PROJECT DESCRIPTION

THE PROJECT CONSISTS IN PART OF PLACING TWO STRUCTURES FOR THE PROPOSED SR 823 OVER RELOCATED SHUMWAY HOLLOW ROAD. THE TWO STRUCTURES AS PLANNED, ARE ONE-SPAN STRUCTURES WITH MSE WALLS AT THE ABUTMENTS.

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

THE STRUCTURE SITE IS LOCATED IN THE SHAWNEE-MISSISSIPPIAN PLATEAU OF THE UNGLACIATED PORTION OF THE APPALACHIAN PLATEAU PHYSIOGRAPHIC REGION. THE SHAWNEE-MISSISSIPPIAN PLATEAU IS CHARACTERIZED BY DEVONIAN AGED TO PENNSYLVANIAN AGED ROCKS AND CONTAINS RESIDUAL, COLLUVIAL, GLACIAL, ALLUVIAL, AND LACUSTRINE SOILS. BEDROCK WITHIN THE STRUCTURE AREA IS PRIMARILY SANDSTONE OF THE LOGAN FORMATION OF MISSISSIPPIAN AGE. BEDROCK OF THE PENNSYLVANIAN BREATHITT FORMATION CAN BE FOUND AT THE TOP OF THE SLOPES TO THE WEST OF THE STRUCTURE, ROUGHLY ABOVE ELEVATION 860. NO MINING IS REPORTED IN THE IMMEDIATE VICINITY.

RECONNAISSANCE

SEVERAL SITE RECONNAISSANCE VISITS WERE MADE BETWEEN AUGUST 2004 AND SEPTEMBER 2006. THE SURROUNDING AREA IS DESCRIBED AS RURAL RESIDENTIAL. THE AREA OF THE PROPOSED STRUCTURE IS BORDERED ON THE WEST BY STEEP WOODED TERRAIN AND ON THE EAST BY A ROCK CUT CONSTRUCTED FOR THE CSX RAILROAD. THE AREA WITHIN THE LIMITS OF CONSTRUCTION IS GENTLY SLOPING TO THE EAST AND COVERED WITH GRASS, BRUSH, AND SMALL TREES.

SUBSURFACE EXPLORATION

THE SUBSURFACE EXPLORATION CONSISTED OF DRILLING FOUR FINAL AND THREE PRELIMINARY STRUCTURAL BORINGS. BORINGS B-1 THROUGH B-4 WERE DRILLED ON JUNE 13 AND 14, 2006. TR-24 THROUGH TR-26 WERE DRILLED FOR A PREVIOUS DESIGN CONFIGURATION ON AUGUST 18 AND 19, 2004. THE BORINGS WERE DRILLED WITH AN ATV MOUNTED ROTARY DRILL RIG, USING 3¼-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 NQ SERIES CORE BARREL, WATER METHOD.

EXPLORATION FINDINGS

THE TEST BORINGS DISCLOSED PREDOMINANTLY STIFF, SILTY, NEAR SURFACE SOILS (A-4b), BECOMING PREDOMINANTLY COHESIVE (A-6a, A-7-6) AND STIFF WITH DEPTH. A VERY LOOSE LAYER OF WATER-BEARING SAND WAS ENCOUNTERED FROM APPROXIMATELY 21.5 TO 37.5 FEET.

THE SOIL OVERLIES A GENTLY SLOPING AND UNDULATING BEDROCK SURFACE. THE BORINGS GENERALLY ENCOUNTERED MEDIUM HARD TO HARD, SLIGHTLY TO MODERATELY WEATHERED SANDSTONE AT A DEPTH OF 42.5 FEET BELOW THE GROUND SURFACE. THE BEDROCK ENCOUNTERED IS GENERALLY MODERATELY TO HIGHLY FRACTURED.

SEEPAGE WAS ENCOUNTERED IN ALL BORINGS DRILLED FOR THE STRUCTURE. SEEPAGE WAS FIRST ENCOUNTERED FROM 6.0 TO 34 FEET BELOW THE GROUND SURFACE. AT THE COMPLETION OF DRILLING, THE FINAL WATER LEVEL, INCLUDING DRILL WATER, VARIED FROM 8.4 TO 31.0 FEET. THE WATER LEVELS RECORDED PRIOR TO ADDING DRILL WATER WERE REPORTED IN BORINGS B-3 AND B-4. THE WATER LEVEL WAS MEASURED TO BE APPROXIMATELY 23 FEET BELOW THE GROUND SURFACE.

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 JULY 2006.

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.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
Gravel with Sand (A-1-b)	A-1-b	-	4
Gravel with Sand and Silt (A-2-4)	A-2-4	-	1
Fine Sand (A-3)	A-3	1	6
Coarse and Fine Sand (A-3a)	A-3a	5	22
Sandy Silt (A-4a)	A-4a	1	1
Silt (A-4b)	A-4b	-	1
Silt and Clay (A-6a)	A-6a	3	5
Silty Clay (A-6b)	A-6b	-	1
Elastic Clay (A-7-5)	A-7-5	1	-
Clay (A-7-6)	A-7-6	16	15
	TOTAL	27	56
Sandstone	VISUAL		
Weathered Sandstone	VISUAL		
Topsoil	VISUAL		

BORING LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR CORE BORING LOCATION PLOTTED TO VERTICAL SCALE ONLY

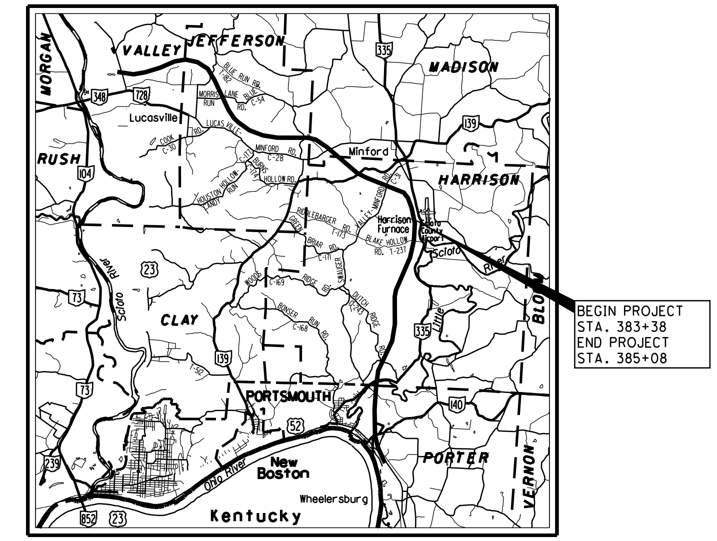
W —— INDICATES FREE WATER ELEVATION

INDICATES STATIC WATER ELEVATION

INDICATES STATIC WATER ELEVATION (DRILLING WATER USED)

W/X/Y/Z — FIGURES BESIDE THE BORING IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
- W = NUMBER OF BLOWS FOR FIRST 6 INCHES
- X = NUMBER OF BLOWS FOR SECOND 6 INCHES
- Y = NUMBER OF BLOWS FOR THIRD 6 INCHES
- Z = NUMBER OF BLOWS FOR FOURTH 6 INCHES, IF APPLICABLE

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.



LOCATION MAP

LATITUDE: N 38°50'25" LONGITUDE: W 82°50'50"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

PARTICLE SIZE DEFINITIONS

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

RECON. - AMJ & SJR 09/05 to 09/06

DRILLING - DW 08/19 TO 08/19/04 & 06/13 TO 06/14/06

DRAWN - RLS & AMJ 3/09 TO 4/09

REVIEWED - AEN 4/20/09

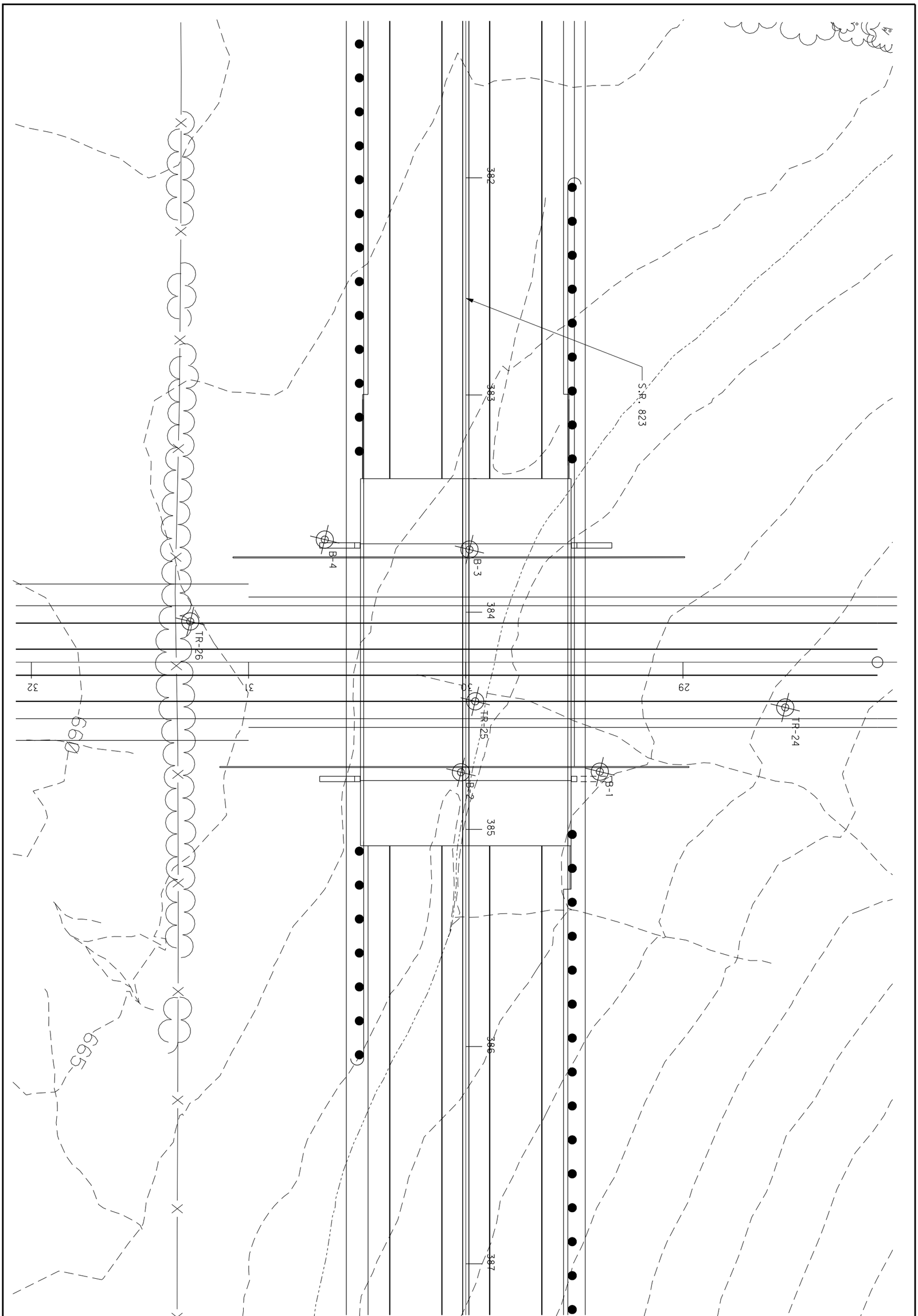
DLZ

PID NO. 19415

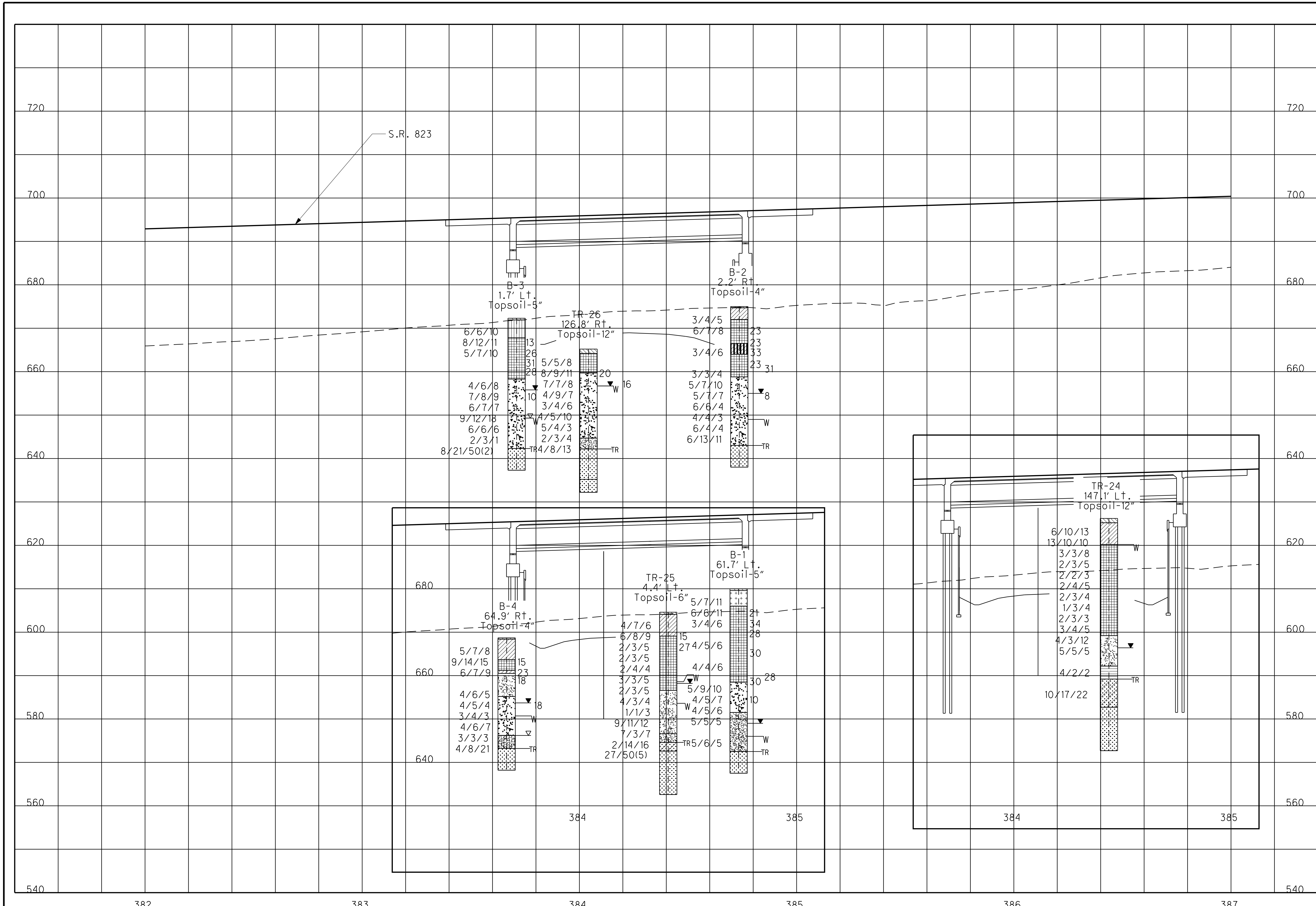
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

SCI-823-6.81

$DATE$ $TIME$ $FILE$



2/7	SCI-823-6.81	STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. SCI-823-0727 SR823 OVER SHUMWAY HOLLOW ROAD	DRAWN CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

DRAWN
CHECKED

SCI-823-6.81

3 / 7

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-1 | Location: Sta. 384+73.4, 61.7 ft. LT of SR 823 CL | Date Drilled: 06/13/06

WATER OBSERVATIONS: Water seepage at: 34.0′ - 35.0′
Water level at completion: 31.0′ (inside hollowstem augers, includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot - ○
0	680.0													10 20 30 40
0.4	679.6						Topsoil - 5"							
		5 7 11	12	1		2.5	Very stiff brown SILT (A-4b), trace to little clay, trace fine sand; damp.							
4.0	676.0	6 6 11	13	2		4.5+	Very stiff to hard brown CLAY (A-7-6), little to some silt, trace fine to coarse sand, trace gravel; moist.	2	0	--	1	30	67	59
5		3 4 6	16	3		2.0		5	0	--	0	4	91	70
					P-1	3.25		0	0	--	1	13	86	52
10		4 5 6	18	5		2.5								
					P-2	2.75		0	0	--	2	19	79	52
15		4 4 6	18	7		1.5	@ 16.0′-17.5′, stiff.							
					P-3	2.5		0	0	--	1	24	75	53
20								0	0	--	1	21	78	54
21.5	658.5	6 9 10	16	9			Medium dense light brown COARSE AND FINE SAND (A-3a), little to some silty clay; dry to damp.							
		4 5 7	17	10				0	0	--	80		20	Non-Plastic
25							@ 25.0′, wet.							
		4 5 6	15	11										
28.5	651.5						@ 28.0′, moist.							
		5 5 5	13	12			Loose to medium dense brown GRAVEL WITH SAND (A-1-b), trace silty clay; moist.							
30														
		5 6 5	14	13			@ 37.5′, auger refusal.							
37.5	642.5						Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, pyritic (halos), massived bedding, slightly fractured, contains few argillaceous laminations.							
40		Core 60"	Rec 54"	ROD 62%	R-1									
42.5	637.5						Bottom of Boring - 42.5′							
45														
50														
55														
60														

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-2 | Location: Sta. 384+73.7, 2.2 ft. RT of SR 823 CL | Date Drilled: 06/13/06 to 06/14/06

WATER OBSERVATIONS: Water seepage at: 26.0′ - 30.0′
Water level at completion: 28.0′ (prior to coring) 20.0′ (inside hollowster augers, includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot - ○
0	675.0													10 20 30 40
0.5	674.5						Topsoil - 4"							
		3 4 5	15	1		3.5	Very stiff brown SILT AND CLAY (A-6a), trace fine sand; damp.							
3.0	672.0													
		6 7 8	14	2		3.5	Very stiff brown CLAY (A-7-6), little silt, trace fine to coarse sand, trace gravel; damp to moist.	2	1	--	3	11	83	60
5					P-1	4.0		1	0	--	0	14	85	57
8.5	666.5	3 4 6	17	4		2.75	Very stiff brown ELASTIC CLAY (A-7-5), trace fine to coarse sand, trace gravel; moist.	4	2	--	2	9	83	61
10														
11.0	664.0				P-2	2.75	Very stiff brown CLAY (A-7-6), little to some silt, trace fine to coarse sand, trace gravel; moist.	0	2	--	4	24	70	52
						2.50		5	1	--	2	12	80	
		3 3 4	18	6		2.0								
15														
16.2	658.8	5 7 10	18	7			Loose to medium dense brown COARSE AND FINE SAND (A-3a), little silty clay; damp to wet.							
		5 7 7	17	8				0	0	--	85		15	Non-Plastic
20		6 6 4	16	9										
		4 4 3	13	10										
25		6 4 4	15	11										
		6 13 11	15	12			@ 32.0′, auger refusal.							
30														
32.0	643.0						Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, laminated to thinly bedded, moderately fractured.							
		Core 60"	Rec 57"	ROD 52%	R-1		@ 32.0′-34.5′, highly fractured.							
35														
37.0	638.0						Bottom of Boring - 37.0′							
40														
45														
50														
55														
60														

DRAWN | CHECKED

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

SCI-823-6.81

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-3 | Location: Sta. 383+71.2, 1.7 ft. LT of SR 823 CL | Date Drilled: 06/14/06

WATER OBSERVATIONS: Water seepage at: 23.0′ - 28.0′
Water level at completion: 23.0′ (prior to coring) 16.5′ (inside hollowstem augers, includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot ○ 10 20 30 40
0	672.3													
0.4	671.9	6 6 10	13	1		2.5	Topsoil - 5″ Very stiff brown SANDY SILT (A-4a), "and" clay, trace gravel; damp.							
4.5	667.8	8 12 11	14	2		4.0	Stiff to very stiff brown CLAY (A-7-6), trace fine to coarse sand; damp to moist.	2	5	--	9	48	36	
5		5 7 10	10	3		3.5		0	1	--	2	11	86	63
					P-1	1.75		0	0	--	1	9	90	60
10					P-2	2.25		0	0	--	3	26	71	
14.0	658.3	4 6 8	16	6			Medium dense to dense brown COARSE AND FINE SAND (A-3a), little silty clay, trace coarse sand; damp to moist.	0	1	--	80		19	Non-Plastic
15		7 8 9	18	7										
		6 7 7	16	8										
20		9 12 18	16	9										
		6 6 6	15	10										
25		2 3 1	12	11										
30.0	642.3	8 21 50/2	12	12			@ 30.0′, auger refusal.							50+4
		Core 60″	Rec 56″		ROD 63%	R-1	Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, laminated to thinly bedded, moderately fractured.							
35.0	637.3						Bottom of Boring - 35.0′							
40														
45														
50														
55														
60														

GRADATION

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-4 | Location: Sta. 383+66.6, 64.9 ft. RT of SR 823 CL | Date Drilled: 06/14/06

WATER OBSERVATIONS: Water seepage at: 18.0′ - 24.0′
Water level at completion: 22.5′ (prior to coring) 15.0′ (inside hollowstem augers, includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot ○ 10 20 30 40
0	668.7													
0.3	668.4	5 7 8	12	1		2.5	Topsoil - 4″ Very stiff to hard brown SILT AND CLAY (A-6a), trace fine to coarse sand, trace gravel; damp.							
5.0	663.7	9 14 15	17	2		4.5+		3	6	--	8	44	39	
		6 7 9	15	3		4.5+	Hard brown CLAY (A-7-6), some silt, trace fine to coarse sand, trace gravel; moist.	3	2	--	4	27	64	
7.5	661.2						Hard brown SILT AND CLAY (A-6a), little fine to coarse sand, trace gravel; damp.	2	5	--	8	43	42	
8.2	660.5				P-1	2.25	Medium dense brown FINE SAND (A-3), trace silty clay; damp.	0	8	--	89		3	
10		4 6 5	16	5										
13.5	655.2	4 5 4	18	6			Loose to medium dense brown COARSE AND FINE SAND (A-3a), little silty clay; moist to wet.	0	0	--	83		17	Non-Plastic
15		3 4 3	14	7										
		4 6 7	12	8										
20														
22.5	646.2	3 3 3	17	9			Medium dense brown GRAVEL WITH SAND AND SILT (A-2-4), little to some silt; moist.							
25		4 8 21	18	10										
25.5	643.2						@ 25.5′, auger refusal.							
		Core 60″	Rec 52″		ROD 62%	R-1	Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, laminated to thinly bedded, moderately fractured.							
30.5	638.2						Bottom of Boring - 30.5′							
35														
40														
45														
50														
55														
60														

GRADATION

DRAWN | CHECKED

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

SCI-823-6.81

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 TR-24 | Location: Sta. 384+43.9 147.1 ft. LT of SR 823 CL | Date Drilled: 8/20/04 to 8/23/04

WATER OBSERVATIONS: Water seepage at: 6.0′
Water level at completion: 29.8′ (includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot ○ 10 20 30 40
0	686.2						Topsoil - 12"							
1.0	685.2	6 10 13	18	1		4.5+	Hard brown SILT AND CLAY (A-6a), little fine to coarse sand; damp.							
5		13 10 10	18	2		4.5+								
6.0	680.2	3 3 8	12	3		2.75	Stiff to very stiff brown CLAY (A-7-6), little fine to coarse sand, little silt; varved; moist.							
10		2 3 5	18	4		2.0								
		2 2 3	18	5		2.0								
15		2 4 5	18	6		2.25								
		2 3 4	18	7		1.25								
20		1 3 4	18	8		3.75								
		2 3 3	18	9		1.0								
25		3 4 5	18	10		1.5								
27.0	659.2	4 3 12	18	11		1.75	Medium dense brown FINE SAND (A-3), trace gravel; damp.							
30		5 5 5	18	12										
34.0	652.2	4 2 2	18	13		0.5	Soft gray SILTY CLAY (A-6b), little fine to coarse sand, trace gravel; moist.							
37.0	649.2						Severely weathered gray SANDSTONE, argillaceous.							
40		10 17 22	18	14			@ 43.0′, augers encountered difficult drilling.							
43.5	642.7	Core 120"	Rec 118"	ROD 77%	R-1		Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, moderately to highly fractured. @ 44.8′ to 44.9′,45.2′,45.4′,47.0′ contains argillaceous laminations and fractures. @ 47.0′, slightly weathered, unfractured to slightly fractured.							
50														
53.5	632.7						Bottom of Boring - 53.5′							
55														
60														

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 TR-25 | Location: Sta. 384+41.0, 4.4 ft. LT of SR 823 CL | Date Drilled: 8/19/04 to 8/20/04

WATER OBSERVATIONS: Water seepage at: 16.0′, 21.0′
Water level at completion: 16.4′ (includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	% Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot ○ 10 20 30 40
0	674.6						Topsoil - 6"							
0.5	674.1	4 7 6	18	1		4.0	Hard brown SILT AND CLAY (A-6a), little fine to coarse sand, trace gravel; damp.							
5		6 8 9	18	2		4.5		4	6	--	13	37	40	
5.5	669.1	2 3 5	18	3		2.0	Stiff to very stiff brown CLAY (A-7-6), little silt, trace fine sand; damp to moist.	0	0	--	1	11	88	66
10		2 3 5	18	4		1.25								
		2 4 4	18	5		1.75								
15		3 3 5	18	6		2.5								
		2 3 5	18	7		2.25								
18.0	656.6	4 3 4	18	8			Loose to medium dense brown FINE SAND (A-3), trace silt; damp to wet.							
20		1 1 3	18	9										
25		9 11 12	18	10										
		7 3 7	18	11										
28.0	646.6						Dense brown GRAVEL WITH SAND (A-1-b); contains sandstone fragments; moist.							
30.0	644.6	2 14 16	18	12			Severely weathered brown and gray SANDSTONE.							
32.0	642.6	27 50/5	6	13			Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, micaceous, argillaceous, massively bedded, slightly fractured. @ 32.0′-37.0′, highly fractured.							50/4"
35		Core 48"	Rec 46"	ROD 42%	R-1									
37.0		Core 72"	Rec 72"	ROD 100%	R-2									
40														
42.0	632.6						Bottom of Boring - 42.0′							
45														
50														
55														
60														

DRAWN | CHECKED

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

SCI-823-6.81

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 TR-26 | Location: Sta. 384+04.3, 126.8 ft. RT of SR 823 CL | Date Drilled: 8/19/04

WATER OBSERVATIONS: Water seepage at 8.5': Water level at completion: 9.5' (includes drilling water)

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery (in)	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N) Natural Moisture Content, % PL — LL; Blows per foot -○ (10 20 30 40)
0	665.2						Topsoil - 12"							
1.0	664.2	5 5 8	18	1		4.5	Hard brown CLAY (A-7-6), "and" fine to coarse sand, trace gravel, little silt; damp to moist.							
		8 9 11	18	2		4.5+		0	2	--	38	12	48	
5														
5.5	659.7	7 7 8	18	3			Loose to medium dense brown COARSE AND FINE SAND (A-3a), little silty clay; moist to wet.	0	0	--	81		19	Non-Plastic
		4 9 7	18	4										
10		3 4 6	18	5										
		4 5 10	18	6										
15														
		5 4 3	18	7			@ 16.0', wet.							
		2 3 4	18	8										
20														
20.5	644.7	4 8 13	18	9			Medium dense gray GRAVEL WITH SAND (A-1-b); contains sandstone fragments; moist.							
23.0	642.2						Hard gray SANDSTONE; very fine to fine grained, argillaceous, micaceous, slightly to moderately weathered, massively bedded, slightly fractured. @ 23.0'-25.5', moderately fractured. @ 23.1', 23.5', thin clay seams.							
25		Core 120"	Rec 111"	RQD 73%	R-1									
30.0	635.2						Hard gray SANDSTONE; very fine to fine grained, argillaceous, micaceous, slightly to moderately weathered, massively bedded, slightly fractured.							
33.0	632.2						Bottom of Boring - 33.0'							
35														
40														
45														
50														
55														
60														

DRAWN | CHECKED

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SCI-823-0727
SR823 OVER SHUMWAY HOLLOW ROAD

SCI-823-6.81