

SM 282 E 12/02

PSN BORNUM FHB-13
DIVISION Syracuse
COUNTY Onondaga
PIN S52886
ROUTE Thruway Mainline
MILEPOST 278.93
PROJECT Syracuse Division 2017 Design-Build Bridge Replacements



NEW YORK STATE THRUWAY AUTHORITY
NEW YORK STATE CANAL CORPORATION
SUBSURFACE EXPLORATION LOG



HOLE FH-B
LINE
STA
OFFSET ft
SURF. ELEV. 421.4323, NAD 88
DEPTH TO WATER 9.6

COORDINATES (Lat) 43.092974°N (Long) 76.089867°W
DATE START 12/21/2016 DATE FINISH 12/22/2016

AUGER 4 1/4" I.D. HOLLOW STEM FLIGHT AUGER WT OF HAMMER-CASING lb HAMMER FALL-CASING in
CASING O. D. in I. D. in WT OF HAMMER-SAMPLER 140 lb HAMMER FALL-SAMPLER 30 in
SAMPLER O. D. 2 in I. D. 1-3/8 in HAMMER TYPE Safety

CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)				MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0 6	6 12	12 18	18 24				
	0.0									-
		SS1	9	6	4	8	12.7%	12		3.0-3.4' Dark gray (SAND-SILT-CLAY) fill with 0 to 3% S - NPL gravel, little sand and clay, very stiff, massive soil structure, (ML-CL). 3.4-5.0' Brown gravelly (SILTY-SAND) fill with 20 to 40% gravel, little silt, compact, massive soil structure, (SM).
	5.0									
		SS2	3	1/12			14.4%	6		Brown (SAND-SILT-CLAY) fill with 3 to 7% gravel, little to S - LPL some sand, trace clay, very soft, massive soil structure, (ML-CL).
	10.0					WH				
		SS3	10	13	21	25	9.9%	24		Brown (SANDY-SILT) fill with 3 to 7% gravel, little mostly W - NPL very fine to fine size sand, trace clay, dense, massive soil structure, (ML). Note: Driller noted change much harder below 16.0 feet.
	15.0									
		SS4	64	50/5			11.7%	11		Gray to reddish brown very weathered shale stone W - NPL fragments, very soft to soft.
	20.0									
		SS5	39	50/4			13.7%	10		Reddish brown gravelly (SANDY-SILT) with 10 to 20% M - LPL gravel and flat sided stone fragments, little sand, trace clay, very dense, massive soil structure, (ML) tending toward (ML-CL).
	25.0									

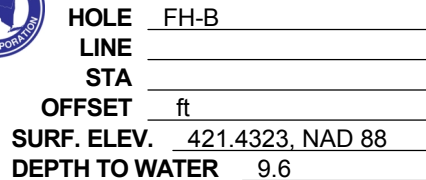
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DRILL RIG OPERATOR Andrew Kempisty
SOIL & ROCK DESCRIPTION Kyle Shearing
INSPECTOR Joe Dorety (Fisher)
BIN 5510090
STRUCTURE NAME Int. 35 Ramp/Thruway

CONTRACT CONTRACTOR Earth Dimensions, Inc.

SHEET 1 OF 3 HOLE FH-B

PSN	BORNUM FHB-13
DIVISION	Syracuse
COUNTY	Onondaga
PIN	S52886
ROUTE	Thruway Mainline
MILEPOST	278.93
PROJECT	Syracuse Division 2017 Design



(Lat) 43.092974°N (Long) 76.089867°W

12/21/2016

12/22/2016

HAMMER FALL-CASING

HAMMER FALL-SAMPLER 30

HAMMER TYPE Safety

CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)				MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0 6	6 12	12 18	18 24				
25.0										-
		SS6	100/5				14.3%	5		Gray weathered shale stone fragments, very soft to soft. W - NPL
30.0										-
		SS7	100/4				19.4%	4		33.0-33.4' Gray weathered shale and siltstone stone fragments, very soft to soft.
		RUN1							2.9	-
35.0										Note: Switched boring method to coring with a NQ-2 size double tubed wireline core barrel with diamond bit.
										Run #1: NQ-2 size diamond core barrel 33.4-38.3'
										Reddish brown to gray shale with occasional thin gypsum interbeds/seams, very soft to soft, clay, very fine, smooth, thinly to thickly laminated, very intensely fractured horizontally along bedding planes with some gravel like zones, core pieces range from (0.01-0.43') slightly weathered, driller noted about a 6" drop ~3.0-ft into the run, possible void, slightly pitted.
		RUN2							5	-
40.0										Recovery: 2.9'/4.9' = 59%
										RQD: 0.4'/4.9' = 8%
										Number of Pieces >4": 1
										Number of Pieces total: >50
										Run #2: NQ-2 size diamond core barrel 38.3-43.3'
										Reddish brown to gray shale with occasional thin gypsum interbeds/seams, soft, clay, very fine, smooth, thinly to thickly laminated, moderately fractured horizontally along

Recovery: 5.0'/5.0' = 100%
 RQD: 3.5'/5.0' = 70%
 Number of Pieces >4": 4
 Number of Pieces total: 11

BOTTOM OF HOLE AT 43.30 ft

Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with 5.0-foot interval sampling to 33.0 feet. Continued below with a NQ-2 size double tubed wireline core barrel with diamond bit to end of coring at 43.3 feet. Bore hole was backfilled with cuttings to ground surface upon completion.

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Int. 35 Ramp/Thruway

SHEET 2 OF 3

HOLE FH-B

SM 282 E 12/02

PSN _____ BORNUM FHB-13
DIVISION Syracuse
COUNTY Onondaga
PIN S52886
ROUTE Thruway Mainline
MILEPOST 278.93
PROJECT Syracuse Division 2017 Design-Build Bridge Replacements



NEW YORK STATE THRUWAY AUTHORITY
NEW YORK STATE CANAL CORPORATION
SUBSURFACE EXPLORATION LOG



HOLE FH-B
LINE _____
STA _____
OFFSET ft
SURF. ELEV. 421.4323, NAD 88
DEPTH TO WATER 9.6

COORDINATES (Lat) 43.092974°N (Long) 76.089867°W
DATE START 12/21/2016 DATE FINISH 12/22/2016

AUGER 4 1/4" I.D. HOLLOW STEM FLIGHT AUGER WT OF HAMMER-CASING _____ lb HAMMER FALL-CASING _____ in
CASING O. D. _____ in I. D. _____ in WT OF HAMMER-SAMPLER 140 lb HAMMER FALL-SAMPLER 30 in
SAMPLER O. D. 2 in I. D. 1-3/8 in HAMMER TYPE Safety

CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)					MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0	6	12	18					
			6	12	18	24					

DATE	TIME	DEPTH (ft.)			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Dec-16	16:00	30.00	30.00	NONE	NO	No
22-Dec-16	09:00	30.00	30.00	9.60	NO	No
22-Dec-16	11:45	43.30	33.00	8.00	NO	No

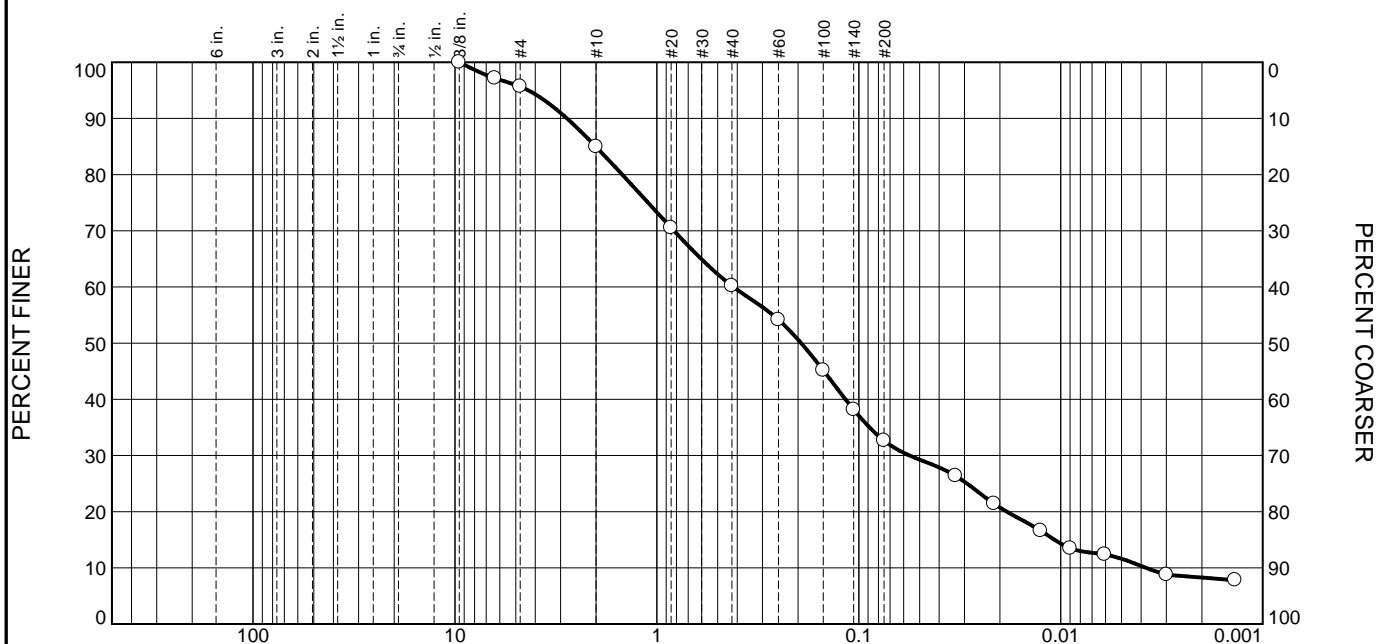
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DRILL RIG OPERATOR Andrew Kempisty
SOIL & ROCK DESCRIPTION Kyle Shearing
INSPECTOR Joe Dorety (Fisher)
BIN 5510090
STRUCTURE NAME Int. 35 Ramp/Thruway

CONTRACT _____ CONTRACTOR Earth Dimensions, Inc.

SHEET 3 OF 3 HOLE FH-B

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.3	10.8	24.7	27.6	21.0	11.6

TEST RESULTS (D422)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.375"	100.0		
.25	97.1		
#4	95.7		
#10	84.9		
#20	70.5		
#40	60.2		
#60	54.2		
#100	45.2		
#140	38.2		
#200	32.6		
0.0332 mm.	26.4		
0.0214 mm.	21.4		
0.0126 mm.	16.6		
0.0090 mm.	13.5		
0.0061 mm.	12.4		
0.0030 mm.	8.8		
0.0014 mm.	7.8		

* (no specification provided)

Material Description		
ID#17-063		
Atterberg Limits (ASTM D 4318)		
PL=	LL=	PI=
Classification		
USCS (D 2487)=	AASHTO (M 145)=	
Coefficients		
D ₉₀ = 2.7884	D ₈₅ = 2.0085	D ₆₀ = 0.4179
D ₅₀ = 0.1929	D ₃₀ = 0.0561	D ₁₅ = 0.0107
D ₁₀ = 0.0038	C _u = 110.64	C _c = 2.00
Remarks		
Date Received: 2/9/17		Date Tested: 2/27/17
Tested By: ETC		
Checked By: JMA		
Title: LM		

Source of Sample: 6K16 & 7K16
Sample Number: FHB-13, SS2

Date Sampled:

3rd Rock, LLC

Client: Earth Dimensions, Inc.

Project: 6K16; 7K16

East Aurora, NY

Project No: 17-002

Figure

APPENDIX A
ROCK CORE EVALUATION SHEET

PSN _____
PIN 552886
BIN 5510090
Project Int. 35 Ramp/Thruway

Boring ID FHB-13
Surface Elevation _____
Depth From 33.4' to 43.3'
Number of Runs 2
Core Size NQ-2

Date Evaluated 12-22-16

Evaluator (s) Kyle Shearing

Top of Rock 28.0' (Depth) _____ (Elevation)

Top of Sound Rock 33.4' (Depth) _____ (Elevation)

Comments _____

RUN #1 Run Length 4.9

Depth Range: From 33.4' To 38.3'

RQD 0.4' (as measured) 8 %

Photo(s) _____

Rock Type Shale, with occasional thin gypsum interbeds/seams

Color Reddish brown to gray

Mineralogy, Grain Size, & Texture clay, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Very intensely fractured horizontally along bedding planes; with some gravel like zones

Size Range of Pieces 0.01 - 0.43'

Hardness Very soft to soft

Weathering Slightly weathered

Additional Comments Recovery: 2.9' or 59%

Driller noted about a 6" drop approximately 3.0 feet into the run

(possible void) Slightly pitted

Number of Pieces > 4" : 1

Page 1 of y Number of Pieces total: > 50

APPENDIX A
ROCK CORE EVALUATION SHEET (CONTINUED)

PSN _____ PIN 552886 Boring ID FHB-13

RUN # 2 Run Length 5.0' Depth Range: From 38.3' to 43.3'

RQD 3.5 (as measured) 70 % Photo(s) _____

Rock Type Shale, with occasional thin gypsum interbeds/seams

Color Reddish brown to gray

Mineralogy, Grain Size, & Texture Clay, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Moderately fractured horizontally along bedding planes

Size Range of Pieces 0.03-1.2'

Hardness Soft

Weathering Fresh core breaks

Additional Comments Recovery: 5.0' or 100%

Number of Pieces >4" : 4

Number of Pieces total : 11

RUN # _____ Run Length _____ Depth Range: From _____ to _____

RQD _____ (as measured) _____ % Photo(s) _____

Rock Type _____

Color _____

Mineralogy, Grain Size, & Texture _____

Bedding _____

Fractures _____

Size Range of Pieces _____

Hardness _____

Weathering _____

Additional Comments _____

EDI # K16
 NYSTA
 Stattec/Fisher
 MP-282.62
 Tully/Bear Trail creek
 FH-K16
 MP-278.93
 Tully/Im. 35 RAMP
 DN-B-13

Date	Boring	MP	Rtn	Depth	Length	Rec	Rec %	RQD	RQD %	# of core pieces greater than 4"
12-1-16	FH-K-16	282.62	1	68.8-73.8	5.0	1.8	36%	0	0	0
12-1-16	FH-K-16	282.62	2	73.8-78.8	5.0	2.4	48%	0	0	0
12-1-16	FH-K-16	282.62	3	78.8-83.8	5.0	2.8	56%	0	0	0
12-1-16	FH-K-16	282.62	4	83.8-88.8	5.0	3.3	66%	0.8	16%	2
12-22-16	DN-B-13	278.93	1	33.4-38.3	4.9	2.9	59%	0.4	8%	1
12-22-16	DN-B-13	278.93	2	38.3-43.3	5.0	5.0	100%	3.5	70%	4



SM 282 E 12/02

PSN _____ BORNUM FHB-14
DIVISION Syracuse
COUNTY Onondaga
PIN S52886
ROUTE Thruway Mainline
MILEPOST 278.93
PROJECT Syracuse Division 2017 Design-Build Bridge Replacements



NEW YORK STATE THRUWAY AUTHORITY
NEW YORK STATE CANAL CORPORATION
SUBSURFACE EXPLORATION LOG



HOLE LINE FH-B
STA _____
OFFSET ft
SURF. ELEV. 421.204, NAD 88
DEPTH TO WATER 7.7

COORDINATES (Lat) 43.092804°N (Long) 76.089615°W
DATE START 1/3/2017 DATE FINISH 1/3/2017

AUGER 4 1/4" I.D. HOLLOW STEM FLIGHT AUGER WT OF HAMMER-CASING lb HAMMER FALL-CASING in
CASING O. D. in I. D. in WT OF HAMMER-SAMPLER 140 lb HAMMER FALL-SAMPLER 30 in
SAMPLER O. D. 2 in I. D. 1-3/8 in HAMMER TYPE Safety

CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)				MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0 6	6 12	12 18	18 24				
	0.0									-
		SS1	6	6	7		10.5%	18		Brown (SANDY-SILT) fill with 3 to 7% gravel, little mostly M - NPL very fine to fine size sand, trace clay, compact, massive soil structure, (ML) tending toward (ML-CL).
	5.0									-
		SS2	1	11	39		12.6%	12		8.0-8.5' Brown (SILTY-SAND) fill with mostly very W to M - NPL fine to fine size sand, trace to little silt, very loose, massive soil structure, (SM). 8.5-9.0' Reddish brown (SANDY-SILT) with 5 to 10% gravel, little mostly very fine to fine size sand, compact, massive soil structure, (ML). 9.0-10.0' Bluish gray gravelly (SAND-SILT-CLAY) with 10 to 20% gravel, little sand and clay, very dense, massive soil structure, (ML-CL).
	10.0									
		SS3	42	41	50/5		12.6%	17		13.0-14.0' Gray very gravelly (CLAYEY-SILT) with 60 to M - LPL 80% mostly shale stone fragments, little clay, very dense, massive soil structure, (ML-CL). 14.0-15.0' Reddish brownvery gravelly (SAND-SILT-CLAY) with 40 to 60% mostly shale stone fragments, little clay, trace to little sand, very dense, massive soil structure, (ML-CL). Note: Auger refusal at 18.0 feet. Continued below with 10.0-ft NQ2 core barrel with impregnated diamond bit.
	15.0									
		RUN1							1.6	Run #1: NQ-2 size diamond core barrel 18.0-23.2' Gray to reddish brown shale, very soft to soft, sedimentary, very fine, smooth, thinly to thickly laminated, very intensely fractured, core pieces range from (0.01-0.25') moderately weathered with some areas completely weathered (saprolite). Recovery: 1.6'/5.2' = 31% RQD: 0' = 0% Number of Pieces >4": 0 Number of Pieces total: >50
	20.0									
		RUN2							2.8	Run #2: NQ-2 size diamond core barrel 23.2-28.2' Reddish brown to gray shale, very soft to soft, sedimentary, very fine, smooth, thinly to thickly laminated, intensely fractured horizontally along bedding planes with some
	25.0									

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DRILL RIG OPERATOR Andrew Kempisty
SOIL & ROCK DESCRIPTION Kyle Shearing
INSPECTOR Joe Dorety (Fisher)
BIN 5510090
STRUCTURE NAME Int. 35 Ramp/Thruway

TWY-CAN SUBSURF EXPLORATION 7K16_BIN-5510090-DRAFTS.GPJ TWYSE1TMPL_V05.GDT 3/31/17

SM 282 E 12/02

PSN _____ BORNUM FHB-14
DIVISION Syracuse
COUNTY Onondaga
PIN S52886
ROUTE Thruway Mainline
MILEPOST 278.93
PROJECT Syracuse Division 2017 Design-Build Bridge Replacements



NEW YORK STATE THRUWAY AUTHORITY
NEW YORK STATE CANAL CORPORATION
SUBSURFACE EXPLORATION LOG



HOLE FH-B
LINE _____
STA _____
OFFSET ft
SURF. ELEV. 421.204, NAD 88
DEPTH TO WATER 7.7

COORDINATES (Lat) 43.092804°N (Long) 76.089615°W
DATE START 1/3/2017 DATE FINISH 1/3/2017

AUGER 4 1/4" I.D. HOLLOW STEM FLIGHT AUGER WT OF HAMMER-CASING _____ lb HAMMER FALL-CASING _____ in
CASING O. D. _____ in I. D. _____ in WT OF HAMMER-SAMPLER 140 lb HAMMER FALL-SAMPLER 30 in
SAMPLER O. D. 2 in I. D. 1-3/8 in HAMMER TYPE Safety

CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)				MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0	6	12	18				
	25.0									vertical fractures, core pieces range from (0.01-0.35'), slightly weathered.
										Recovery: 2.8'/5' = 56% RQD: 0.35'/5' = 7% Number of Pieces >4": 1 Number of Pieces total: >100
		RUN3							4.5	Run #3: NQ-2 size diamond core barrel 28.2-33.2 - Gray shale, moderately soft, sedimentary, very fine, smooth, thinly to thickly laminated, moderately fractured horizontally along bedding planes with an occasional high angle fracture, fresh weathering.
	30.0									Recovery: 4.5'/5' = 90% RQD: 2.5'/5' = 50% Number of Pieces >4": 6 Number of Pieces total: 23

BOTTOM OF HOLE AT 33.20 ft

*Note:
Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with 5.0-foot interval sampling to 18.0 feet. Continued below with a NQ-2 size double tubed wireline core barrel with impregnated diamond bit to end of coring at 33.2 feet. Bore hole was backfilled with cuttings to ground surface upon completion.*

DATE	TIME	DEPTH (ft.)			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
03-Jan-17	13:00	33.20	18.00	7.70	NO	No

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DRILL RIG OPERATOR Andrew Kempisty
SOIL & ROCK DESCRIPTION Kyle Shearing
INSPECTOR Joe Dorety (Fisher)
BIN 5510090
STRUCTURE NAME Int. 35 Ramp/Thruway

CONTRACT _____ CONTRACTOR Earth Dimensions, Inc.

SHEET 2 OF 2 HOLE FH-B

TWY-CAN SUBSURF EXPLORATION 7K16_BIN-5510090-DRAFTS.GPJ TWYSE1TMPL_V05.GDT 3/31/17

APPENDIX A
ROCK CORE EVALUATION SHEET

PSN _____
PIN 552886
BIN 5510090
Project Int. 35 Ramp/Thruway

Boring ID FHB-14
Surface Elevation _____
Depth From 18.0' to 33.2'
Number of Runs 3
Core Size NQ-2

Date Evaluated 01-03-17

Evaluator (s) Kyle Shearing

Top of Rock 18.0' (Depth) _____ (Elevation)

Top of Sound Rock 28.2' (Depth) _____ (Elevation)

Comments _____

RUN #1 Run Length 5.2

Depth Range: From 18.0' To 23.2'

RQD 0 (as measured) 0 %

Photo(s) _____

Rock Type Shale

Color Gray to reddish brown

Mineralogy, Grain Size, & Texture Sedimentary, very fine, smooth

Bedding Thinly to thickly laminated

Fractures very intensely fractured

Size Range of Pieces 0.01-0.25'

Hardness Very soft to soft

Weathering Moderately weathered with some areas completely weathered (saprolite)

Additional Comments Recovery: 1.6' or 31%

Number of Pieces > 4": 0

Number of Pieces total: > 50

APPENDIX A
ROCK CORE EVALUATION SHEET (CONTINUED)

PSN _____ PIN 552886 Boring ID FHB-14

RUN # 2 Run Length _____ Depth Range: From 23.2' to 28.2'

RQD 0.35' (as measured) 7 % Photo(s) _____

Rock Type Shale

Color Reddish brown to gray

Mineralogy, Grain Size, & Texture Sedimentary, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Intensely fractured horizontally along bedding planes with some vertical fractures

Size Range of Pieces 0.01' - 0.35'

Hardness very soft to soft

Weathering Slightly weathered

Additional Comments Recovery 2.8' or 56%

Number of Pieces >4": 1

Number of Pieces total: >100

RUN # 3 Run Length 5.0' Depth Range: From 28.2' to 33.2'

RQD 2.5 (as measured) 50 % Photo(s) _____

Rock Type Shale

Color Gray

Mineralogy, Grain Size, & Texture Sedimentary very fine, smooth

Bedding Thinly to thickly laminated

Fractures Moderately fractured horizontally along bedding planes, with an occasional high angle fractured

Size Range of Pieces 0.03-0.55'

Hardness Moderately Soft

Weathering Fresh

Additional Comments Recovery: 4.5' or 90%

Number of Pieces >4": 6 Number of Pieces total: 23

7K16
NYSTA, Statrec/Fisher

Date	Boring	MP	Run	Depth	Length	RCC	%	RQD	# of Core Pieces
1-3-17	DN-B-14	278.93	1	18.0'-23.2'	5.2'	1.6	31%	0	0
1-3-17	DN-B-14	278.93	2	23.2'-28.2'	5.0'	2.8	56%	0.35	1
1-3-17	DN-B-14	278.93	3	28.2'-33.2'	5.0'	4.5	90%	2.55	6



SM 282 E 12/02

PSN _____ BORNUM FHB-15
DIVISION Syracuse
COUNTY Onondaga
PIN S52886
ROUTE Thruway Mainline
MILEPOST 278.93
PROJECT Syracuse Division 2017 Design-Build Bridge Replacements



NEW YORK STATE THRUWAY AUTHORITY
NEW YORK STATE CANAL CORPORATION
SUBSURFACE EXPLORATION LOG



HOLE LINE STA _____
FH-B

ft
SURF. ELEV. 421.5492, NAD 88
DEPTH TO WATER 3.0

COORDINATES (Lat) 43.092626°N (Long) 76.089574°W
DATE START 12/22/2016 DATE FINISH 12/23/2016

AUGER 4 1/4" I.D. HOLLOW STEM FLIGHT AUGER WT OF HAMMER-CASING _____ lb HAMMER FALL-CASING _____ in
CASING O. D. _____ in I. D. _____ in WT OF HAMMER-SAMPLER 140 lb HAMMER FALL-SAMPLER 30 in
SAMPLER O. D. 2 in I. D. 1-3/8 in HAMMER TYPE Safety

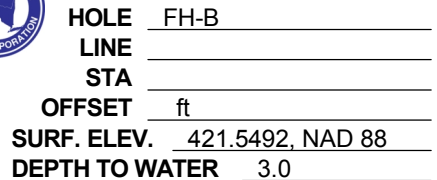
CASING BLOWS/ft	DEPTH (ft.) BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER (in.)				MOIST. CONT. (%)	Soil Recovery (in.)	Rock Recovery (ft.)	DESCRIPTION OF SOIL AND ROCK
			0 6	6 12	12 18	18 24				
	0.0									-
		SS1	5	5	5	4	12.7%	6		Brown gravelly (SILTY-SAND) fill with 20 to 40% gravel, little silt, loose, massive soil structure, (SM). S - NPL
	5.0									Note: Driller noticed change at 6.0 feet, drilling became harder.
		SS2	9	18	23	24	8.8%	18		Reddish brown (SANDY-SILT) with 5 to 10% gravel, little sand, trace clay, dense, massive soil structure, (ML) tending toward (ML-CL). M - LPL
	10.0									Note: Driller noted change at 12.0 feet, drilling became very hard.
		SS3	48	50/4			13.8%	8		Reddish brown gravelly (SANDY-SILT) with 15 to 30% mostly flat sided stone fragments, little sand, trace to little clay, very dense, massive soil structure, (ML) tending toward (ML-CL). M - LPL
	15.0									
		SS4	100/5				12.7%	5		Reddish brown to gray very weathered shale stone fragments, very soft to soft.
	20.0	RUN1							2.6	Run #1: NQ-2 size diamond core barrel 18.5-23.0' Gray to reddish brown shale, very soft to soft, clay, very fine, smooth, thinly to thickly laminated, very intensely to intensely fractured from 18.5-19.5', intensely fractured from 19.5-23.0', core pieces range from (0.02-0.33') slightly weathered to fresh, driller noticed drop from 20.5 to 21.0 feet, slightly pitted.
		RUN2							2.9	Recovery: 2.6'/4.5' = 58% RQD: 0' = 0% Number of Pieces >4": 0 Number of Pieces total: >30
	25.0									Run #2: NQ-2 size diamond core barrel 23.0-28.0'

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR Andrew Kempisty
SOIL & ROCK DESCRIPTION Kyle Shearing
INSPECTOR Joe Dorety (Fisher)
BIN 5510090
STRUCTURE NAME Int. 35 Ramp/Thruway

TWY-CAN SUBSURF EXPLORATION 7K16_BIN-5510090-DRAFTS.GPJ TWYSE1TMPL_V05.GDT 3/31/17

PSN	BORNUM FHB-15
DIVISION	Syracuse
COUNTY	Onondaga
PIN	S52886
ROUTE	Thruway Mainline
MILEPOST	278.93
PROJECT	Syracuse Division 2017 Desi



(Lat) 43.092626°N (Long) 76.089574°W

12/22/2016

12/23/2016

WT OF HAMMER-CASING

HAMMER FALL-CASING

140

HAMMER FALL-SAMPLER

in

TYP

HAMMER TYPE Safety

RQD: 3.2'/50.' = 64
Number of Pieces >4": 6
Number of Pieces total: 21

BOTTOM OF HOLE AT 33.00 ft

Advanced bore hole with 4 1/4" ID x 8" OD hollow stem auger casing with 5.0-foot interval sampling to 18.5 feet. Continued below with a NQ-2 size double tubed wireline core barrel with diamond bit to end of coring at 33.0 feet. Bore hole was backfilled with cuttings to ground surface upon completion.

DATE	TIME	DEPTH (ft.)			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
22-Dec-16	14:00	3.00	3.00	3.00	NO	No
22-Dec-16	16:00	18.50	18.50	9.50	NO	No
23-Dec-16	07:30	18.50	18.50	8.60	NO	No
23-Dec-16	10:15	33.00	18.50	8.60	NO	No

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

SOIL & ROCK DESCRIPTION Kyle Shearing

BIN 5510090

Int. 35 Ramp/Thruway

CONTRACT **CONTRACTOR** Earth Dimensions, Inc.

SHEET 2 OF 2

HOLE FH-B

APPENDIX A
ROCK CORE EVALUATION SHEET

PSN _____
PIN 5528866
BIN 5510090
Project Int. 35 Ramp/Thruway

Boring ID FHB-15
Surface Elevation _____
Depth From 18.5' to 33.0'
Number of Runs 3
Core Size NQ-2

Date Evaluated 12-23-16

Evaluator (s) Kyle Shearing

Top of Rock 18.0' (Depth) _____ (Elevation)

Top of Sound Rock 18.5' (Depth) _____ (Elevation)

Comments _____

RUN #1 Run Length 4.5

Depth Range: From 18.5' To 23.0'

RQD 0 (as measured) 0 %

Photo(s) _____

Rock Type Shale

Color Gray to reddish brown

Mineralogy, Grain Size, & Texture clay, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Very intensely to intensely fractured from 18.5-19.5', intensely fractured from 19.5'-23.0'

Size Range of Pieces 0.02' - 0.33'

Hardness Very soft to soft

Weathering Slightly weathered to fresh

Additional Comments Recovery: 2.6' or 58%

Driller noted drop from 20.5' - 21.0'
Slightly pitted

Number of Pieces > 4": 0
Number of Pieces total: > 30

APPENDIX A
ROCK CORE EVALUATION SHEET (CONTINUED)

PSN _____ PIN S52886 Boring ID FHB-15

RUN # 2 Run Length 5.0 Depth Range: From 23.0' to 28.0'

RQD 0 (as measured) 0 % Photo(s) _____

Rock Type Shale

Color Reddish brown to gray

Mineralogy, Grain Size, & Texture clay, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Intensely fractured horizontally along bedding planes with a few near vertical fractures

Size Range of Pieces 0.01-0.2'

Hardness Very soft to soft

Weathering Slightly weathered

Additional Comments Recovery: 2.9' or 58%

Number of Pieces >4": 0

Number of Pieces total: >50

RUN # 3 Run Length 5.0 Depth Range: From 28.0 to 33.0'

RQD 3.2 (as measured) 64 % Photo(s) _____

Rock Type Shale

Color Gray

Mineralogy, Grain Size, & Texture Clay, very fine, smooth

Bedding Thinly to thickly laminated

Fractures Moderately fractured horizontally along bedding planes

Size Range of Pieces 0.04' - 1.0'

Hardness Soft

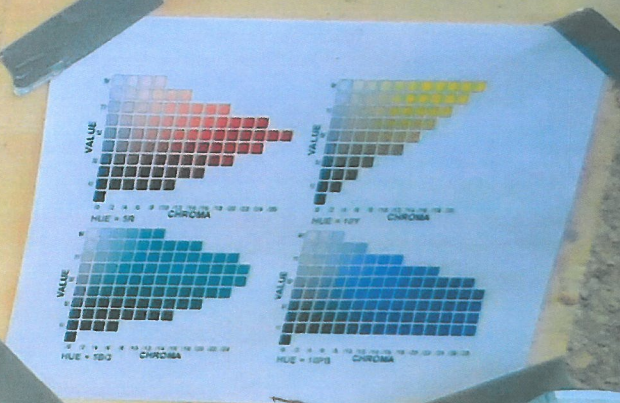
Weathering Core breaks appear fresh

Additional Comments Recovery: 4.2' or 84% Number of Pieces >4": 6

Core is slightly pitted with occasional vug. Number of Pieces total: 21

EDI#7K16

Date	MP	Boring	Run	Depth	length	Rec	%	R&D	%	# of cogs 24	Notes
12-23-16	275.93	DN-B-15	1	18.5'-23.0'	4.5	2.6	58%	0	0	0	
12-23-16	278.93	DN-B-15	2	23.0'-28.0'	5.0	2.9	58%	0	0	0	
12-23-16	278.93	DN-B-15	3	28.0'-33.0'	5.0	4.2	84%	3.2	64%	6	
12-1-16	282.62	DN-K-17	1	75.0'-78.0'	3.0	0.9	30%	0	0	0	
12-1-16	282.62	DN-K-17	2	78.0'-83.0'	5.0	3.65	73%	0.4	8%	1	





Compressive Properties Report ASTM D7012

Project: NYSTA Syr. Div.; EDI
Project No.: 17-002
Analyst: JMA
Date: 3/3/2017
Specimen Type: Rock Core, 2" Diameter, ~4" height

Borehole	Laboratory	Average	Average	Maximum	Maximum
<u>Number</u>	<u>ID No.</u>	<u>Diameter</u>	<u>Length</u>	<u>Load</u>	<u>Compressive</u>
		<u>in.</u>	<u>in.</u>	<u>lbf</u>	<u>psi</u>
FHB-13, 42.9'	17-072	1.967	4.037	19508	6420
DNB-14, 30.9'	17-073	1.966	3.989	8770.7	2889
DNB-15, 31.5'	17-074	1.970	4.004	11223	3682
FHK-16, 88.3'	17-075	1.968	4.327	3800.1	1249
FHK-17, 78.5'	17-076	1.801	3.717	5634.8	2212

Jaime M. Ciolek

Respectfully Submitted,
3rd Rock, LLC



Water Content Test Results by ASTM D2216

Project: New York State Thruway
EDI Project No.: 7K16
Client: Earth Dimensions, Inc.

Project No: 16-008
Date: 01/04/17

Borehole No.	Sample Nos.	Depth, fbg	Lab ID No.	Natural Water Content, %
FH-B-13	S-1	3-5	16-550	12.7
	S-2	8-10	16-550	14.4
	S-3	13-15	16-550	9.9
	S-4	18-20	16-550	11.7
	S-5	23-25	16-550	13.7
	S-6	28-30	16-550	14.3
	S-7	33-33.3	16-550	19.4
FH-B-15	S-1	3-5	16-551	12.7
	S-2	8-10	16-551	8.8
	S-3	13-15	16-551	13.8
	S-4	18-18.4	16-551	12.7
FH-B-14	S-1	3-5	16-553	10.5
	S-2	8-10	16-553	12.6
	S-3	13-14.4	16-553	12.6

3rd Rock, LLC
580 Olean Road
East Aurora, NY 14052
(716)655-4933
(716)655-8638 fax

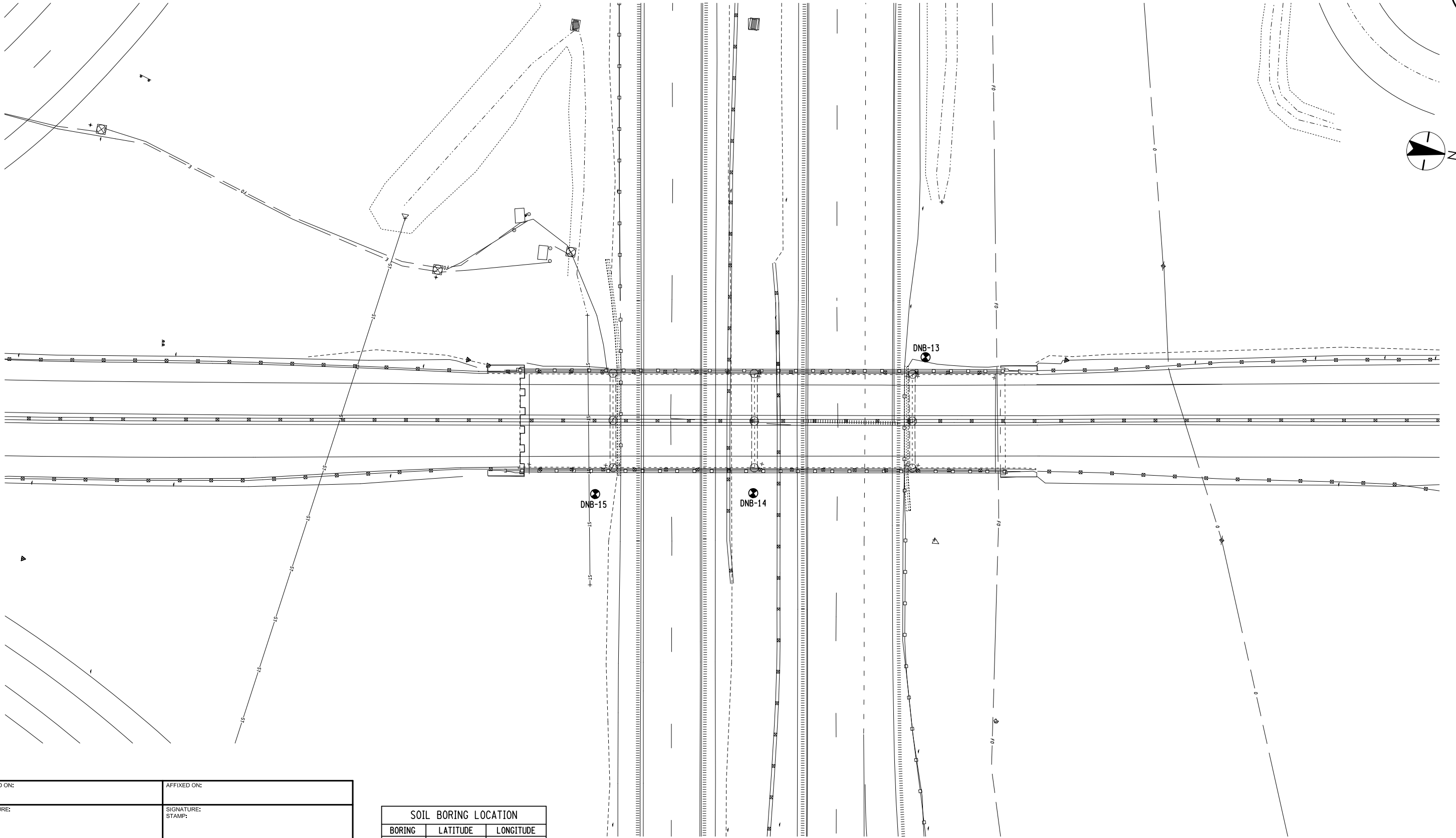
CHECKED BY: B. WALKER

DRAFTED BY: S. ROMEISER

CHECKED BY: R. CODY

DESIGNED BY: B. WALKER

DESIGN SUPERVISOR: J. HOFMANN



SOIL BORING LOCATION PLAN



ALTERED ON:	AFFIXED ON:
SIGNATURE: STAMP:	SIGNATURE: STAMP:

SOIL BORING LOCATION		
BORING	LATITUDE	LONGITUDE
DNB-13	43.092974 N	-76.089867 E
DNB-14	43.092804 N	-76.089615 E
DNB-15	43.092626 N	-76.089574 E

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE. THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS			
DATE	DESCRIPTION	BY	SYM.



Thruway
Authority



Stantec

TITLE OF PROJECT INTERCHANGE 35 RAMP OVER INTERSTATE I-90 MP 278.93 / BIN 5510090
LOCATION OF PROJECT TOWN OF DEWITT ONONDAGA COUNTY
TITLE OF DRAWING BORING LOCATION PLAN

CONTRACT NUMBER: TAB 17-XX
DATE: FEB. 2017
DRAWING NUMBER: BP-06