded to round gravel, few non-plastic fines	
		SS	SS9	6 17 7 9	24	4				
	30									
25										
		SS	SS10	16 8 8 13	16	7			Brown, Poorly graded SAND with Silt and Gravel (SP-SM), fine to coarse grained, little fine subrounded to round gravel, few non-plastic fines	*%G=22.8 %S=69.3 %F=7.9*
	35									*Driller added mud to help with wash out*
20										
		SS	SS11	9 15 11 11	26	7			Brown, Poorly graded SAND with Silt and Gravel (SP-SM), medium to coarse grained, little fine to coarse gravel, few non-plastic fines	
	40									
15										
		SS	SS12	8 7 8 9	15	20			Brown, Poorly graded SAND with Silt (SP-SM), fine to medium grained, few non-plastic fines, trace subrounded gravel (13.4 – 43.7) Brown, SILT with Sand (ML), non-plastic, little fine sand	
	45									
10										
		SS	SS13	10 5 6 15	11	16			Brown, SILT with Sand (ML), non-plastic, little fine sand	*%G=0.0 %S=19.0 %M=81.0 %C=0.0*
	50									
5										
		SS	SS14	8 10 9 10	19	15			Brown, SILT with Sand (ML), non-plastic, little fine sand	
	55									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring RW-4

Elevation, feet	Depth, feet	SAMPLES Type Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
0									
		SS15	15 13 11 22	24	20			Brown, SILT with Sand (ML), non-plastic, little fine sand	
								-2.9 60.0	
	60							Boring Terminated at 60 ft bgs	
-5									
-10									
-15									
-20									
-25									

Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring SB-6

Sheet 1 of 1

Date(s) Drilled	October 13, 2022	Logged By	R. Munschauer	Checked By	K. Scancarello
Drilling Method	Drive and Wash 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	16.5′ bgs
Drill Rig Type	Diedrich D120	Drilling Contractor	New England Boring	Surface Elevation	297.6 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand	Sampling Method(s)	2" split spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 255596 E 327116 (ft)	Groundwater Level(s)	Measured @ 9' on October 13		

Elevation, feet	Depth, feet	Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
297.6	0.0									
	0	SS	SS1	5 9 12 31	21	18			SS1 Top 8"- Dark brown, Silty SAND (SM), fine to coarse grained, some fines, few fine subrounded gravel	*Took 3" SPT from 0-2*
296.9	0.7								Bottom 10" - Light yellow/Brown, Sand SILT with Gravel (ML), non-plastic fines, some fine to coarse sand, little fine to coarse subangular gravel, moist	
295		SS	SS2	20 34 34 30	68	21			Similar to SS1 Bottom 10"	
		SS	SS3	10 60/4"	60/4"	9			Light yellow/brown, Silt with Sand (ML), non-plastic fines, little fine to medium sand, trace fine angular gravel, dry	*%G=2.1 %S=40.5 %M=45.4 %C=12*
	5									*@6' Obstruction prevented SPT at interval, probable boulder*
290		SS	SS4	40 39 36 26	75	15			Light yellow/brown, Sandy SILT with Gravel (ML), non-plastic fines, some fine to coarse sand, little fine to coarse angular to subangular gravel, moist ▽	
	10									
285		SS	SS5	50/3"	50/3"	2				
284.6	13.0								Light gray, Saprolite as SILT with Gravel, non-plastic fines, little fine to coarse sand, moist	*Driller noted increase in resistance*
283.1	14.5								C-1 - Top 10" Saprolite C-1 - Bottom 14" Very weak to med strong, slightly weathered GRANITE [Scituate], medium to coarse grained	
	15	C	C1	RQD = 0/24		14				
281.1	16.5								Boring Terminated at 16.5 ft bgs	
280										
275										

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Project: RIDOT Bridge Group 51B
Project Location: Cranston, RI
Project Number: 60680132

Log of Test Boring SB-9

Sheet 1 of 1

Date(s) Drilled	October 13, 2022	Logged By	R. Munschauer	Checked By	K. Scancarello
Drilling Method	Drive and Wash 4" steel casing	Drill Bit Size/Type	Roller bits, Nx-sized core barrel	Total Depth of Borehole	12.0′ bgs
Drill Rig Type	Diedrich D120	Drilling Contractor	New England Boring	Surface Elevation	290.4 ft NAVD88
Borehole Backfill	Soil Cuttings, Bagged Sand, Asphalt cold patch	Sampling Method(s)	2" split spoon	Hammer Data	140 lb auto-hammer
Boring Location	N 266216 E 325556 (ft)	Groundwater Level(s)	Measured @ 9.5' on October 13		

Elevation, feet	Depth, feet	SAMPLES Type	Number	SPT Blows/6 in.	SPT N-Value (Uncorrected)	Recovery, in	PP and TV (tsf)	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER DETAILS
290	0								290.4 0.0 ASPHALT	
									289.7 0.7	
		SS	SS1	14 50/3"	50/3"	7			289.5 0.9 SS1 Top 3" - Light gray, Well-graded SAND (SW), fine to coarse grained, few fine subangular gravel [FILL]	*Took 3" SPT 1-3*
									SS1 Bottom 4" - Grayish brown to light brown, Well-graded SAND with Gravel and Silt (SW-SM), fine to coarse grained, little fine to coarse angular subrounded gravel, few fines	*Obstruction at 2' rolled down to 6'*
285	5									
		SS	SS2	6 8 8 32	16	11			SS2 Top 9" - Similar to above, Light brown 283.4 7.0 SS2 Bottom 2" - Light yellow/brown, Well-graded GRAVEL with Silt and Sand (GW-GM), fine to coarse gravel, little fine to coarse sand, few non-plastic fines 282.4 8.0	*%G=22.9 %S=67.2 %F=9.9*
		SS	SS3	30 18 50/3"	50/3"	9			Brown, Well-graded SAND with Silt and Gravel (SW-SM), fine to coarse grained, little fine to coarse angular to subrounded gravel, few non-plastic fines 281.1 9.3 ▽	
280	10								Very strong, fresh, light gray, GABBRO [Scituate], fine to medium grained Core times (min/ft): 3:75, 4:00 278.4 12.0	*Roller to 10' to start core*
		C	C1	RQD = 26/26		26			Boring Terminated at 12 ft bgs	
275										
270										
265										

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