

GENERAL INFORMATION

INTRODUCTION

The project consists of the major relocation of 3.5 miles of USR 42 (Proposed IR 71), beginning 300 feet south of the Medina-Cuyahoga County line, approximately 900 feet east of Howe Road, extending northward, and terminating north of East Branch Rocky River, 300 feet north of Metropolitan Park Blvd.

Proposed grade indicates cuts, maximum 45 feet in depth; fill embankments, maximum 50 feet in height.

GEOLOGY OF THE PROJECT

The alignment traverses a rather flat portion of the glaciated Mississippi Valley Plain, descends the dissected south valley wall of East Branch Rocky River, in an area of thin to moderately deep glacial drift, crosses the flood plain of the river, in an area of deep valley fill, and terminates on the north valley wall of the river.

EXPLORATION

Exploratory borings were made by means of truck-mounted mechanical earth auger, hand auger (in areas of difficult access), and rotary type drill rig, between June 15 and 26, and on July 25 and 26, 1962.

INVESTIGATIONAL DISCLOSURES

Materials immediately below grade consist of silt clays and clays, in the A-6 and A-7-6 classifications, having moisture contents in the lower portions of the plastic range, as well as shale bedrock. Shale bedrock is anticipated in the excavations at the following locations:

- Stations 613+25 to 614+00 - median ditchline.
- Stations 614+00 to 615+00 - southbound grade, at the ditchlines and in the lower portion of the left backslope.
- Stations 615+00 to 637+00 - both grades, ditchlines and in the backslopes.
- Stations 637+00 to 638+00 - northbound grade, at the ditchlines and in the lower portion of the right backslope.
- Stations 638+00 to 638+50 - median ditchline.
- Stations 646+50 to 646+70 - left ditchline and in the lower portion of left backslope.
- Stations 646+70 to 647+00 - southbound grade, left ditchline and left backslope.
- Stations 647+00 to 647+10 - southbound grade, ditchlines and left backslope.
- Stations 647+10 to 647+25 - both grades, ditchlines and left backslope.
- Stations 647+25 to 650+00 - ditchlines and both backslopes.
- Stations 650+00 to 650+30 - both grades, median and right ditchlines and in the right backslope.
- Stations 650+30 to 650+60 - northbound grade, and right ditchlines and in the right backslope.
- Stations 650+60 to 650+80 - northbound grade and right ditchline.
- Stations 651+50 to 651+60 - left ditchline and backslope.
- Stations 651+60 to 651+80 - southbound grade, left and median ditchlines and in the left backslope.
- Stations 651+80 to 652+00 - grades, ditchlines and left backslope.
- Stations 652+00 to 657+90 - grades, ditchlines and both backslopes.
- Stations 656+90 to 657+05 - median ditchline.
- Stations 657+05 to 657+40 and 657+60 to 657+70 - northbound grade, median and right ditchlines.
- Stations 657+70 to 659+00 - both grades, ditchlines and backslopes.

Materials in the embankment foundation areas consist predominantly of silt clays and occasional clays, in the A-6a and A-7-6 classifications, having water contents generally in the lower portion of the plastic range, and few sandy silts and silty clays, in the A-4a and A-6b classifications. Wet materials were encountered at the following stations:

489+00 to 491+00	509+35
501+00	610+90
504+00 to 506+00	659+00
554+50	659+50

Wet, generally at-surface elastic silt clays and elastic clays, in the A-5 and A-7-5 classifications, were encountered at stations: 489+00, 489+50, 491+00, 509+35 and 609+00.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 280 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Stone fragments with sand and silt	A-2-4(0)	A-2-4	59	6	7	15	13	27	7	18	12
Stone fragments with sand, silt, and clay	A-2-6(0)	A-2-6	73	2	2	9	14	35	12	20	3
Sandy silt	A-4(1)	A-4a	18	5	23	29	25	25	5	22	27
Silt	A-4(2)	A-4b	0	1	18	56	25	24	8	25	1
Elastic silt and clay	A-5(6)	A-5	18	8	13	34	27	44	10	45	2
Silt and clay	A-6(7)	A-6a	22	11	8	31	35	33	13	21	94
Silty clay	A-6(10)	A-6b	17	11	8	29	42	37	17	20	28
Elastic clay	A-7-5(14)	A-7-5	17	3	11	32	44	51	20	35	12
Clay	A-7-6(13)	A-7-6	12	3	11	32	49	46	20	24	39
Various other materials											
Weathered shale											58
Shale											4

VISUAL CLASSIFICATION
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Sod and/or Topsoil=X'≈Approximate depth.
 Berm material.
 Sediments.
 Auger boring - plan view.
 Drive sample and/or core boring - plan view.
 Auger boring plotted to vertical scale only.
 Drive sample and/or core boring plotted to vertical scale only.
 Number of blows for "Standard Penetration" test.
 X=number of blows for the first 6 inches.
 Y=number of blows for the second 6 inches.
 Water content nearly equal to or greater than liquid limit.
 Indicates a non-plastic material with high water content.
 W Free water. Static water level.
 B Indicates broken rock interval.

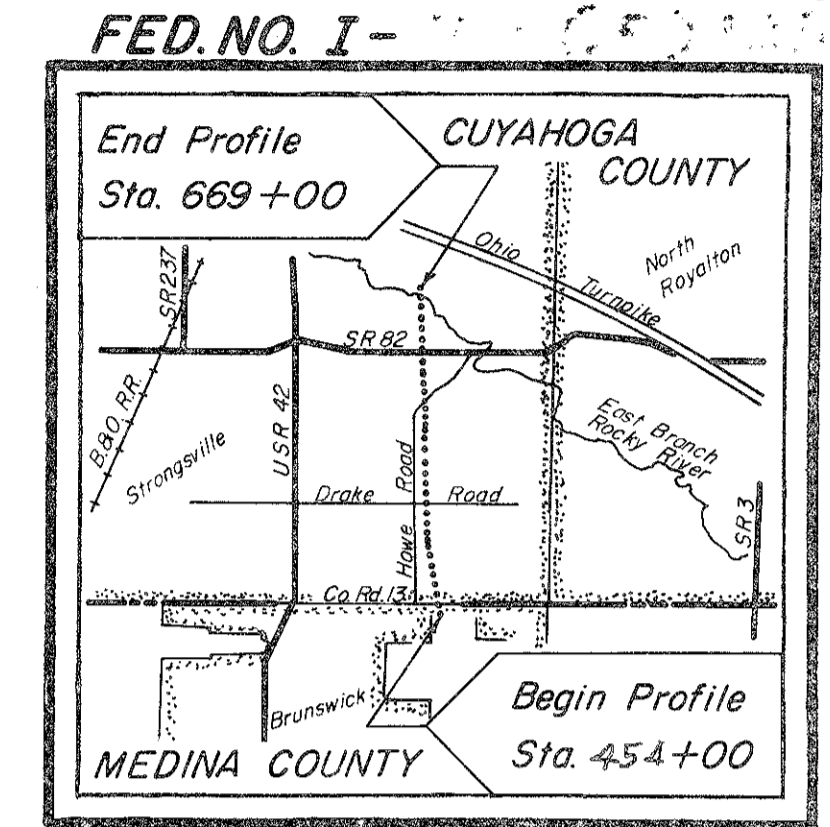
NOTE: Figures beside borings indicate water content in percent. e.g. /5.

SUMMARY OF SOIL TEST DATA

STATION & OFFSET	DEPTH FROM TO	%							L.L.	P.I.	W.C.	CLASS.	STATION & OFFSET	DEPTH FROM TO	%							L.L.	P.I.	W.C.	CLASS.
		AGG.	C.S.	F.S.	SILT	CLAY	SILT	CLAY							AGG.	C.S.	F.S.	SILT	CLAY	SILT	CLAY				
489+00	75'Lt	0.5-5.0	14	12	26	16	32	24	8	16	A-4a	489+00	50'Rt	2.0-6.0	13	9	18	34	26	44	10	64	A-5		
		5.0-10.0	22	5	7	26	40	26	11	13	A-6a			6.0-9.0	26	7	10	31	26	31	14	26	A-6a		
489+00	CL	0.5-5.0	18	4	8	29	41	33	11	15	A-6a*	489+00	100'Rt	2.0-7.0	17	5	8	31	39	32	15	21	A-6a		
		5.0-9.0	27	4	7	28	34	30	11	15	A-6a			100'Lt	1.3-5.5	36	8	9	27	20	25	9	17	A-4a	
		9.0-12.0	33	4	6	20	37	33	14	-	A-6a	489+50	50'Lt	1.2-3.5	18	2	19	37	24	33	15	28	A-6a		
489+00	105'Lt	0.5-5.0	31	5	8	21	35	32	12	15	A-6a			3.5-6.0	50	9	10	12	19	25	6	30	A-2-4		
		5.0-10.0	13	5	7	27	48	31	11	14	A-6a	489+50	CL	1.5-6.0	41	4	6	18	31	33	12	18	A-6a		
		10.0-15.0	48	5	8	25	14	23	3	16	A-4a	489+50	50'Rt	1.0-4.5	0	2	6	47	45	52	20	47	A-7-5		
489+50	100'Lt	2.0-5.0	37	1	6	20	36	60	33	14	A-7-6	489+50	100'Lt	1.5-4.0	0	3	15	38	44	39	13	31	A-6a		
		5.0-9.0	22	3	6	24	45	36	15	18	A-6a			4.0-7.0	44	11	11	14	20	27	9	28	A-2-4		
489+50	50'Lt	2.0-7.0	38	3	11	20	28	37	15	24	A-6a	489+50	50'Rt	1.0-4.5	16	5	9	27	43	33	12	31	A-6a		
489+50	100'Rt	1.5-7.0	27	4	14	24	31	40	18	42	A-6b	489+00	100'Lt	1.5-4.0	0	3	15	38	44	39	13	31	A-6a		
489+00	100'Lt	0.0-5.5	0	1	16	36	47	33	13	24	A-6a			4.0-7.0	44	11	11	14	20	27	9	28	A-2-4		
489+00	50'Lt	2.0-7.0	28	7	10	22	33	30	12	20	A-6a	489+00	50'Lt	1.3-6.0	0	1	22	34	43	31	12	34	A-6a		
489+00	CL	2.0-7.0	41	8	10	18	23	38	16	25	A-6b	489+00	CL	1.5-4.5	0	1	3	24	52	27	51	A-7-6			
														4.5-7.5	13	7	11	36	33	27	11	19	A-6a		

SOIL PROFILE
 MEDINA-CUYAHOGA COS.
 MED-42-26.17
 CUY-42-0.00
 OHIO STATE HIGHWAY
 TESTING LABORATORY
 COLUMBUS, 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.



LOCATION MAP
 Recon - C.J.K. - 6/8/62
 Drilling Auger - B.E.B., L.M.D. - 6/15/62 to 6/26/62
 Core - J.H.S., K.D.E. - 6/19/62 to 7/26/62
 Drafting - D.M., D.H.A., A.F. - 8/9/62