

GENERAL INFORMATION

INTRODUCTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OF 1.48 MILES OF I-480 BEGINNING 300 FEET WEST OF THE SR 17 (GRANGER ROAD)-TUXEDO AVENUE INTERSECTION, EXTENDING SOUTHEASTWARD TO EASTWARD, TERMINATING APPROXIMATELY 0.4 MILE WEST OF THE PROPOSED I-480-SR 77 INTERCHANGE. INCLUDED IN THIS REPORT ARE SOIL PROFILES OF RELOCATED SR 17, RELOCATED SR 17 INTERCHANGE RAMP E AND E-G, AND RELOCATED TUXEDO AVENUE.

FOR MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS, SEE THE PROJECT INDEX ON THIS SHEET.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE ALIGNMENT TRAVERSES GENTLY ROLLING AND HIGHLY DISSECTED PORTIONS OF THE GLACIATED MISSISSIPPI VALLEY PLAIN IN AN AREA WHERE THIN TO MODERATELY DEEP GLACIAL DRIFT AND LACUSTRINE DEPOSITS OVERLIE SHALE AND SANDSTONE BEDROCK OF LOWER MISSISSIPPIAN AND UPPER DEVONIAN AGES. SHALE BEDROCK WAS OBSERVED AND MEASURED IN THE BED AND ALONG THE BANKS OF A SMALL STREAM IN THE IMMEDIATE VICINITY OF THE PROJECT.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER, HAND AUGER (IN DIFFICULT ACCESS AREAS) AND ROTARY-TYPE DRILL RIG, BETWEEN JULY 2 AND 21, 1968. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATIONS AND SPECIAL INVESTIGATIONS ON THE PROJECT.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4a AND A-4b) AND SILT CLAYS (A-5a AND A-5b) WITH OCCASIONAL SAND (A-3a), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

SHALE BEDROCK IS ANTICIPATED IN THE EXCAVATION AREAS BETWEEN I-480 STATIONS 904+00 AND 911+00, AND POSSIBLY BETWEEN RAMP G-E STATIONS 86+00 AND 72+00.

FINEST SUSCEPTIBLE SILTS WERE ENCOUNTERED WITHIN THREE FEET BELOW PROPOSED GRADE AT I-480 STATIONS 869+50, 873+00, 877+00, 884+00, 889+00, 893+40, AND 917+25. RAMP G-E STATIONS 92+30 AND 85+00, AND RAMP E-G STATION 70+00.

WET MATERIALS WERE ENCOUNTERED AT I-480 STATIONS 869+50, 877+00, 877+70, 892+50, 911+05, 917+25, 927+10, AND 929+00, RELOCATED SR 17 STATIONS 6+00 AND 23+00, RELOCATED TUXEDO AVENUE STATION 8+70, AND RAMP E-G STATIONS 83+30 AND 85+00.

RANDOM FILL MATERIALS WERE ENCOUNTERED AT I-480 STATIONS 850+00, 869+50 AND 870+50.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS — 271 SAMPLES TESTED

DESCRIPTION	U.S. CLASS	OHIO CLASS	% AGG.	% SAND	% FINE SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL WITH SAND	A-1-b(1)	A-1-b	25	34	20	11	10	NP	NP	10	2
FINE SAND	A-3(1)	A-3	0	12	30	4	4	NP	NP	17	3
COURSE AND FINE SAND	-----	A-3a	2	8	64	13	13	NP	NP	12	13
STONE FRAGMENTS WITH SAND AND SILT	A-2-4(1)	A-2-4	25	12	25	6	10	23	7	18	2
SANDY SILT	A-4(1)	A-4a	7	4	18	34	37	25	7	18	73
SILT	A-4(2)	A-4b	0	1	4	61	34	25	5	21	57
SILT AND CLAY	A-5(1)	A-5a	0	4	6	32	49	32	13	20	56
SILTY CLAY	A-5(11)	A-5b	4	3	6	28	59	36	17	22	25
CLAY	A-7-6(12)	A-7-6	1	2	3	21	73	42	20	25	6
RANDOM FILL											
SILTSTONE OR MUDSTONE											
WEATHERED SHALE											
SHALE											
VARIOUS OTHER MATERIALS											
BOULDERS											

- AUGER BORING—PLAN VIEW.
 - DRIVE SAMPLE AND CORE BORING—PLAN VIEW.
 - AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.
 - DRIVE SAMPLE AND CORE BORING PLOTTED TO VERTICAL SCALE ONLY.
 - WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.
 - INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT.
 - FREE WATER.
 - STATIC WATER LEVEL.
 - NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST.
 - X=NUMBER OF BLOWS FOR FIRST 6 INCHES.
 - Y=NUMBER OF BLOWS FOR SECOND 6 INCHES.
- NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT, E.G., 15.

SUPPLEMENTAL SUMMARY OF SOIL TEST DATA

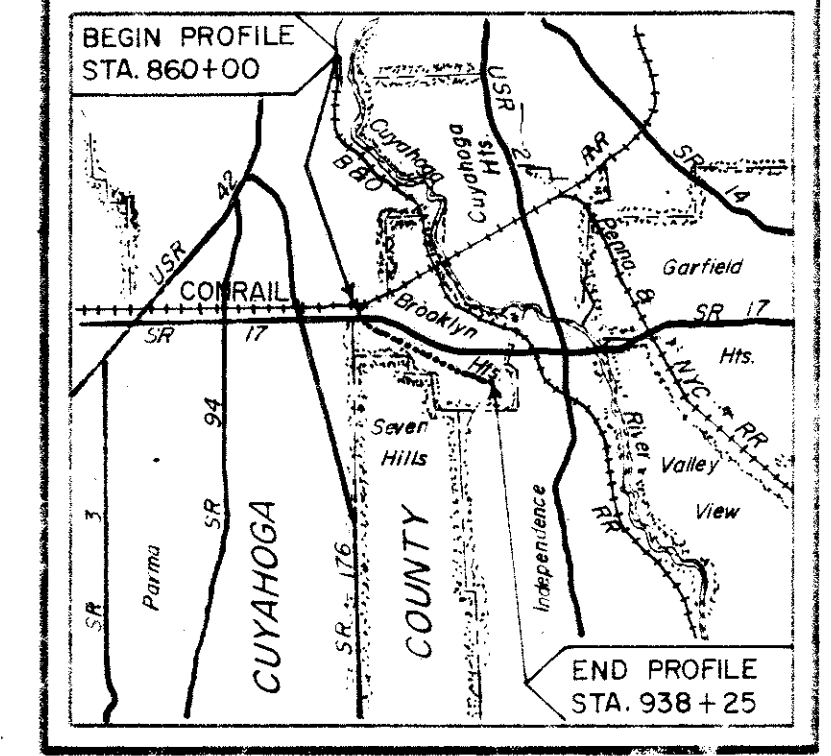
STATION & OFFSET	DEPTH		% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
	FROM	TO									
892+50 210'LT	2.5-3.5	0	1	5	57	37	29	11	22	A-6a	
	5.0-6.0	0	1	2	65	32	NP	NP	30	A-4b	
	7.5-8.5	0	2	3	12	63	33	16	31	A-6b	
	10.0-11.0	7	2	4	22	65	34	16	31	A-6a	
	12.5-13.5	0	1	1	49	49	30	10	27	A-6a	
	15.0-16.0	0	2	3	67	28	NP	NP	25	A-4b	
	17.5-18.5	0	11	18	41	30	NP	NP	25	A-4b	
	20.0-21.0	3	1	1	63	32	23	5	26	A-4b	
	22.5-23.5	0	4	24	50	22	NP	NP	22	A-4b	
	25.0-26.0	0	2	31	34	33	NP	NP	19	A-4c	
900+10 85'LT	2.5-3.5	15	2	8	30	45	42	17	23	A-7-6	
	5.0-6.0	38	0	2	30	30	34	11	12	A-6a	
	2.5-3.5	25	16	8	22	29	33	14	17	A-6a	
	5.0-6.0	0	2	28	66	35	16	22	A-6b		
	7.5-8.5	0	1	16	82	39	19	23	A-6a		
	10.0-11.0	0	0	3	65	32	NP	NP	23	A-4b	
	12.5-13.5	0	1	2	65	32	NP	NP	20	A-4b	
	15.0-16.0	37	7	9	24	23	26	9	20	A-4c	
	17.5-18.0	47	2	5	20	26	12	11	10	A-6a	
	906+50 260'LT	2.5-3.5	0	0	1	56	43	26	7	24	A-4b
5.0-6.0		0	0	1	36	63	36	16	26	A-6b	
7.5-8.5		0	0	1	50	49	28	8	32	A-4b	
10.0-11.0		0	1	1	57	41	25	7	25	A-4b	
12.5-13.5		6	5	15	53	21	20	2	18	A-4b	
15.0-16.0		0	1	4	67	28	18	2	19	A-4c	
17.5-18.5		0	0	2	54	44	24	6	18	A-4b	
20.0-21.0		4	3	14	36	43	25	11	20	A-6a	
22.5-23.5		5	3	6	17	69	31	16	24	A-6b	
25.0-26.0		7	4	5	13	71	34	16	19	A-6a	
911+05 260'LT	2.5-3.5	0	1	56	43	26	7	24	A-4b		
	5.0-6.0	0	0	1	36	63	36	16	26	A-6b	
	7.5-8.5	0	0	1	50	49	28	8	32	A-4b	
	10.0-11.0	0	1	1	57	41	25	7	25	A-4b	
	12.5-13.5	6	5	15	53	21	20	2	18	A-4b	
	15.0-16.0	0	1	4	67	28	18	2	19	A-4c	
	17.5-18.5	0	0	2	54	44	24	6	18	A-4b	
	20.0-21.0	4	3	14	36	43	25	11	20	A-6a	
	22.5-23.5	5	3	6	17	69	31	16	24	A-6b	
	25.0-26.0	7	4	5	13	71	34	16	19	A-6a	
923+00 60'LT	2.5-3.5	16	9	9	31	35	35	15	23	A-6a	
	2.5-3.5	17	1	1	33	48	48	32	22	A-7-6	
	5.0-6.0	8	14	24	21	33	32	23	22	A-7-6	
	7.5-8.5	0	25	64	-	11	-	NP	NP	11	A-3c
	10.0-11.0	0	9	76	-	15	-	NP	NP	14	A-3c
	12.5-13.5	8	16	56	-	20	-	NP	NP	16	A-3c
	15.0-16.0	0	1	87	-	12	-	NP	NP	21	A-3c
	17.5-18.5	0	0	49	36	15	NP	NP	20	A-4c	
	20.0-21.0	0	0	16	14	NP	NP	16	A-3c		
	22.5-23.5	0	0	24	14	NP	NP	19	A-4c		
927+10 207'LT	2.5-3.5	17	1	1	33	48	48	32	22	A-7-6	
	5.0-6.0	8	14	24	21	33	32	23	22	A-7-6	
	7.5-8.5	0	25	64	-	11	-	NP	NP	11	A-3c
	10.0-11.0	0	9	76	-	15	-	NP	NP	14	A-3c
	12.5-13.5	8	16	56	-	20	-	NP	NP	16	A-3c
	15.0-16.0	0	1	87	-	12	-	NP	NP	21	A-3c
	17.5-18.5	0	0	49	36	15	NP	NP	20	A-4c	
	20.0-21.0	0	0	16	14	NP	NP	16	A-3c		
	22.5-23.5	0	0	24	14	NP	NP	19	A-4c		
	25.0-26.0	0	0	12	14	NP	NP	17	A-4c		

CUY-176-10.14

SOIL PROFILE
 CUYAHOGA COUNTY
 CUY-480-15.81
 OHIO STATE HIGHWAY TESTING LABORATORY
 1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

FED. NO. I-480-4(25)169



Recon - J.S.M. - 5/17/68
 Drilling - Core - C.J.C. - 7/11/68 - 7/18/68
 Auger - J.W.P. - 7/9/68 - 7/24/68
 Drafting - E.J.S. - 9/18/68
 Revision
 Drafting - E.J.S. 11/20/70
 Drilling - Core - 5/19/70 - 5/27/70

FROM STATIONS	TO	PROJECT INDEX			
		PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL MAX.
I-480					
862+00	892+00				
902+00	904+00				
924+00	932+25				
RELOCATED SR 17					
8+00	80+00				
RAMP G-E					
87+71	70+00				
RAMP E-G					
72+50	85+30				
RELOCATED TUXEDO AVENUE					
8+00	15+25				

STATION & OFFSET	DEPTH		% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
	FROM	TO									
927+10 207'LT CONT'D.	37.5-38.5	19	0	1	34	46	30	12	25	A-6a	
	40.0-41.5	0	0	0	49	51	30	11	23	A-6c	
	41.5-42.5	10	3	14	34	39	21	7	16	A-4b	
	45.0-46.5	0	2	4	26	68	38	19	25	A-6b	
	46.5-47.5	30	2	4	14	50	35	15	24	A-6c	
	50.0-51.5	11	12	30	13	34	18	6	25	A-4c	
	51.5-52.5	10	2	4	15	69	35	15	30	A-6c	
	56.0-57.0	12	0	1	42	45	26	9	26	A-4c	
	57.5-58.5	0	1	5	64	30	NP	NP	23	A-4b	
	60.0-61.0	0	0	2	70	28	NP	NP	24	A-4b	
62.5-63.5	0	0	2	67	31	NP	NP	27	A-4c		
65.0-66.0	39	1	2	49	43	22	36	A-7-6			
67.5-68.5	29	1	3	19	48	35	16	27	A-6b		
70.0-71.0	25	0	1	32	42	31	12	26	A-6a		