

**PROJECT DESCRIPTION**

THE PROJECT CONSISTS OF CONSTRUCTING TWIN STRUCTURES FOR PROPOSED SR 823 OVER SLOCUM AVENUE (TR-248). THE TWO STRUCTURES ARE THREE-SPAN STRUCTURES USING SPILL-THROUGH SLOPES AT THE ABUTMENTS. AN MSE WALL IS ALSO PROPOSED TO RETAIN THE EMBANKMENT ON THE EAST SIDE OF THE BRIDGE BETWEEN PIER 2 AND THE FORWARD ABUTMENT.

**HISTORIC RECORDS**

HISTORIC BORING RECORDS FOR THE AREA WERE REQUESTED FROM THE ODOT OFFICE OF GEOTECHNICAL ENGINEERING AND THE DISTRICT, HOWEVER, NO SUCH RECORDS EXISTED.

**GEOLOGY**

BEDROCK IS OF THE MISSISSIPPIAN LOGAN FORMATION. GENERALLY, THIS FORMATION CONSISTS OF PRIMARILY SANDSTONE OR SANDY SILTSTONE WITH OCCASIONAL AREAS OF INTERBEDDED SHALE. HOWEVER, THE LITHOLOGY OF THE SANDSTONES VARIES BOTH Laterally and vertically. WITHIN THIS AREA THE LOGAN FORMATION TYPICALLY CONSISTS OF THICK, MASSIVE SANDSTONE UNITS.

**RECONNAISSANCE**

SEVERAL SITE RECONNAISSANCE VISITS WERE MADE BETWEEN AUGUST 2004 AND SEPTEMBER 2006. THE SURROUNDING AREA IS DESCRIBED AS RURAL RESIDENTIAL. THE PROJECT AREA IS LOCATED IN THE LITTLE SCIOTO RIVER VALLEY AND IS BOUNDED ON EITHER END BY STEEP SLOPES. THE STEEP SLOPES ARE COVERED WITH TREES AND BRUSH WHILE THE RELATIVELY LEVEL VALLEY BOTTOM IS A RESIDENTIAL AREA.

**SUBSURFACE EXPLORATION**

THE SUBSURFACE EXPLORATION CONSISTED OF DRILLING A TOTAL OF SEVEN BORINGS. BORINGS TR-36 THROUGH TR-38 WERE DRILLED BETWEEN JANUARY 27 AND FEBRUARY 10, 2005 FOR THE PRELIMINARY BRIDGE CONFIGURATION. BORINGS B-31 AND B-32 WERE DRILLED BETWEEN JANUARY 11 AND 16, 2007, FOR THE CURRENTLY PROPOSED STRUCTURE. TWO ADDITIONAL BORINGS, TR-35A AND TR-38A, WHICH WERE DRILLED FOR THE FORWARD ABUTMENT EMBANKMENT AND THE REAR ABUTMENT EMBANKMENT, RESPECTIVELY, WERE ALSO CONSIDERED IN THE ANALYSES. BORING TR-35A WAS DRILLED ON JANUARY 12, 2006 AND BORING TR-38A ON JANUARY 9 AND 10, 2006 WITH AN ATV MOUNTED ROTARY DRILL RIG, USING 3 1/4 -INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE HOLES THROUGH SOIL. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 1.5 TO 5.0-FOOT INTERVALS FOR THE FULL DEPTH OF THE SOIL PORTION OF THE BORINGS. UNDISTURBED SOIL SAMPLES WERE OBTAINED AT THE DEPTHS SHOWN ON THE LOGS AND IN THE PROFILE. IN ACCORDANCE WITH AASHTO T207. WHERE BEDROCK WAS ENCOUNTERED, THE BORINGS WERE ADVANCED AND THE ROCK WAS SAMPLED USING A TYPE NO SERIES CORE BARREL, WATER METHOD.

**EXPLORATION FINDINGS**

THE TEST BORINGS DISCLOSED PRDOMINANTLY COHESIVE DEPOSITS THAT CONSISTED OF MAINLY STIFF TO HARD SILT AND CLAY (A-6A), SOFT TO MEDIUM STIFF SANDY SILT (A-4A), MEDIUM STIFF TO HARD SILT (A-4B), STIFF TO HARD SILTY CLAY (A-6B), AND STIFF TO HARD CLAY (A-7-6), WHILE THE GRANULAR SOILS ENCOUNTERED CONSISTED OF MAINLY OF VERY LOOSE TO MEDIUM DENSE SANDY SILT (A-4A), VERY LOOSE TO MEDIUM DENSE SILT (A-4B) AND LOOSE TO MEDIUM DENSE COARSE AND FINE SAND (A-3A). THE NATIVE SOILS EXTENDED TO DEPTHS RANGING BETWEEN 72 AND 81 FEET BELOW THE GROUND SURFACE, WHERE BEDROCK WAS ENCOUNTERED.

BEDROCK ENCOUNTERED IN THE BORINGS WAS MOSTLY SANDSTONE EXCEPT IN BORING B-31 WHERE SILTSTONE WAS ENCOUNTERED WITHIN THE DEPTH OF BORING. THE BEDROCK ENCOUNTERED WAS MOSTLY MEDIUM HARD TO HARD, MODERATELY WEATHERED, AND SLIGHTLY TO MODERATELY FRACTURED. HOWEVER, A LAYER OF SEVERELY WEATHERED ROCK, APPROXIMATELY 2 FEET THICK, WAS ENCOUNTERED ABOVE THE MORE COMPETENT, CORED BEDROCK IN BORINGS TR-36 AND TR-37. THE AMOUNT OF ROCK RECOVERED IN EACH CORE RUN MOSTLY VARIED FROM 96 TO 100 PERCENT AND THE ROCK QUALITY DESIGNATION (ROD) OF THE BEDROCK GENERALLY RANGED FROM 65 TO 97 PERCENT WITH AN AVERAGE OF 83 PERCENT, INDICATING GOOD QUALITY ROCK. RELATIVELY SEVERE LOSS OF RECOVERY OCCURRED IN THE CORE RUNS BETWEEN DEPTHS OF 90 AND 100 FEET IN BORING TR-38. RECOVERY OF THE CORE SAMPLE WAS ONLY 55 PERCENT AND THE ROD VALUE WAS 55 PERCENT BETWEEN THE DEPTHS OF 90 AND 95 FEET OF THIS BORING. HOWEVER, THE CORE SAMPLE WAS UNABLE TO BE RECOVERED BETWEEN THE DEPTHS OF 95 AND 100 FEET.

SEEPAGE WAS FIRST ENCOUNTERED IN THE BORINGS AT DEPTHS RANGING FROM 10.0 TO 62.0 FEET BELOW THE GROUND SURFACE. A MEASURABLE WATER LEVEL WAS ENCOUNTERED IN BORINGS B-31, B-32, TR-38 AND TR-38A, PRIOR TO ROCK CORING, AT DEPTHS RANGING FROM 9.8 TO 59.5 FEET BELOW THE GROUND SURFACE. WATER WAS USED DURING ROCK CORING AND MASKED ANY SEEPAGE ZONES THAT MIGHT EXIST IN THE ROCK.

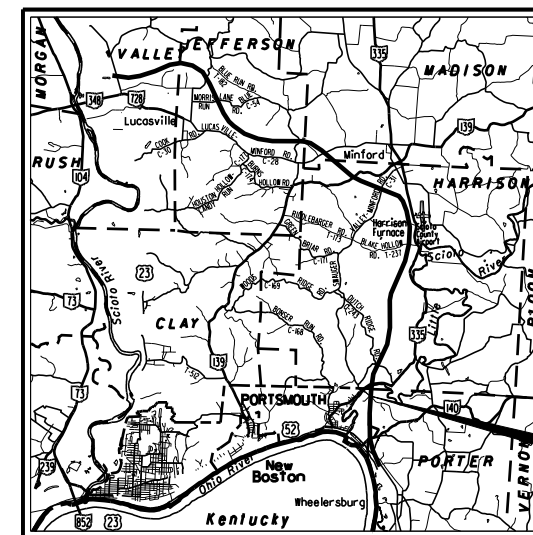
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGS. WITH SAND	A-1-b	1	0
	FINE SAND	A-3	1	2
	COARSE AND FINE SAND	A-3a	2	10
	SANDY SILT	A-4a	3	1
	SILT	A-4b	23	24
	SILT AND CLAY	A-6a	13	16
	SILTY CLAY	A-6b	5	8
	CLAY	A-7-6	14	31
	TOTAL		62	92
	SILTSTONE	VISUAL		
	WEATHERED SANDSTONE	VISUAL		
	SANDSTONE	VISUAL		
	BORING LOCATION - PLAN VIEW			
	DRIVE SAMPLE AND/OR CORE BORING LOCATION PLOTTED TO VERTICAL SCALE ONLY			
W —	INDICATES FREE WATER ELEVATION			
∇ —	INDICATES STATIC WATER ELEVATION			
—TR	INDICATES THE TOP OF ROCK ELEVATION			
	FIGURES BESIDE THE BORING IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST			
X/Y/Z	X = NUMBER OF BLOWS FOR FIRST 6 INCHES Y = NUMBER OF BLOWS FOR SECOND 6 INCHES Z = NUMBER OF BLOWS FOR THIRD 6 INCHES			
50 (n)	INDICATES NUMBER OF BLOWS (50) TO DRIVE A SPLIT-BARREL SAMPLER A DEPTH OF (n) INCHES OTHER THAN THE NORMAL 6 INCH INCREMENT.			

**SPECIFICATIONS**

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED NOVEMBER 1995.

**AVAILABLE INFORMATION**

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.



LOCATION MAP

SCALE IN MILES



PROJECT STA. 120+49 TO STA. 124+70

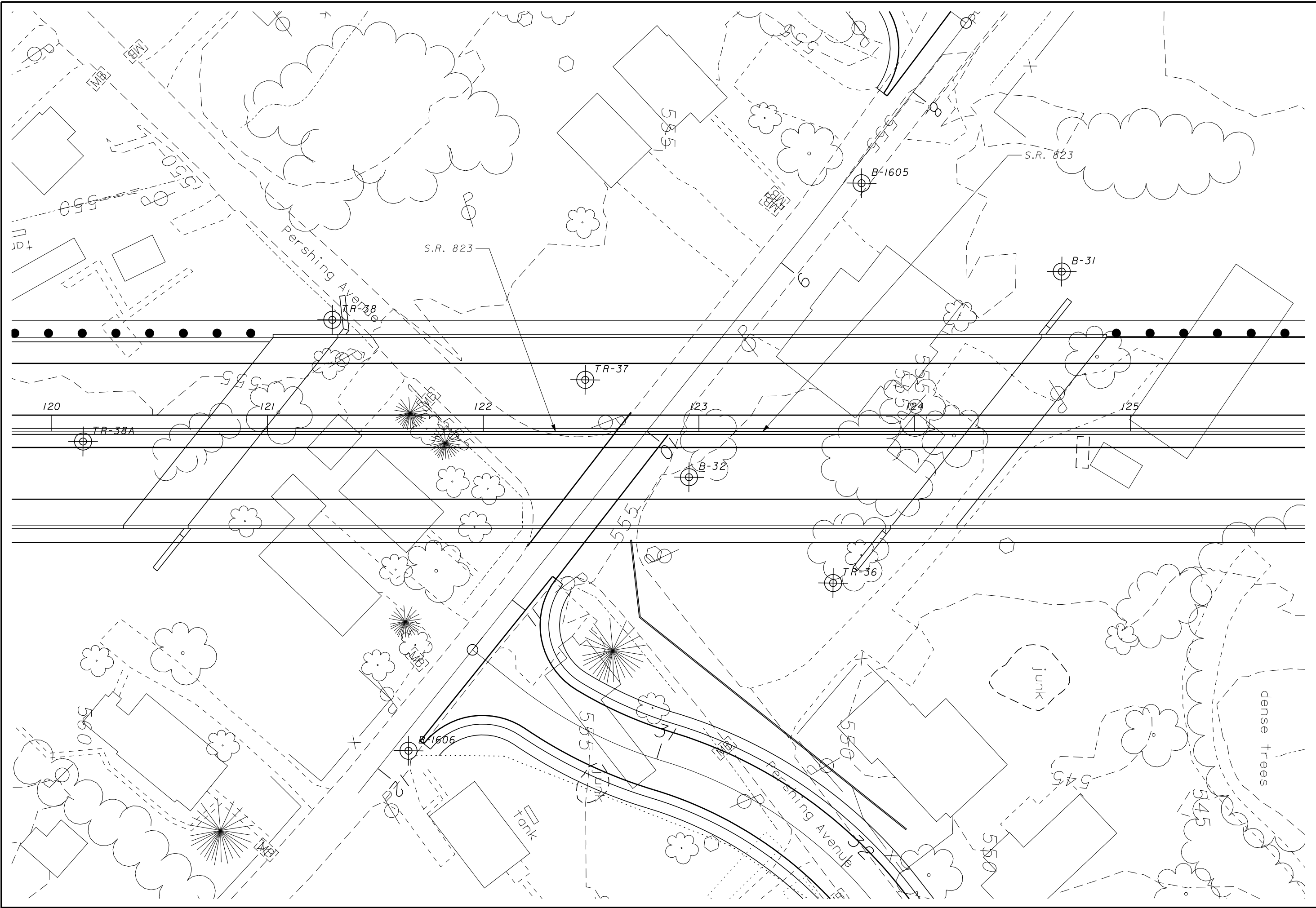
**PARTICLE SIZE DEFINITIONS**

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm	
Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

RECON. -	AMJ AND SJR 06/04 to 06/06
DRILLING -	DW AND RB 01/11/07 TO 01/16/07, 01/09/06 TO 01/10/06, 01/27/05 TO 02/10/05
DRAWN -	RLS & AMJ 8/09
REVIEWED -	AEN 8/19/09

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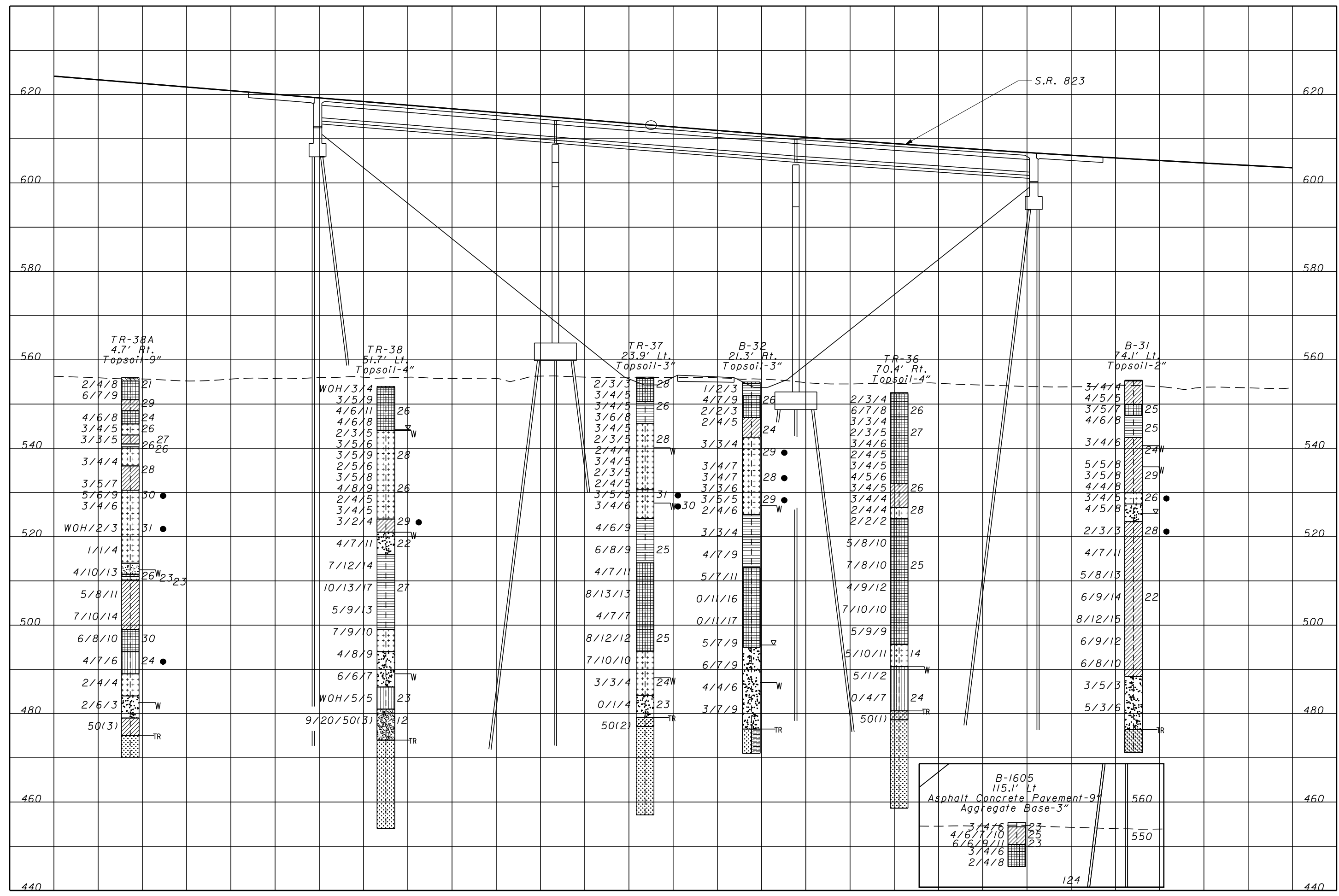


DRAWN \_\_\_\_\_  
 CHECKED \_\_\_\_\_

**STRUCTURE FOUNDATION INVESTIGATION**  
**BRIDGE NO. SCI-823-0229**  
**SR823 OVER SLOCUM AVE.**

SCI-823-0.00

2 / 10



Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03						
LOG OF: Boring TR-38A		Location: Sta. 120+14.5, 4.7 ft. RT of SR 823 CL		Date Drilled: 1/9/06 to 1/10/06						
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No.	Hand Penetrometer (tsf)	WATER OBSERVATIONS:	GRADATION	STANDARD PENETRATION (N)	Natural Moisture Content %	DESCRIPTION
						Water seepage at: 43.5', 73.5' Water level at completion: 43.0' (prior to coring) 13.6' (includes drilling water) 41.5' (after 15 hours)				
0	558.0									Topsoil - 9"
0.8	555.2	2 4 8 13		1	4.5+					Very stiff to hard mottled brown and gray CLAY (A-7-6), some to "and" silt, trace fine sand; damp to moist.
5.6	551.0	6 7 9 18		2	2.75					Stiff to very stiff mottled brown and gray SILT AND CLAY (A-6a), trace fine sand; moist.
7.5	548.5	4 6 8 16		3	2.0					Hard brown CLAY (A-7-6), trace fine sand, some silt; damp to moist.
10	545.5	3 4 5 18		4	1.25					Stiff brown SILT (A-4b), "and" clay, trace fine sand; moist.
13.0	543.0	3 3 5 18		5	2.0					Stiff to very stiff brown SILT AND CLAY (A-6a), trace fine sand; moist.
15.0	541.0				1.5					Stiff brown SILTY CLAY (A-6b), trace fine sand; moist.
15.7	540.3				1.0					Stiff brown SILT (A-4b), trace fine sand; moist.
20.0	538.0	3 4 4 18		6	1.75					Stiff brown SILT AND CLAY (A-6a), trace to little fine to coarse sand; moist.
25		3 5 7 18		7	2.0					Medium stiff brown SILT (A-4b), little clay; wet.
25.5	530.5	5 6 9 18		8	0.75					Medium stiff brown SILT (A-4b), little clay; wet.
30		3 4 6 18		9	0.75					Medium stiff brown SILT (A-4b), little clay; wet.
35		WOH 2 3 18		10	0.75					Loose to medium dense brown FINE SAND (A-3), trace silty clay, trace coarse sand; wet.
40		1 4 18		11	0.75					Very stiff brownish gray SILT AND CLAY (A-6a), some silt, trace fine sand; moist.
42.0	514.0				2.75					Loose to medium dense brown FINE SAND (A-3), trace silty clay; wet.
44.5	511.5	4 10 13 18		12a	2.75					Very stiff to hard dark brown SILT AND CLAY (A-6a), trace fine sand; damp to moist.
45.0	511.0				1.5					Very stiff to hard dark brown SILT AND CLAY (A-6a), trace fine sand; damp to moist.
45.8	510.2				4.0					Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.
50		5 8 11 18		13	4.0					Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.
55		7 10 14 15		14	2.75					Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.
57.0	499.0				1.5					Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.
60		8 10 18		15	1.5					Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.

Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03						
LOG OF: Boring TR-38A		Location: Sta. 120+14.5, 4.7 ft. RT of SR 823 CL		Date Drilled: 1/9/06 to 1/10/06						
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No.	Hand Penetrometer (tsf)	WATER OBSERVATIONS:	GRADATION	STANDARD PENETRATION (N)	Natural Moisture Content %	DESCRIPTION
						Water seepage at: 43.5', 73.5' Water level at completion: 43.0' (prior to coring) 13.6' (includes drilling water) 41.5' (after 15 hours)				
60	496.0									Stiff dark brown CLAY (A-7-6), little to some silt, trace fine sand; moist.
62.0	494.0	4 7 6 18		16	0.5					Soft to medium stiff bluish gray SANDY SILT (A-4a), some fine sand, some clay; moist to wet.
65		2 4 4 12		17						Loose gray SILT (A-4b), trace to little fine sand, trace clay; moist to wet.
67.0	489.0									Loose gray SILT (A-4b), trace to little fine sand, trace clay; moist to wet.
70		2 6 3 18		18						Loose brown COARSE AND FINE SAND (A-3a), little silty clay, trace gravel; moist to wet.
72.0	484.0									Loose brown COARSE AND FINE SAND (A-3a), little silty clay, trace gravel; moist to wet.
75		50/3 2		19	4.0					Hard gray SILT AND CLAY (A-6a), trace to little fine sand; damp.
77.0	479.0									Hard gray SILT AND CLAY (A-6a), trace to little fine sand; damp.
80										Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium bedded, moderately to highly fractured.
81.0	475.0									Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium bedded, moderately to highly fractured.
85										@ 91.4', 91.9', 92.2', low angle fractures.
86.0	470.0									Bottom of Boring - 86.0'
90										

DRAWN: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 STRUCTURE FOUNDATION INVESTIGATION  
 BRIDGE NO. SCI-823-0229  
 SR823 OVER SLOCUM AVE.

SCI-823-0.00



Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03										
LOG OF: Boring TR-38		Location: Sta. 121+30.1, 51.7 ft. LT of SR 823 CL		Date Drilled: 02/09/05 to 02/10/05										
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 10.0'-21.5' 33.0'-38.5', 65.0'-80.0' Water level at completion: 9.8' (Prior to coring) 7.3' (Includes drilling water)	GRADATION					STANDARD PENETRATION (N)		
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○	
DESCRIPTION														
0.3	553.7	3	18	1	2.5	Topsoil - 4"								
		4	18			Very stiff CLAY (A-7-8), brown, trace fine sand; damp.								
		5	18	2	3.25									
		6	11	3	3.5		0	0	1	29	70			
		6	8	4	2.0									
10.0	544.0	2	5	5	1.5	Stiff brown SILT (A-4b), little to some clay, trace fine to coarse sand; moist.								
		3	5	6	1.5									
		3	5	7	1.25		0	1	1	63	35			
		2	5	8	1.25									
		3	5	9	1.5									
		4	8	10	1.5		0	0	1	72	27			
		2	4	11	1.5									
		3	4	12	1.0									
30.0	524.0	2	4	13	1.0	Stiff brown SILT AND CLAY (A-6a), little fine sand; moist.	0	0	5	59	36			
33.0	521.0					Medium dense gray COARSE AND FINE SAND (A-3a); moist.								
35		4	7	14			0	21	49	20	10	Non-Plastic		
38.0	516.0					Very stiff gray SILTY CLAY (A-6b), little fine sand; damp to moist.								
40		7	12	15	3.5									
45		10	13	16	3.0		0	0	1	31	68			
50		5	9	17	4.0									
55.0	499.0	7	9	18	3.5	Very stiff gray SILT (A-4b), little fine sand, little silty clay; moist.								

Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03										
LOG OF: Boring TR-38		Location: Sta. 121+30.1, 51.7 ft. LT of SR 823 CL		Date Drilled: 02/09/05 to 02/10/05										
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 10.0'-21.5' 33.0'-38.5', 65.0'-80.0' Water level at completion: 9.8' (Prior to coring) 7.3' (Includes drilling water)	GRADATION					STANDARD PENETRATION (N)		
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○	
DESCRIPTION														
60.0	494.0	4	8	19		Medium dense gray COARSE AND FINE SAND (A-3a), some silt, little clay; moist.								
		6	6	20		@ 65.0', wet.								
68.0	486.0					Loose gray SANDY SILT (A-4a); wet.								
70		5	5	21			0	1	54	45	Non-Plastic			
73.0	481.0					Very dense gray GRAVEL WITH SAND (A-1-b); wet.								
75		20	50/3	22			50	19	12	19	Non-Plastic	50		
80.0	474.0					Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, thinly to thickly bedded.								
						@ 80.0'-80.2', argillaceous zone, broken.								
						@ 85.9', 86.2', 86.7', low angle clay filled fractures.								
90														
						@ 92.8'-95.0', lost recovery.								
95						@ 95.0'-100.0', sample lodged in core barrel; unable to recover.								
100.0	454.0					Bottom of Boring - 100.0'								

DRAWN  
 CHECKED  
 STRUCTURE FOUNDATION INVESTIGATION  
 BRIDGE NO. SCI-823-0229  
 SR823 OVER SLOCUM AVE.

SCI-823-0.00



Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03													
LOG OF: Boring TR-37		Location: Sta. 122+47.3, 23.9 ft. LT of SR 823 CL		Date Drilled: 01/27/05 to 01/31/05													
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive / Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 16.0'-18.0', 28.5'-37.5', 68.0' Water level at completion: Not Reported	GRADATION					STANDARD PENETRATION (N)					
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○				
DESCRIPTION																	
0.3	555.8	2	14	1	2.25			0	1	4	41	54					
Topsoil - 3" Very stiff brown CLAY (A-7-6); trace fine to coarse sand; moist. @ 3.5'-5.0', brown and gray.																	
5	550.6	3	18	2	2.0			0	1	6	38	55					
Stiff brown SILT CLAY (A-6b), trace fine to coarse sand; moist. @ 8.5'-10.0', hard; damp.																	
10	545.6	3	17	3	1.5			0	1	6	38	55					
Very stiff brown SILT (A-4b), "and" clay, trace fine sand; varved; damp to moist.																	
15		2	18	4	4.5+			0	0	1	61	38					
@ 16.0'-18.0', soft to medium stiff, wet.																	
20		2	18	5	2.25			0	0	0	79	21					
Stiff brown SILT (A-4b), some clay, trace fine sand; moist to wet.																	
25		3	18	6	-			0	0	2	77	21					
Hard brownish gray SILTY CLAY (A-6b), trace fine sand; moist.																	
30		4	18	7	4.5+			0	0	1	38	61					
Hard gray CLAY (A-7-6); damp to moist.																	
32.0	524.1	4	18	8	4.25			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
40		8	18	13	4.5+			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
42.0	514.1	4	18	14	4.25			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
45		7	18	15	4.25			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
50		8	18	16	4.5+			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
55		4	18	17	4.0			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	
60		8	18	18	4.5+			0	0	0	21	79					
Hard gray CLAY (A-7-6); damp to moist.																	

Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03													
LOG OF: Boring TR-37		Location: Sta. 122+47.3, 23.9 ft. LT of SR 823 CL		Date Drilled: 01/27/05 to 01/31/05													
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive / Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 16.0'-18.0', 28.5'-37.5', 68.0' Water level at completion: Not Reported	GRADATION					STANDARD PENETRATION (N)					
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○				
DESCRIPTION																	
60	496.1																
Hard gray CLAY (A-7-6); damp to moist.																	
62.0	494.1																
Medium dense light gray SILT (A-4b), some fine to coarse sand, little clay, trace gravel; moist.																	
65		7	18	19													
@ 68.0', loose, wet.																	
70		3	18	20				1	2	30	57	10	Non-Plastic				
Loose gray COARSE AND FINE SAND (A-3a), little gravel, trace clay; wet.																	
72.0	484.1							17	3	53	21	6	Non-Plastic				
Severely weathered gray SANDSTONE, argillaceous.																	
75		0	18	21													
Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly to thickly bedded, slightly fractured. @ 79.0'-80.2', broken. @ 79.3'-79.4', 79.8'-80.1', iron stained bands. @ 80.8', 86.0', low angle fractures.																	
77.0	479.1																
Severely weathered gray SANDSTONE, argillaceous.																	
79.0	477.1	50/2	1	22													
Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly to thickly bedded, slightly fractured. @ 79.0'-80.2', broken. @ 79.3'-79.4', 79.8'-80.1', iron stained bands. @ 80.8', 86.0', low angle fractures.																	
80																	
Core 120" Rec 117" RQD 74% R-1																	
85																	
@ 87.5'-89.2', contains moderate argillaceous laminations. @ 88.3'-88.6', decomposed argillaceous band.																	
90																	
Core 120" Rec 119" RQD 99% R-2																	
95																	
@ 91.9'-92.0', 94.4'-94.7', 96.9'-97.4', calcareous.																	
99.0	457.1																
Bottom of Boring - 99.0'																	
100																	
105																	
110																	
115																	
120																	

DRAWN  
CHECKED

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. SCI-823-0229  
SR823 OVER SLOCUM AVE.

SCI-823-0.00



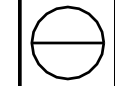
Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03									
LOG OF: Boring B-32		Location: Sta. 122+95.4, 21.3 ft. RT of SR 823 CL		Date Drilled: 1/15/07 to 1/16/07									
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No.	Hand Penetro-meter (tsf)	WATER OBSERVATIONS: Water seepage at: 28.0'-32.0', 68.0'-78.5' Water level at completion: 59.5' (prior to coring) 21.1' (inside hollowstem augers)	GRADATION					STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○	
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt		% Clay
0.3	554.7	1 2 3 18		1	1.5								
3.0	552.0	4 7 9 18		2	3.5								
5		2 2 3 18		3	1.5								
8.0	547.0	2 4 5 18		4	3.0								
10					1.25								
12.5	542.5				3.0								
15		3 3 4 18		5	1.75								
					1.0								
					3.5								
20		3 4 7 18		6	2.5								
					1.25								
					1.0								
25		3 3 6 18		8	1.0								
					2.0								
					0.25								
30.0	525.0	2 4 6 18		10	0.25								
					1.0								
					1.25								
42.0	513.0	4 7 9 18		12	1.25								
					4.0								
					3.5								
					2.75								
					2.25								
60		5 7 9 18		16	2.25								

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Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No.	Hand Penetro-meter (tsf)	WATER OBSERVATIONS: Water seepage at: 28.0'-32.0', 68.0'-78.5' Water level at completion: 59.5' (prior to coring) 21.1' (inside hollowstem augers)	GRADATION					STANDARD PENETRATION (N) Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○	
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt		% Clay
60.0	495.0												
65		6 7 9 18		17									
70		4 4 6 18		18									
75		3 7 9 18		19									
78.5	476.5												
80		Core 66"	Rec 66"	RQD 93% R1									
84.0	471.0												
85													
90													

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STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. SCI-823-0229  
SR823 OVER SLOCUM AVE.

SCI-823-0.00







DLZ OHIO INC. \* 6121 HUNTLEY ROAD, COLUMBUS, OHIO 43229 \* (614)888-0040

Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03									
LOG OF: Boring B-1605			Location: Sta. 20+05.8, 88.5 ft. RT of Pershing Ave. South BL		Date Drilled: 1/10/06								
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No.	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: None Water level at completion: None	GRADATION					STANDARD PENETRATION (N)	
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○
0	555.4												
-1.0	554.4	3 4 6 7 10	14	1	3.25	Asphalt Concrete Pavement - 9" Aggregate Base - 3"	0	1	5	48	46		
		6 7 10	22	2	3.0	Very stiff mottled brown and gray SILT AND CLAY (A-6a), trace fine to coarse sand; damp to moist. @ 3.0', trace organic clay, moist.	0	0	3	40	57		
-5.6	550.4	6 9 11	20	3	2.5	Very stiff mottled brown and gray CLAY (A-7-6), "and" silt, trace fine to coarse sand; damp to moist.	0	0	7	46	47		
		3 4 6	18	4	2.5								
		2 4	8	5	2.75								
-10.0	545.4					Bottom of Boring - 10.0'							

DRAWN  
CHECKED

STRUCTURE FOUNDATION INVESTIGATION  
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SR823 OVER SLOCUM AVE.

SCI-823-0.00



Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03												
LOG OF: Boring B-31		Location: Sta. 124+68.2, 74.1 ft. LT of SR 823 CL		Date Drilled: 1/11/07 to 1/12/07												
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive / Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 14.8', 19.6' Water level at completion: 30.2' (prior to coring) 24.6' (with augers removed, includes drilling water)	GRADATION					STANDARD PENETRATION (N)				
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○			
DESCRIPTION																
0.2	555.2															
2.75		3	4	11	1											
2.75		4	5	18	2											
3.75		3	5	18	3											
3.5		4	6	18	4											
2.5					P1											
3.25		3	4	18	5											
4.5+					P2											
3.5		5	5	18	6											
2.25		3	5	18	7											
2.5		4	4	18	8											
1.5		3	4	18	9											
		4	5	18	10											
1.0		2	3	18	11											
3.0		4	7	18	12											
4.25		5	8	18	13											
3.0		6	9	18	14											
4.5+		8	12	17	15											
3.75		8	9	18	16											

Client: TranSystems, Inc.		Project: SCI-823-0.00		Job No. 0121-3070.03												
LOG OF: Boring B-31		Location: Sta. 124+68.2, 74.1 ft. LT of SR 823 CL		Date Drilled: 1/11/07 to 1/12/07												
Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive / Press / Core	Hand Penetrometer (tsf)	WATER OBSERVATIONS: Water seepage at: 14.8', 19.6' Water level at completion: 30.2' (prior to coring) 24.6' (with augers removed, includes drilling water)	GRADATION					STANDARD PENETRATION (N)				
							% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	Natural Moisture Content, % - ● PL ——— LL Blows per foot - ○			
DESCRIPTION																
60	495.4															
65		6	8	17												
67.0	488.4															
70		3	5	18												
75		5	3	15												
79.0	476.4															
80		3	6	13												
84.3	471.2															
85																
90																

DRAWN \_\_\_\_\_ CHECKED \_\_\_\_\_  
**STRUCTURE FOUNDATION INVESTIGATION**  
**BRIDGE NO. SCI-823-0229**  
**SR823 OVER SLOCUM AVE.**  
  
**SCI-823-0.00**  
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