

PROJECT DESCRIPTION

EXPLORATION OF A LANDSLIDE ON SR 395 IN TERRA COUNTY.

HISTORIC RECORDS

NO HISTORIC BORINGS RECORDS WERE FOUND FOR THIS PROJECT.

GEOLOGY

THE LANDSLIDE IS LOCATED IN THE UNGLACIATED AND HIGHLY DISSECTED MARIETTA PLATEAU OF THE APPALACHIAN PLATEAU PROVINCE. THE AREA IS CHARACTERIZED BY DISSECTED TOPOGRAPHY WITH A HIGH RELIEF. SOILS IN THIS AREA ARE PRIMARILY COLLUVIUM DERIVED FROM LOCAL BEDROCK AND MAY INCLUDE SCATTERED AREAS OF RESIDUUM. THE UNDERLYING BEDROCK AT THE SITE CONSISTS OF MOSTLY FINE GRAINED ROCKS OF THE CONEMAUGH FORMATION WITHIN THE PENNSYLVANIAN SYSTEM AND INCLUDES SHALE, MUDSTONE, SANDSTONE, LIMESTONE, COAL AND CLAY.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS PERFORMED ON AUGUST 12, 2014. A CRACK NEAR THE CENTERLINE OF THE PAVEMENT BETWEEN STATIONS 124+00 AND 125+00, AND A WELL-DEFINED TOE BULGE APPROXIMATELY 80 FEET RIGHT OF CENTERLINE WERE OBSERVED. ALSO, THE GUARDRAIL HAS SETTLED SIGNIFICANTLY IN THIS VICINITY AND THE PAVEMENT SIDES SHOWS SEVERAL RECENT OVERLAYS. THE EMBANKMENT APPEARS TO BE FILL PLACED ON A SIDEHILL SLOPE WITH A 2H:1V SLOPE. A WATER SEEP WAS OBSERVED ON THE SLOPE NEAR STA. 124+50. THERE IS A SMALL DRAINAGE DITCH AT THE TOE WHICH RUNS PARALLEL TO THE TOE AND ADJACENT TO CR 100 AND DRIVEWAY NEAR THE TOE.

THE SURROUNDING LAND USAGE IS WOODED RURAL LAND WITH SOME RESIDENTIAL LOTS INCLUDING HOUSES.

SUBSURFACE EXPLORATION

FIVE BORINGS WERE COMPLETED AS PART OF THE EXPLORATION. B-001-0-14 AND B-003-0-14 WERE DRILLED IN THE SHOULDER OUTSIDE OF THE SCARP. B-002-0-14 WAS DRILLED INSIDE OF THE SCARP IN THE DRIVING LANE. B-002-1-14 WAS DRILLED IN THE SLIDE AREA AT MID-SLOPE AND B-002-2-14 WAS DRILL DRILLED AT THE TOE OF SLOPE NEAR THE BULGED AREA. AN INCLINOMETER WAS INSTALLED IN B-002-1-14 AT COMPLETION OF THE DRILLING. ALL BORINGS WERE DRILLED USING A TRUCK MOUNTED ROTARY DRILL RIG AND 3/4-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON MAY 17, 2013, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) IS 81.9%. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS INTERVALS FOR THE FULL SOIL DEPTH OF THE BORINGS. ALL BORINGS WERE ADVANCED INTO BEDROCK AND SAMPLED (AASHTO T225) USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD.

EXPLORATION FINDINGS

THE THREE BORINGS DRILLED IN THE PAVEMENT ENCOUNTERED A LAYER OF GRANULAR MATERIAL, (A-1-a & A-1-b) MEDIUM DENSE IN CONSISTENCY AND MOIST, FOLLOWED BY A LAYER OF COHESIVE SOILS (A-6a & A-6b) WHICH WAS STIFF TO MEDIUM STIFF. ANOTHER GRANULAR LAYER (A-1-b) WAS ENCOUNTERED JUST ABOVE THE TOP OF ROCK. THIS LAYER WAS MEDIUM DENSE AND MOIST. THE TWO BORINGS DRILLED ON THE SIDE SLOPE GENERALLY ENCOUNTERED COHESIVE SOILS (A-6a, A-6b & A-7-6) THAT WERE MOIST AND STIFF TO VERY STIFF IN CONSISTENCY. BORING B-002-2-14 ALSO ENCOUNTERED A DENSE GRANULAR LAYER ABOVE THE TOP OF ROCK.

GROUNDWATER WAS INITIALLY ENCOUNTERED IN THE UPPERMOST GRANULAR LAYER IN B-001-0-14, B-002-0-14, AND B-003-0-14 AT A MEAN ELEVATION OF 581 FT. GROUND WATER WAS ENCOUNTERED IN B-002-2-14 AT ELEVATION 538.0 FT. GROUND WATER READINGS WERE NOT MEASURED UPON DRILLING COMPLETION SINCE WASH WATER WAS USED TO CORE BEDROCK.

BEDROCK CONSISTING OF CLAYSTONE AND SANDSTONE WAS ENCOUNTERED AT VARYING ELEVATIONS IN EACH OF THE BORINGS. THE CLAYSTONE WAS MODERATELY WEATHERED AND VERY WEAK, WHILE THE SANDSTONE WAS SLIGHTLY WEATHERED AND VERY STRONG.

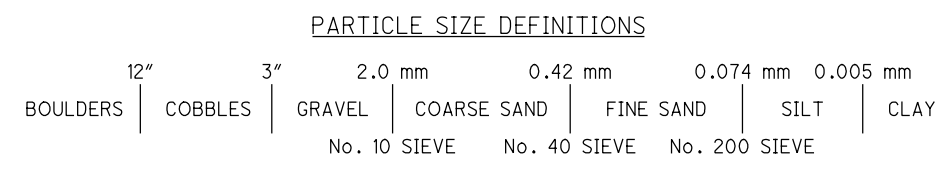
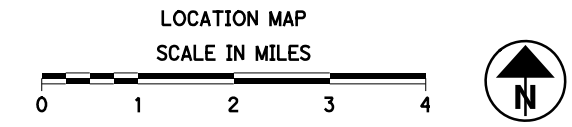
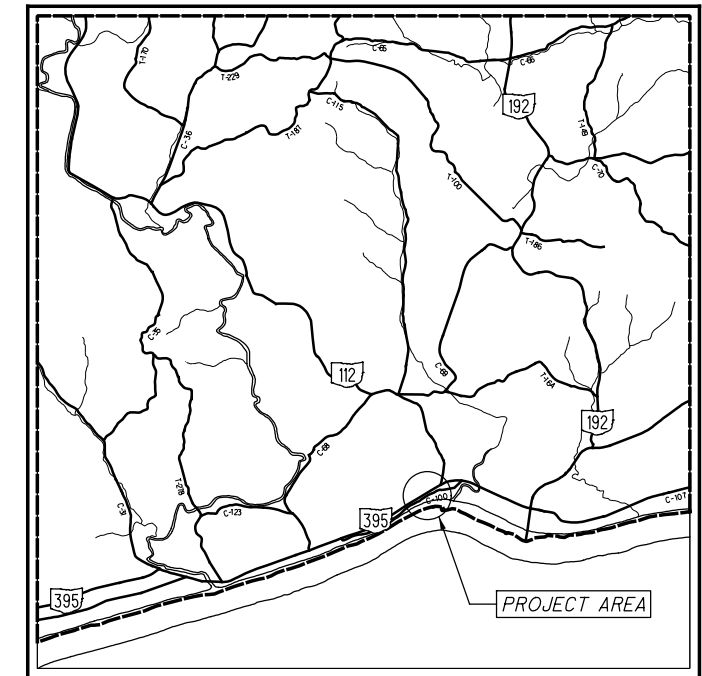
SPECIFICATIONS

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 2014.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL 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 OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
DESCRIPTION				
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a	2	-
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	10	7
	COARSE AND FINE SAND	A-3a	2	-
	SILT AND CLAY	A-6a	15	14
	SILTY CLAY	A-6b	11	9
	CLAY	A-7-6	4	3
		TOTAL	44	33
	CLAYSTONE	VISUAL		
	SANDSTONE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW			
	INSTRUMENTED BORING LOCATION - PLAN VIEW			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
N_{60}	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
$X/Y/D''$	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED). Y/D''= NUMBER OF BLOWS (UNCORRECTED) FOR D'' OF PENETRATION AT REFUSAL.			
WC	INDICATES WATER CONTENT IN PERCENT.			
W—	INDICATES FREE WATER ELEVATION.			
TR	INDICATES TOP OF ROCK.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			



RECON. - SPY 08/12/14
 DRILLING - BIT 09/08-18/14
 DRAWN - INK 10/09/14
 REVIEWED - RED 10/13/14

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DESIGN AGENCY
 OHIO DEPARTMENT OF TRANSPORTATION
 OFFICE OF GEOTECHNICAL ENGINEERING
 1980 W. BROAD ST. COLUMBUS, OH 43223

PID NO. **99999**

LANDSLIDE EXPLORATION

TER-395-24.50

