

GENERAL INFORMATION

INTRODUCTION

The project consists of a major relocation of SR-2, beginning at the eastern-most limits of Painesville, extending northeastward for approximately 2.3 miles, terminating on existing USR 20, approximately 1100 feet east of Park Road. The westbound and eastbound lanes separate near the end of the project and rejoin at station 893+00 and 900+00, respectively. Included with this report are soil profiles of associated ramps, intersecting roads and proposed channel relocation in the vicinity of station 814+00. The proposed grades indicate the following:

Centerline Survey (Stations 766+00 to 894+00) - cuts ranging between 0 and 30 feet in depth, fill embankments ranging between 0 and 25 feet in height.

Westbound Lane (Stations 872+00 to 893+00) - cut ranging between 0 and 14 feet in depth, and fill embankments ranging between 0 and 10 feet in height.

Eastbound Lane (Stations 884+00 to 900+00) - cut ranging between 0 and 12 feet in depth.

Hantle Road - cut ranging between 0 and 11 feet in depth, and fill embankments ranging between 0 and 27 feet in height.

USR 20 - fill embankments ranging between 0 and 3 feet in height.

Ramp H-11 - cut ranging between 0 and 5 feet in depth, and fill embankment ranging between 0 and 2 feet in height.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

The alignment traverses the glaciated, relatively flat Lake Plain, crossed the deeply entrenched Grand River, ascends and terminates on a beach ridge. Several areas of poor surface drainage were observed along the project. Local bedrock, consisting of siliceous shale of the Chagrin member of the Ohio formation, Devonian age, is overlain by moderately deep to deep lacustrine and glacial-derived soils.

EXPLORATION

Exploratory roadway profile borings were made by means of truck-mounted mechanical earth auger, retractable piston sampler, and hand auger (in areas of difficult access), between June 14 and July 19, 1961.

Included in this report are the logs of drive sample-core borings made in conjunction with the structure foundation investigations, as well as borings made in conjunction with the soil profile investigation designated LAK-2-15,00 which formerly extended east of the Grand River, a portion of which is now included with section LAK-2-16,10.

INVESTIGATIONAL DISCLOSURES

SR 2 - materials occurring immediately below the proposed grade predominantly consist of sand, sandy silt and silts, in the A-3a and A-4 classifications, generally having high moisture contents.

Frost susceptible silts were encountered within 3 feet of grade at stations 791+00, 795+00, 800+50, 801+50, 810+25, 822+00, 823+50 and 828+00.

Materials occurring in the embankment foundation area are comprised of deep (in excess of 20 feet) wet silts, in the A-1a classification, containing various degrees of organic matter, underlain by somewhat dense stiff sandy silts and silt clay, in the A-1a and A-2a classifications.

It is noted that peat deposits, 0 to 11 feet thick, occur at surface at stations 795+00, 797+00, 799+00, 794+00, 795+00, 803+00, 804+00 and between approximately stations 863+00 and 866+00.

Hantle Road - materials occurring immediately below proposed grade and in the embankment foundation area are comprised of silts and silt, in the A-4 classification, having rather high moisture contents. Wet, low strength, highly compressible peat, 0 to 5 feet thick, was encountered in the embankment foundation at station 82+50 and 82+60, in an area which was formerly impounded.

USR 20 and Ramp H-11 - materials occurring immediately below proposed grade are comprised of sands and gravels, in the A-1 and A-3 classifications. Wet, highly compressible, low strength peats and organic clays, 2 to 3 feet in thickness, were encountered at ground surface in the embankment foundation between stations 115+50 and 117+00.

Channel Relocation of Red Creek (Station 814+00) - Bedrock surface was found to occur between approximately elevations 800 and 806 feet, overlain by thin (2 to 3 feet) cover of sand and sandy silt, in the A-3a and A-1a classifications.

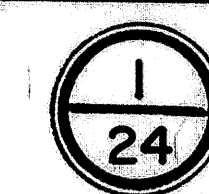
LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 621 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel and stone fragments	A-1-a(0)	A-1-a	62	21	11	-	6	NP	NP	10	22
Gravel and stone fragments with sand	A-1-b(0)	A-1-b	26	28	26	-	10	NP	NP	15	34
Fine sand	A-3(0)	A-3	3	9	80	-	8	NP	NP	20	32
Coarse and fine sand	---	A-3a	4	10	66	-	9	NP	NP	23	90
Gravel and stone fragments with sand and silt	A-2-1(0)	A-2-1	11	11	20	-	12	NP	NP	16	9
Sandy silt	A-4(4)	A-1a	12	7	25	-	32	25	2	21	70
Silt	A-4(8)	A-1b	1	1	5	-	75	NP	NP	23	206
Elastic silt and clay without organic material unless otherwise noted	A-5(5)	A-5	5	8	31	-	37	74	3	68	6
Silt and clay	A-6(8)	A-6a	4	4	7	-	39	46	11	22	14
Silty clay	A-6(10)	A-6b	0	1	3	-	36	58	16	19	1
Elastic clay with organic material	A-7-5(14)	A-7-5	6	5	26	-	40	23	19	64	5
Clay	A-7-6(12)	A-7-6	0	2	5	-	36	57	18	26	3
Random fill consisting of cinders and brick bats											
Cinders											
Various other materials											
Fibrous peat											3
Fine-textured peat											9
Hardly sedimentary peat											3
Sedimentary peat											2
Shale											1
Sod and/or Topsoil											
Perm material											
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											
Number of blows for "Standard Penetration" test. N ₆₀ = number of blows for the first 6 inches. N ₁₂₀ = 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.											
Free water											
Indicates broken rock interval.											

NOTE: Figures beside borings indicate water content in percent. e.g. 15

Revised
4-5-63

SOIL PROFILE
LAKE COUNTY

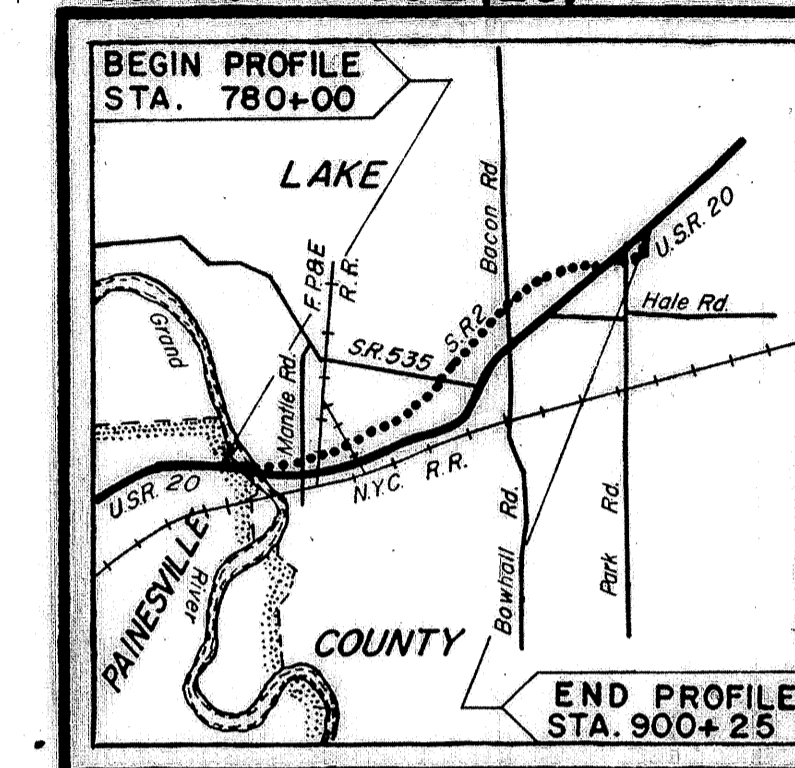


LAK-2-16.49
OHIO STATE HIGHWAY
TESTING LABORATORY
COLUMBUS, OHIO

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.

F-FG-U-329(23)

Fed. No. FG-392(23)



LOCATION MAP

Recon - C.J.K. - 5/26/61 to 6/16/61
Drilling - Auger - A.J.P., L.M.D. - 6/14/61 to 7/19/61
Drafting - W.E.J., R.C.B., D.J.T. - 8/18/61
Revised
Drafting - R.P.W. - 4/5/63